Manual No. BLWR043
(Rev 1 MAY 2011)

**Models CVF-8AC, CVF-6ACAN, CVF-15ACAN, CVF-25ACAN, CVF8A15KIT, CVF8A25KIT CVF-8DC, CVF-6DCAN, CVF-15DCAN, CVF-25DCAN, CVF8D15KIT, CVF8D25KIT, CVF-8EXP, CVF6CANEX, CVF15CANEX, CVF25CANEX, CVFEX15KIT, CVFEX25KIT, CVF-8DCSB, CVF-15DCNBP, CVF-25DCNBP**

# OPERATING MANUAL

## Axial Fans, Contractor Style

AIR SYSTEMS INTERNATIONAL, INC.
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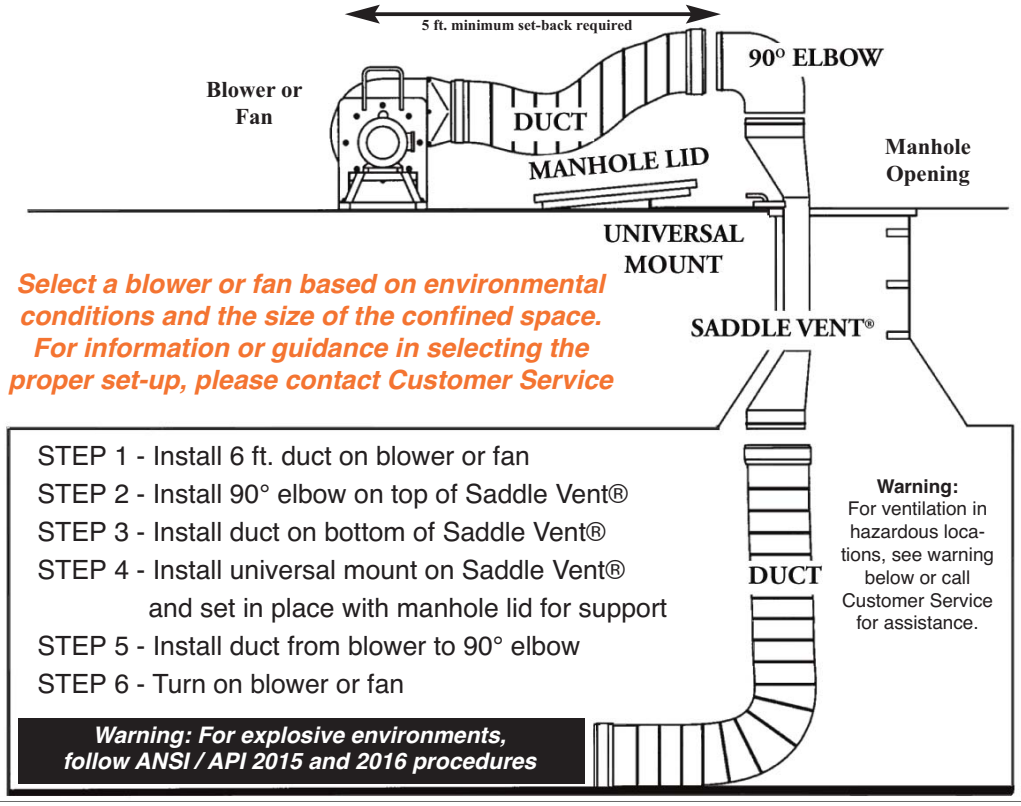
Registered

Printed in U.S.A

# The Saddle Vent® Ventilation System

## Typical Saddle Vent® Setup Procedure




***Select a blower or fan based on environmental conditions and the size of the confined space. For information or guidance in selecting the proper set-up, please contact Customer Service***

STEP 1 - Install 6 ft. duct on blower or fan
STEP 2 - Install 90° elbow on top of Saddle Vent®
STEP 3 - Install duct on bottom of Saddle Vent®
STEP 4 - Install universal mount on Saddle Vent®
and set in place with manhole lid for support
STEP 5 - Install duct from blower to 90° elbow
STEP 6 - Turn on blower or fan

***Warning: For explosive environments, follow ANSI / API 2015 and 2016 procedures***

**Warning:**
For ventilation in hazardous locations, see warning below or call Customer Service for assistance.

## WARNING: HAZARDOUS LOCATION OPERATIONS

Use an explosion-proof blower or fan, conductive ducting and the conductive Saddle Vent® system. Attach all grounding wires and assure a complete circuit to the blower in order to remove static charges.

Manufactured in the USA by
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## ⚠ SAFETY PRECAUTIONS:

### READ AND FOLLOW ALL INSTRUCTIONS BELOW

All ventilation procedures should comply with federal, state, and local regulations. Air quality should be tested prior to ventilating a confined space. A purge chart is provided in this manual to help assist estimating the approximate time needed to ventilate confined spaces. Air quality should be tested continuously during confined space occupancy to ensure a stable atmosphere and worker safety because atmospheric conditions can change rapidly. Additional procedures and recommendations are available from federal, state, and local agencies. DO NOT operate these fan units in a vertical position or with the flange or grills removed.

> ⚠ **WARNING** ⚠
>
> Fan and blower models with the "EX" designation are the only models approved for use in hazardous locations.

If volatile or explosive vapors are suspected, use Air Systems' explosion proof electric blower, Model No. SVB-E8EXP, explosion-proof in-line fan, Model No. SVF-10EXP, Explosion-proof contractors fan, Model CVF-8EXP or Air Systems' intrinsically safe pneumatic blower, Model No. SVB-A8.

*Note: For confined space ventilation in non-hazardous locations, use Air Systems' confined space ventilation kit, Model SV-CUP. For hazardous locations use ventilation kit Model SV-CUPCND along with one of the above explosion-proof blowers or fans..*

## GENERAL SETUP & OPERATION

1.) Place fan in a clean air environment.
2.) Air quality of the confined space should be tested prior to ventilation. If air quality of the confined space is unacceptable, consult a trained professional.
3.) Inspect fan for damaged or worn parts. Inspect all ducting and couplings for air leaks prior to fan operation.
4.) Install duct cuff to exhaust flange and secure. Keep bends and kinks in ducting to a minimum to maximize air flow. If canister model is used, secure canister with connect straps, open lid and pull out ducting; inspect for air leaks.

*Note: Maximum recommended duct hose length is 25 ft.*

5.) Set fan upwind from the work location and a minimum of 5 ft. from the manhole opening.
6.) Connect fan to power source.

AC versions require 115 VAC, 15 amp, 60Hz service.
*Note: If an extension cord is required, the minimum recommended size is 14 AWG (0-25 ft.). For further information, refer to the National Electric Code Tables, Article 400.*

7.) Push on/off switch to "I" position, on CVF-8AC and CVF-8DC models. On model CVF-8EXP pulling black knob out turns unit on; Pushing knob in turns the fan off. Explosion-Proof fans are shipped without a plug installed. The user must select a plug rated for the location where the fan is being used.

## TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| Excessive vibration | Air intake blocked | Turn fan off and clear debris from intake |
| | Possible internal damage | Turn fan off and inspect fan blades, shaft, and housing for debris, damage, and loose screws. *Note: Never run fan for extended periods without installing duct on the exhaust flange.* |
| | Possible external damage | Turn fan off and inspect |
| **AC VERSION** | Circuit breaker trips | Voltage output insufficient |
| | | Extension cord improperly sized |
| | Faulty wall outlet | Test voltage with meter |
| Fan will not start **DC VERSION** | Blown Fuse (DC version only) | Check and replace. Use only a 20A slow blow 32V fuse |
| | Battery Connection | Ensure proper connection from battery clips to battery terminal posts. On battery pack units, recharge battery. |

# REPLACEMENT PARTS - AC CONTRACTOR FANS
# MODEL CVF-8AC SERIES

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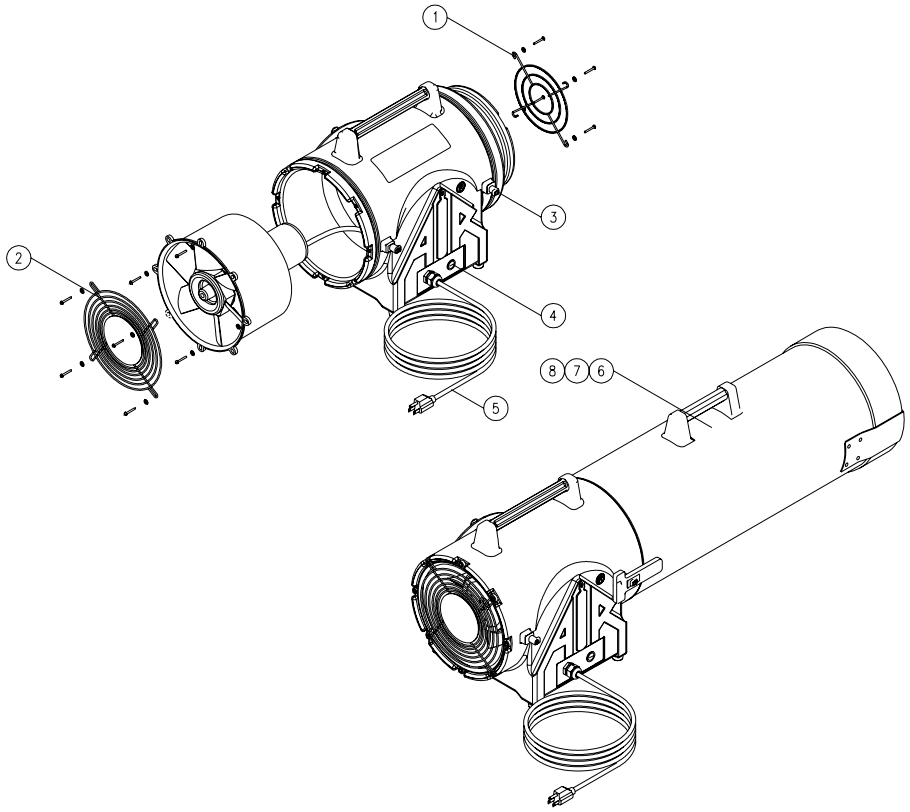


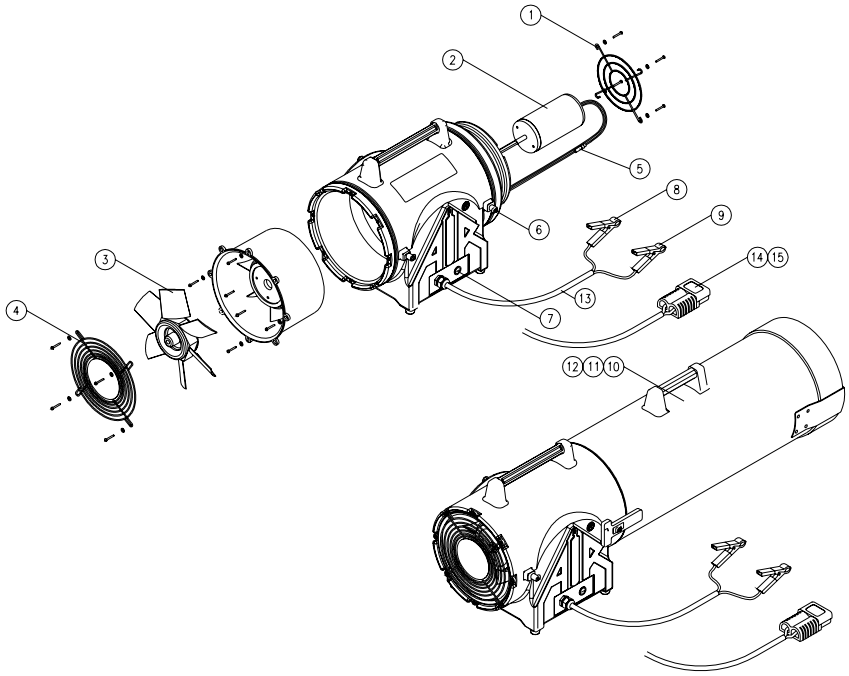

| ITEM # | DESCRIPTION | PART # |
|---|---|---|
| 1 | DISCHARGE GUARD | CVF-K4003 |
| 2 | INTAKE GUARD | CVF-K4001 |
| 3 | DUCT CANISTER LATCHING POST | CVF-POST |
| 4 | ON/OFF SWITCH | CVF-SWITCH |
| 5 | POWER CORD | ELCB012 |
| 6 | DUCT CANISTER WITH 6' OF DUCT | CVF-CAN6 |
| 7 | DUCT CANISTER WITH 15' OF DUCT | CVF-CAN15 |
| 8 | DUCT CANISTER WITH 25' OF DUCT | CVF-CAN25 |

**An optional GFI (Ground Fault Interrupter) can be supplied to comply with the 1996 NEC Code requirement: Section 305-6. Order Part # ELCB013.**

## SPECIFICATIONS

| | |
|---|---|
| **MOTOR TYPE** | 1/3 HP (2.47 kw) electric, 115 VAC/60Hz, 2.6 amps, Single Speed, 3450 RPM, Ther. Prot. B, Max Amb. 104 degrees F |
| **OUTLET SIZE** | 8" Diameter (203 mm) |
| **FLOW RATES** | Free Air: 974 cfm<br>15 ft. Duct with One 90 degree bend: 786 cfm<br>15 ft. Duct with Two 90 degree bends: 661 cfm |

# REPLACEMENT PARTS - DC CONTRACTOR FANS
# MODEL CVF-8DC SERIES




| ITEM # | DESCRIPTION | PART # |
|---|---|---|
| 1 | DISCHARGE GUARD | CVF-8-DG |
| 2 | 12 VDC ELECTRIC MOTOR | MTR044 |
| 3 | FAN BLADE ASSEMBLY | CVF-FAN |
| 4 | INTAKE GUARD | CVF-8-IG |
| 5 | 20 AMP SLOW BLOW FUSE | ELF022 |
| 6 | DUCT CANISTER LATCHING POST | CVF-DCLP |
| 7 | ON/OFF SWITCH | ELSW038R |
| 8 | RED BATTERY CLAMP | ELA083R |
| 9 | BLACK BATTERY CLAMP | ELA083B |
| 10 | DUCT CANISTER WITH 6' OF DUCT | CVF-CAN6 |
| 11 | DUCT CANISTER WITH 15' OF DUCT | CVF-CAN15 |
| 12 | DUCT CANISTER WITH 25' OF DUCT | CVF-CAN25 |
| 13 | POWER CORD | ELCB045 |
| 14 | SB CONNECTOR HOUSING | ELA127 |
| 15 | CONTACTS (2) FOR SB CONNECTOR | ELA126 |

# SPECIFICATIONS

| | |
|---|---|
| **MOTOR TYPE** | 12 VDC, 1/4 HP, Ther. Prot B, RPM 3450, Fuse Type 20 amp, 32 Volts, Slow Blow |
| **OUTLET SIZE** | 8" Diameter (203 mm) |
| **FLOW RATES** | Free Air: 848 cfm<br>15 ft. Duct with One 90 degree bend: 702 cfm<br>15 ft. Duct with Two 90 degree bends: 590 cfm |

# REPLACEMENT PARTS- EXPLOSION PROOF FAN MODEL CVF-8EXP

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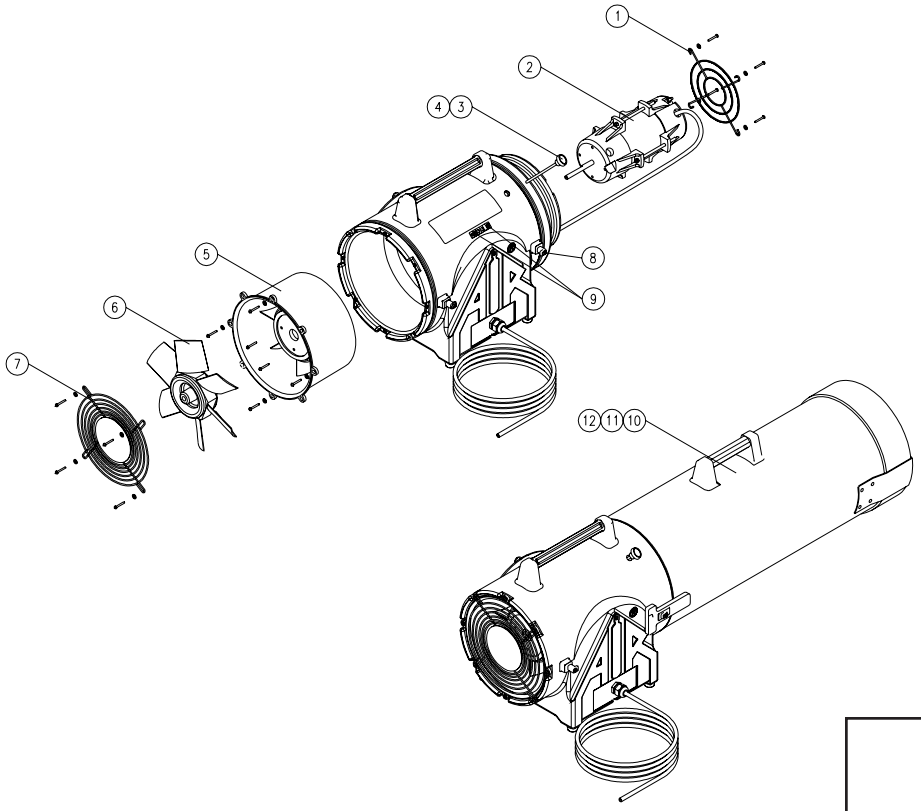


**WARNING**

User must supply proper rated plug for environment where fan is used.

| ITEM # | DESCRIPTION | PART # |
|---|---|---|
| 1 | DISCHARGE GUARD | CVF-K4003 |
| 2 | EXPLOSION PROOF MOTOR | MTR043EXP |
| 3 | 10-24 X 3-1/2 LONG THREADED STUD | FS10X350TS |
| 4 | ON/OFF KNOB | HDWR070 |
| 5 | CONDUCTIVE MOTOR MOUNT | CVF-MM-CND |
| 6 | FAN BLADE ASSEMBLY | CVF-FAN |
| 7 | INTAKE GUARD | CVF-K4001 |
| 8 | DUCT CANISTER LATCHING POST | CVF-POST |
| 9 | GROUNDING LUG | ELA051 |
| 10 | CONDUCTIVE DUCT CANISTER WITH 6' OF CONDUCTIVE DUCT | CVF-CND6 |
| 11 | CONDUCTIVE DUCT CANISTER WITH 15' OF CONDUCTIVE DUCT | CVF-CND15 |
| 12 | CONDUCTIVE DUCT CANISTER WITH 25' OF CONDUCTIVE DUCT | CVF-CND25 |

## SPECIFICATIONS

| | |
|---|---|
| **MOTOR TYPE** | 115 VAC/60Hz 1/3 HP,2.2 AMPS, RPM 3250,<br>Explosion-Proof,Class 1-11 Group C, D,E, F G |
| **OUTLET SIZE** | 8" Diameter (203 mm) |
| **FLOW RATES** | Free Air: 974 cfm<br>15 ft. Duct with One 90 degree bend: 786 cfm<br>15 ft. Duct with Two 90 degree bends: 661 cfm |

## *Warranty Disclaimer*

Air Systems' manufactured equipment is warranted to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined by Air Systems to be defective in material or workmanship will be, as the exclusive remedy, repaired or replaced at Air Systems' option. This warranty does not apply to electrical systems or electronic components. Electrical parts are warranted, to the original user, for 90 days from the date of sale. During the warranty period, electrical components will be repaired or replaced at Air Systems' option.

**NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER IS GIVEN BY AIR SYSTEMS IN CONNECTION HEREWITH. UNDER NO CIRCUMSTANCES SHALL THE SELLER BE LIABLE FOR LOSS OF PROFITS, ANY OTHER DIRECT OR INDIRECT COSTS, EXPENSES, LOSSES OR DAMAGES ARISING OUT OF DEFECTS IN, OR FAILURE OF THE PRODUCT OR ANY PART THEREOF.**

The purchaser shall be solely responsible for compliance with all applicable Federal, State and Local OSHA and/or MSHA requirements. Although Air Systems International believes that its products, if operated and maintained as shipped from the factory and in accordance with our "operations manual", conform to OSHA and/or MSHA requirements, there are no implied or expressed warranties of such compliance extending beyond the limited warranty described herein. Product designs and specifications are subject to change without notice. **Rev 2,12/98**

**Note:**

***Air leaks are not covered under warranty except when they result from a defective system component, i.e. an on/off valve or regulator or upon initial delivery due to poor workmanship. Air leaks due to poor delivery or damage will be covered under delivery claims. Minor air leaks are part of routine service and maintenance and are the responsibility of the customer just as are filters and oil changes.***