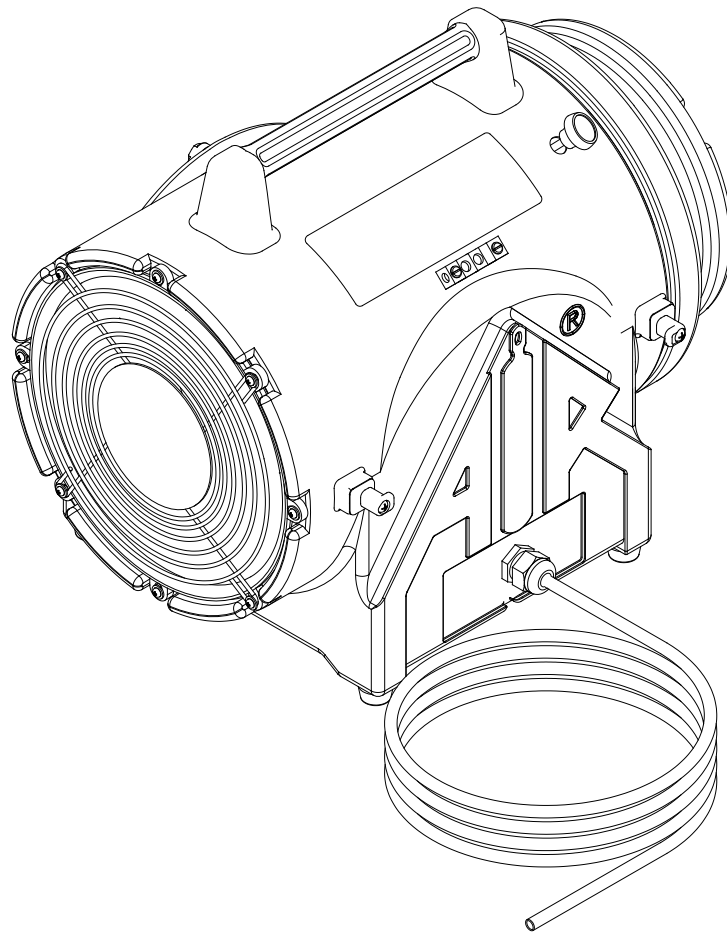




## OPERATING INSTRUCTIONS AND REPLACEMENT PARTS

**Models: CVF-8EXP / CVF-12EXP / SVF-10EXP**



### WARNING

This manual must be read carefully and followed by all persons who have or will have the responsibility for using or servicing this equipment. This equipment will perform as designed only if used according to the instructions. Otherwise it could fail to perform as designed, causing personal injury or death.

### AIR SYSTEMS INTERNATIONAL, INC.

829 Juniper Crescent, Chesapeake, Va, 23320

Telephone (757) 424-3967

Toll Free 1-800-866-8100

Fax No. (757) 424-5348

[www.airsystems.com](http://www.airsystems.com).

e-mail: [sales@airsystems.com](mailto:sales@airsystems.com)

## Warranty

Air Systems' manufactured equipment is warranted to the original user against defects in workmanship or materials under normal use for one year from the 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.**

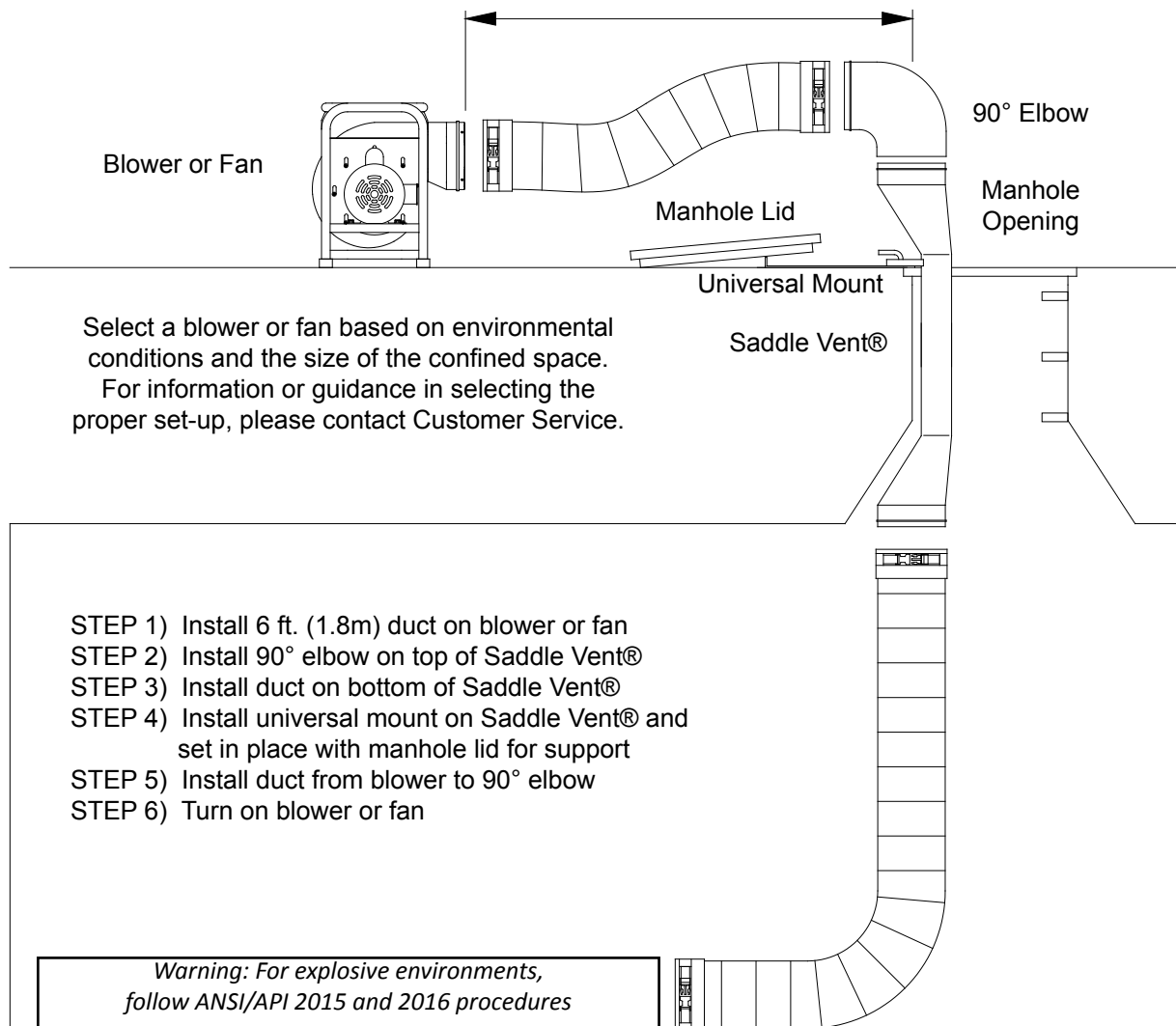
The purchaser shall be solely responsible for compliance with all applicable Federal, State and Local OSHA and/or MSHA requirements. Although Air Systems International believes that its products, if operated and maintained as shipped from the factory and in accordance with our "operations manual", conform 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

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.

## The Saddle Vent® Ventilation System

### Typical Saddle Vent® Setup Procedure



Place fan or blower a minimum of  
5 ft. (1.6m) from manhole opening





### WARNING: HAZARDOUS LOCATION OPERATIONS

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

The Saddle Vent® is a registered trademark of Air Systems International, Inc.  
The Conductive Saddle Vent® is covered by U.S. and Foreign Patents


**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 on our website, [www.airsystems.com](http://www.airsystems.com), help assist in 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 unit in a vertical position or with the flange or guards removed.


**WARNING**


Fan and blower models with the “EX” or “X” designation are the only models approved for use in hazardous locations. These models are NOT approved for use in mines.

### Important - Please Read!

- Approved for outdoor use.
- Thermally protected.
- Use only a plug certified and/or listed as explosion-proof for both Canada and the U.S., type suitable for the area of classification that it is used in.
- Caution!** To reduce the risk of electric shock, connect only to an outlet provided with a ground fault interrupting device.

### Specifications

Motor Type Models: CVF-8EXP and SVF-10EXP	115 VAC, 60 Hz, 1/3 HP, 2.2 amps, .25 kw, Temp. Code T-4 Class I & II, Group C,D,E,F,G
Motor Type Model: CVF-12EXP	115 VAC, 60 Hz, 1.5 HP, 9.6 amps, 1.1 kw, Temp. Code T-4 Class I & II, Group C,D,E,F,G
Outlet Size Models: CVF-8EXP and SVF-10EXP	8" Diameter (203 mm) (SVF-10EXP will accommodate 8" duct as well as 10" duct)
Outlet Size Model: CVF-12EXP	12" Diameter (305 mm)
CVF-8EXP Flow Rates	Free Air: 987 CFM (1677 cm/hr) 15 ft. of duct with one 90° bend: 730 CFM (1246 cm/hr) 15 ft. of duct with (2) 90° bends: 648 CFM (1101 cm/hr)
SVF-10EXP Flow Rates	Free Air: 1390 CFM (2362 cm/hr) 15 ft. of duct with one 90° bend: 870 CFM (1478 cm/hr) 15 ft. of duct with two 90° bends 858 CFM (1458 cm/hr)
CVF-12EXP	Free Air: 2400 CFM (4078 cm/hr) 15 ft. of duct with one 90° bend: 2334 CFM (3967 cm/hr) 15 ft. of duct with two 90° bends 1598 CFM (2715 cm/hr)

## Set-Up and Operation:

### STEP 1)

Explosion-proof models should be fitted with an approved explosion-proof plug to meet hazardous locations specifications. See page 13 for ordering information.

### STEP 2)

Place fan in a clean fresh air environment. Note: Inspect fan for damaged or worn parts. Inspect all ducting and couplings for possible air leaks prior to fan operation.

Note: 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.



If explosive or volatile vapors are suspected or present, test the fan for proper grounding using an ohm meter. All static electricity must be removed from the fan and attached ducting prior to energizing the fan. Conductive ducting should be tested semi-annually to assure resistance (ohms) does not exceed 750k. If sufficient resistance is not achieved, the duct should be removed from service.

### STEP 3)

Install duct cuff to exhaust flange and tighten cinch strap. Keep bends and kinks in ducting to a minimum to maximize air flow.

**NOTE:** The use of conductive ducting is recommended when operating in potentially explosive environments. Assure that the fan is properly grounded before operating and the ground wire in the conductive ducting is attached to the fan and Saddle Vent®, if used.

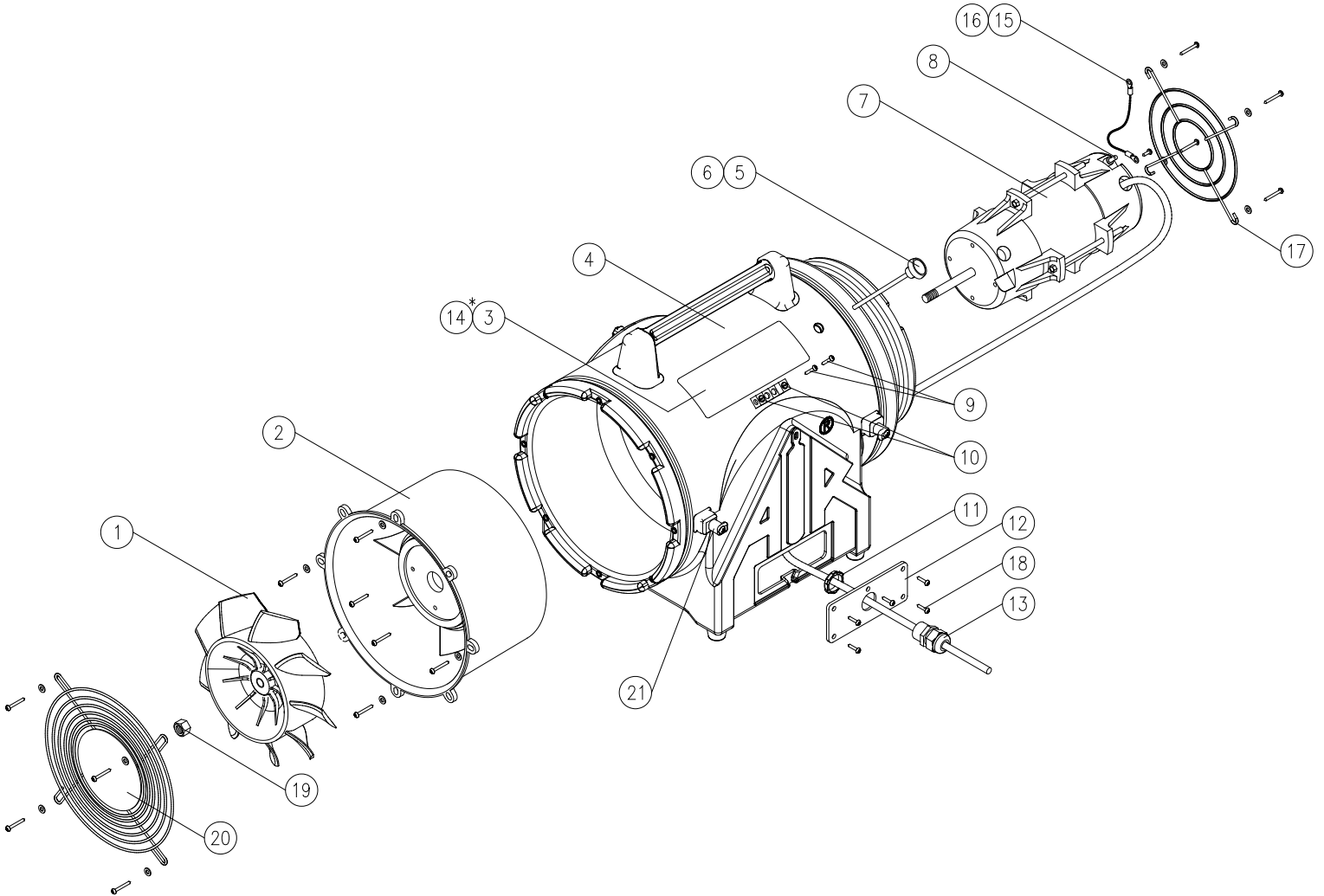
### STEP 4)

The "ON/OFF" switch is integrated in the motor. Pull the "ON/OFF" switch knob outward to turn the fan "ON". The unit is now operational. To turn the fan "OFF," push the switch knob in toward the fan housing.

## Troubleshooting:

PROBLEM	POSSIBLE CAUSE	SOLUTION
Excessive vibration	Air intake blocked	Turn fan off and clear debris from intake.
	Possible internal damage	Turn 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 for loose guards, broken welds, etc.
Circuit breaker trips	Voltage output insufficient	Test outlet with volt meter.
Automatic thermal over-load in motor trips	Extension cord is not of sufficient gauge	Eliminate extension cord and restart or obtain extension cord of sufficient gauge

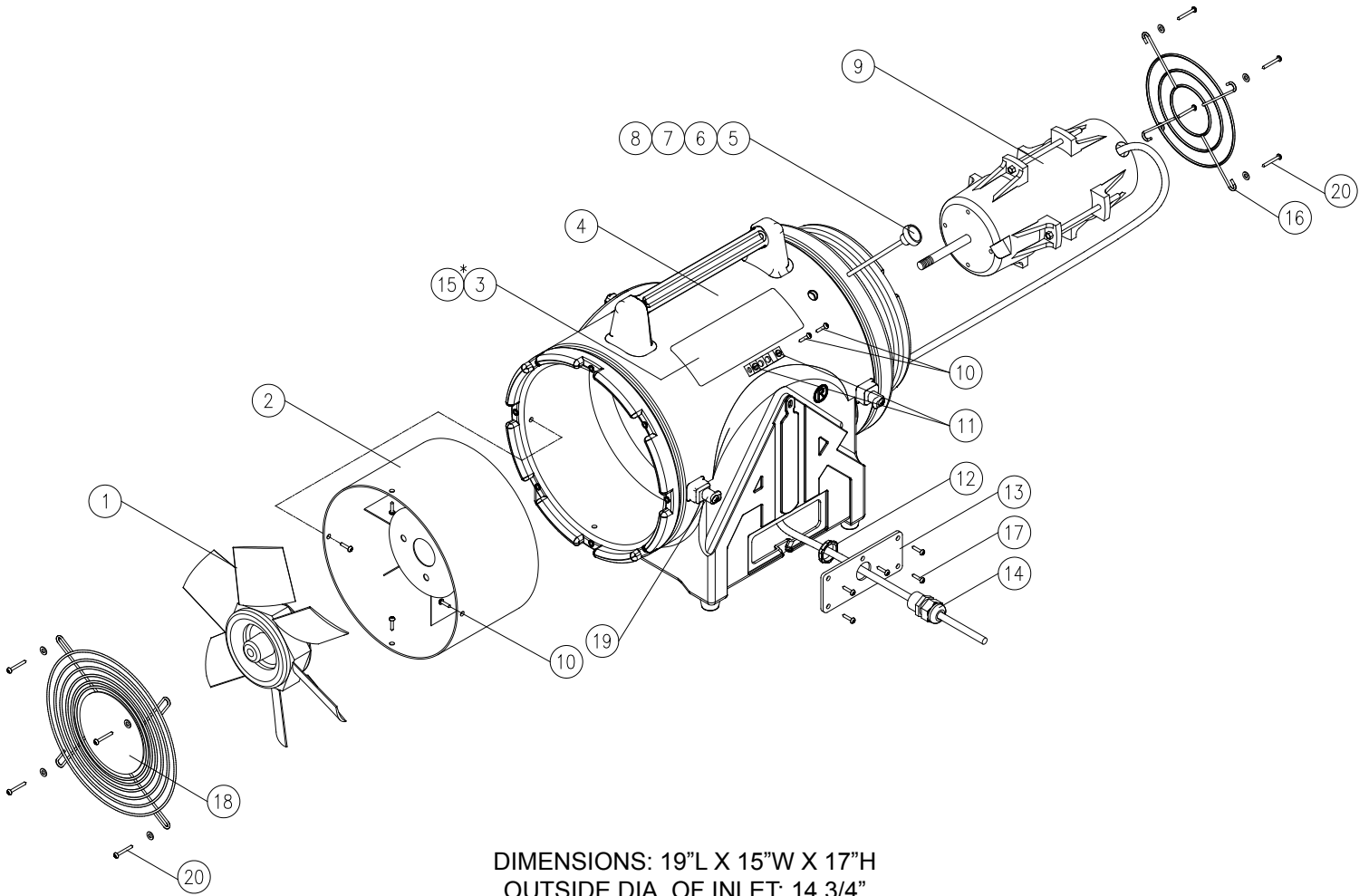
# System Components: Model CVF-8EXP



## System Components: Model CVF-8EXP

SEQ. #	ITEM #	DESCRIPTION	QUANTITY
1	CVF-FANCN	8" FAN, POLYPROPYLENE, POLYONE #PP-16CP/000-2HI	1
2	CVF-MM	MOTOR MOUNT, POLYPROPYLENE, POLYONE #PP-16CP/000-2HI	1
3	DECAL161	SERIAL NO. DECAL, CVF-8EXP AND SVF-10EXP	1
4	CVF8EXP-NM	CONDUCTIVE POLYETHYLENE HOUSING, ICORENE 517-C	1
5	FS10X350TS	10-24 X 3-1/2 FULLY THREADED STEEL STUD	1
6	HDWR070	BLACK ABS ON/OFF KNOB WITH 10-24 THREADS	1
7	MTR043EXP	EXPLOSION PROOF MOTOR WITH 25' OF SJOOW CORD (NO PLUG)	1
8	HDWR068	COUPLING NUT 10-24 X 3/4 LONG, GRADE 2, STEEL	1
9	FS10X5/8TH	#10 X 5/8 TRUSS HEAD PHILLIPS SCREW, STEEL	2
10	ELA051	ALUMINUM GROUNDING LUG, 6-14 AWG (6.35mm MAX)	2
11	ELA007	1/2 CONDUIT LOCK NUT, ZINC COATED STEEL	1
12	MBKCVF8EXP	MOUNTING PLATE, CVF SERIES EXP FANS, POLYETHYLENE	1
13	ELA001	CABLE GLAND, 5-12mm, ALTECH P/N 5308921	1
14	DECAL160	PERFORMANCE DECAL, CVF-8EXP AND SVF-10EXP	1
15	HDWR006	16-14 AWG. NON-INSULATED RING TERMINAL, STEEL	2
16	ELCB033G	18 GAUGE STRANDED WIRE-GREEN	0.5
17	CVF-RG	REAR GUARD, ZINC COATED STEEL	1
18	FS83/4STSS	#8 X 3/4 PAN HEAD SERRATED THREAD SCREW, STEEL	9
19	FNM8X1ESN	M8 X 1.0 ELASTIC STOP NUT, STEEL	1
20	CVF-FG	FRONT GUARD, ZINC COATED STEEL	1
21	CVF-POST	LATCHING POST	4

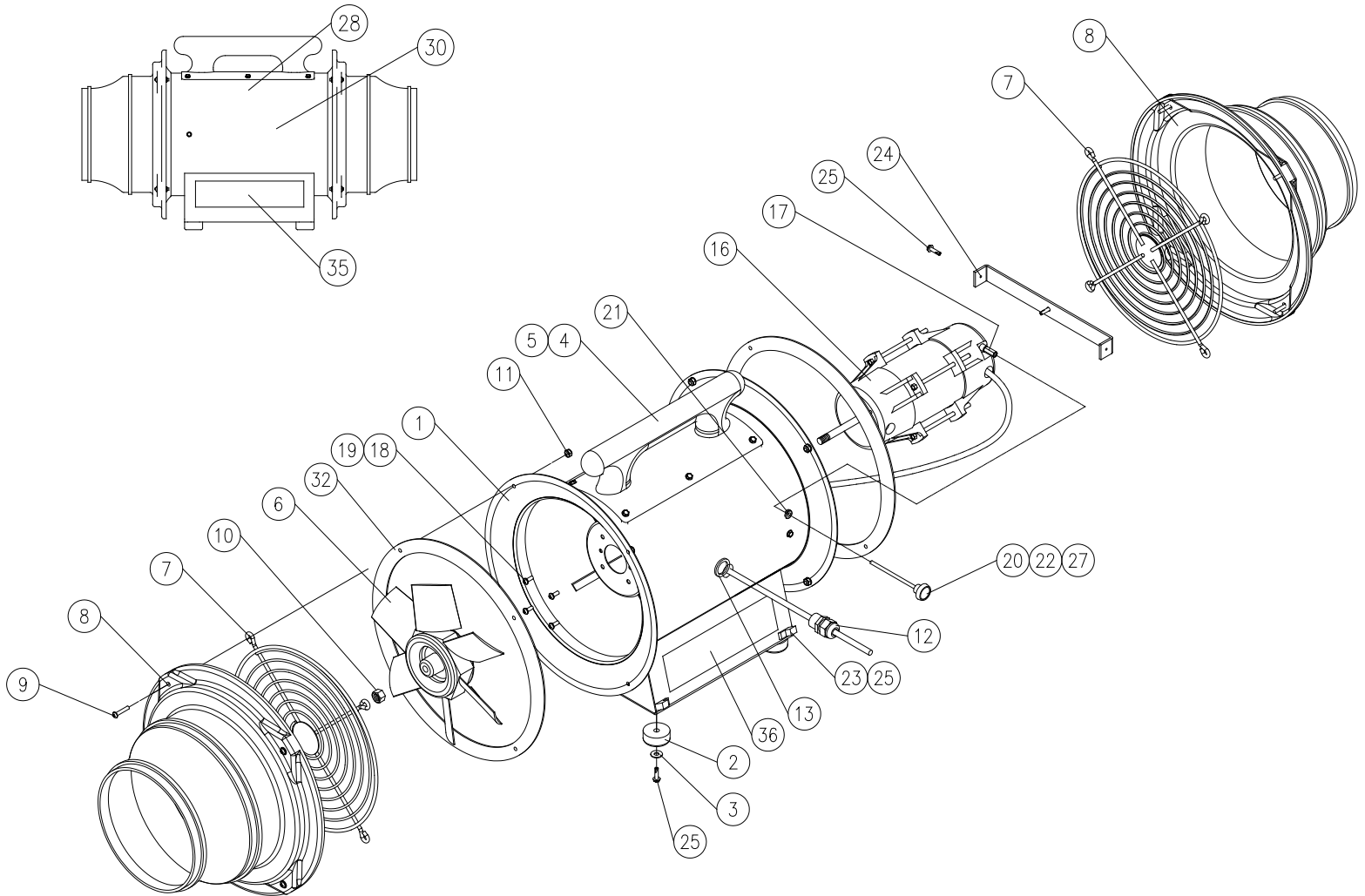
# System Components: Model CVF-12EXP





## System Components: Model CVF-12EXP

SEQ. #	ITEM #	DESCRIPTION	QUANTITY
1	CVFFAN12EX	12" FAN, ANTI-STATIC	1
2	CVF-MM12XP	ALUMINUM MOTOR MOUNT	1
3	DECAL226	SERIAL NO. DECAL, CVF-12EXP	1
4	CVF-12NM-B	CONDUCTIVE POLYETHYLENE HOUSING, ICORENE 517-C	1
5	HDWR343	1/4-20 X 4" LONG SHAFT/KNOB	1
6	HDWR344	1/4-20 ROD END	1
7	FB1/4X075S	1/4-20 X 3/4" LONG STAINLESS STEEL BOLT	1
8	FN1/4ESNSS	1/4-20 STAINLESS STEEL HEX NUT	1
9	MTR076EXP	EXPLOSION PROOF MOTOR WITH 25' OF SJOOW CORD (NO PLUG)	1
10	FS10X5/8TH	#10 X 5/8 TRUSS HEAD PHILLIPS SCREW, STEEL	6
11	ELA051	ALUMINUM GROUNDING LUG, 6-14 AWG (6.35mm MAX)	2
12	ELA007	1/2 CONDUIT LOCK NUT, ZINC COATED STEEL	1
13	MBKCVF8EXP	MOUNTING PLATE, CVF SERIES EXP FANS, POLYETHYLENE	1
14	ELA004	CABLE GLAND, 12-15 mm, RACO P/N 3702-6	1
15	DECAL227	PERFORMANCE DECAL, CVF-12EXP	1
16	CVF-RG12	REAR GUARD, ZINC COATED STEEL	1
17	FS83/4STSS	#8 X 3/4 PAN HEAD SERRATED THREAD SCREW, STEEL	9
18	CVF-FG12	FRONT GUARD, ZINC COATED STEEL	1
19	CVF-POST	LATCHING POST	4
20	FS4X12SS	M4 X 12MM LONG, PHILLIPS HEAD SCREW	8

**System Components: Model SVF-10EXP**

## System Components: Model SVF-10EXP

SEQ. #	ITEM #	DESCRIPTION	QUANTITY
1	MILF-10BR	10" STEEL BASE - RED, AXALTA, P/N RED RIVER HP II	1
2	HDWR026	RUBBER FEET FOR SVF FANS - 70 DURO SBR	4
3	FW3/16	3/16 USS FLAT WASHER ZINC COATED STEEL	4
4	FS10X050W	10-24 X 1/2 HEX WASHER, ZINC COAT STEEL	6
5	SVF-10HNDL	HANDLE, BLACK, LLDPE, EXXON P/N LL8555	1
6	SVF-FAN	AXIAL FAN, REINFORCED FIBER, WINGFAN P/N PACAS	1
7	MGDAXFAN1	FINGER GUARD, ZINC COATED STEEL	2
8	SVF-108ADP	10" TO 8" SHROUD, BLACK, LLDPE, EXXON P/N LL8555	2
9	FS1032X78T	10-32 X 7/8 TRUSS,PHILLIPS, ZINC COATED	8
10	FNM8X1ESN	M8 X 1.0 ELASTIC STOP NUT, ZINC COATED	1
11	FN1032ESN	10-32 ELASTIC STOP NUT ZINC COATED	8
12	ELA001	CABLE GLAND, 5-12mm, ALTECH P/N 5308921	1
13	ELA007	1/2 CONDUIT LOCK NUT, ZINC COATED STEEL	1
16	MTR043EXP	EXPLOSION PROOF MOTOR WITH 25 FT. OF SJOOW CORD (NO PLUG)	1
17	HDWR068	COUPLING NUT 10-24 X 3/4 LONG, GRADE 2	1
18	FS1032X050	10-32 X .5, ROUND PHILLIPS HEAD, ZINC	4
19	FW10LOCK	#10 LOCKWASHER ZINC COATED	4
20	FS10X350TS	10-24 X 3-1/2 FULLY THREADED STEEL STUD	1
21	HDWR027	GROMMET FOR SV FANS-60 DURAMETER, SBR	1
22	HDWR070	BLACK ABS KNOB WITH 10-24 THREADS, SVF	1
23	ELA051	ALUMINUM GROUNDING LUG, 6-14 AWG (6.35mm MAX)	2
24	MBSVF10EXP	STABILIZER BRACKET FOR SVF-10EX SERIES, STEEL	1
25	FS10X075W	10-24 X 3/4 HEX WASHER, ZINC COATED	6
27	ELA039	1/4" DIAMETER SHRINK TUBING, PVC	0.25
28	DECAL045	MOTOR ROTATION DECAL, PERMANENT OUTDOOR	2
30	DECAL043	AIR SYSTEMS WORLD LOGO DECAL - 4" DIA.	1
32	ILF-G	GASKET, ROUND, 8 HOLES, FOR SVF FANS, SBR	2
35	DECAL161	SERIAL NO. DECAL, CVF-8EXP AND SVF-10EXP	1
36	DECAL160	PERF. SPEC. DECAL, CVF-8EXP AND SVF-10EXP	1

## Conductive Canister / Ducting For CVF-8EXP and CVF-12EXP



### Conductive Canister / Ducting For CVF-8EXP

CVF-CND6	Conductive 8" Duct Canister with 6 Ft. (183 cm.) of Conductive Duct
CVF-CND15	Conductive 8" Duct Canister with 15 Ft. (457 cm.) of Conductive Duct
CVF-CND25	Conductive 8" Duct Canister with 25 Ft. (762 cm.) of Conductive Duct

### Conductive Canister / Ducting For CVF-12EXP

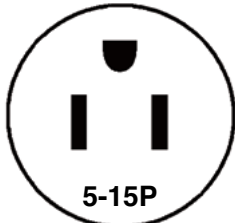
CVCAN1215C	Conductive 12" Duct Canister with 15 Ft. (457 cm.) of Conductive Duct
CVCAN1225C	Conductive 12" Duct Canister with 25 Ft. (762 cm.) of Conductive Duct

### Explosion Proof Plug For Hazardous Locations

ELAP15232	Max. 250 VAC/15 Amp - Killark Universal
ELAP20232	Max. 250 VAC/20 Amp - Killark Universal

## Explosion-Proof Plugs Available:

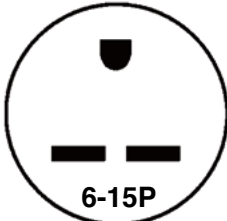
Conform to NEMA configurations and can be used with standard receptacles in non-hazardous areas.  
 "TURN TO ENGAGE" feature locks in plug and can be used to prevent accidental disengagement.  
 Interchangeable with Crouse-Hinds® Ark-Gard®2 and Appleton® U-Line® plugs and receptacles.



**ELAP15231**  
15 AMP, 125 VAC



**ELAP20231**  
20 AMP, 125 VAC



**ELAP15232**  
15 AMP, 250 VAC



**ELAP20232**  
20 AMP, 250 VAC



### Plug Certifications for Hazardous Locations

**Class I, Div. 1 & 2, Groups B<sup>C</sup>,C,D**  
**Class I, Zones 1 & 2, Groups IIB+H<sub>2</sub>, IIA**  
**Class II, Div. 1 & 2, Groups F,G**  
**Class III**  
**NEMA 3, 7 (B,C,D), 9 (F,G)**

 Listed File No. E91049 and/or E53660

 Certified File No. LR14667

### Explosion-Proof Plugs

Item No.	Description
ELAP15231	15 AMP, 125 VAC, EXP Plug w/Quick Wiring
ELAP20231	20 AMP, 125 VAC, EXP Plug w/Quick Wiring
<b>International Options</b>	
ELAP15232	15 AMP, 250 VAC, EXP Plug w/Quick Wiring
ELAP20232	20 AMP, 250 VAC, EXP Plug w/Quick Wiring

No Additional Charge for Installation Prior to Shipment





