



**OWNER'S MANUAL
SAFETY INSTRUCTIONS**

Please read and keep these instructions with the fan.

[Schaefer Americ VAF3000P Confined Space Ventilator](#)



MODEL: VAF3000P

*For use in Class I, Groups A, B, C and D; Class II,
Groups E, F and G; and Class III.*

Purchase Date: _____ Serial No. _____

Dealer: _____

Step Six: Stand unit on its base, once again with the motor shaft towards you. Use a 13/16" open end wrench to tighten the 90" hose fittings onto the brass hex nipples previously installed onto the motor through the motor housing. Be sure to coat threaded joints with Loctite #545 Pneumatic Seal or equivalent product to assure leak free installation of air hose fitting. Attach hose to the fittings by pushing onto ferrule until they snap-lock into place. Tug on hose gently. If hoses release, push more firmly into the ferrule until you hear it snap-lock into place.

NOTE: Orient the unit so the back of the motor is facing you. Install the hose on the left, into the top air motor fitting. Install the hose on the right into the bottom air fitting motor.

Step Seven: Test air connections by attaching the unit to air supply line. Inspect hose connections for leaks. If a leak is found, repeat sealing instructions outlined in Step Six.



CAUTION: Never touch the spinning motor shaft – severe personal injury will result.

Step Eight: Lay unit down with the motor shaft facing up. Install fan blade with the flat part of the shaft aligned with the flat guide on the fan hub. Place 3/8" flat washer on top of the fan hub before securing the nut on the shaft with a 9/16" open end wrench. Tighten until you see one thread exposed above the installed nylon nut. You may need to hold the blade by wedging it to prevent rotation during this procedure.



CAUTION: Never operate the unit with the fan blade installed without first installing the safety grill. Severe personal injury will result.

Step Nine: Install grill, duct ring and grounding stud ring to the front of the unit's housing. Assemble bolt with flat washer first, then the ground stud ring and finally the star washer. This bolt assembly is then threaded through the grill and duct ring into the unit's housing. Repeat steps to install grill, duct ring and grounding stud to the rear of the unit's housing. You should use a 1/4" ratchet and a 7/32" socket for this procedure.

NOTE: There are three bolts used to attach each grill and duct ring. The longest of the three bolts is used to attach the grounding stud ring to the unit's housing.



CAUTION: Be sure to reattach flat washer, grounding wire stud ring and star washer to ensure proper operation.

Step Ten: Connect completely reassembled fan to air supply line and perform a final inspection of the unit to ensure proper operation.

Step Eleven: Ensure ground continuity with a multi meter. Test with one lead attached to the grounding stud located on the coupler plate, and complete the circuit by touching the secondary lead to the following points while noting meter response:

1. The rivet holding the right side of the safety label in place.
2. The upper left corner rivet holding serial plate in place.
3. Any coupler plate rivet.
4. The front and rear grills. Test one of the bolts not connected to the ground wire.
5. Back of motor (long probe will be required to make contact).

NOTE: Some resistance may be present when testing various points. The objective of this test is to ensure that all wires removed are properly attached.



CAUTION: This unit is UL/CUL listed for use in hazardous locations. The grounding system links metal components together. If you fail to properly reattach grounding stud rings, washers, star washers and bolts, static electric build-up can result. The UL/CUL listing for this unit will also be null and void.

Step Six: Flip unit over on its back and remove the front motor assembly bolts with a 7/16" socket.

Step Seven: Use a 9/16" deep socket to remove the remaining brass hex fittings from the motor.

Step Eight: Rotate the unit 180° onto its face. Remove the three rear motor assembly bolts with the 7/16" socket. Fish out the rear motor end plate with an offset screw driver.

NOTE: A grounding wire is attached to the end plate bolt located between the two air motor fittings.



CAUTION: Be sure to note the location of all grounding wires, washers and star washers before removing. Reattached assemblies to the same location from which they were removed in order to safeguard proper ground continuity.

Step Nine: The motor is now detached from the mounting assembly. Carefully slip out of the housing for repair. Tape over the air fitting holes to prevent debris from falling into the motor while it is out of the housing.

Step Ten: Decide if you want to ship the motor to the factory for repair, order a service kit or purchase a new motor. Please contact Schaefer at the number listed on the front of this manual to obtain parts, secure a return authorization or receive technical assistance.

REINSTALLING THE AIR MOTOR INTO THE VAF3000P HOUSING

Step One: Prepare motor for installation by removing the shipping plugs from the air motor ports. Lay the VAF3000P face down on a firm work surface.

Step Two: Carefully position air motor into the housing assembly with the motor shafts though the front mounting plate. Be sure to align the air fitting holes of the motor and housing so that the fittings can be installed into the motor through the housing.

Step Three: Coat threaded joints with Loctite #545 Pneumatic Seal or equivalent product to ensure leak free installation of air fittings. Install the two brass hex nipples into the air motor and tighten with a 9/16" deep socket.

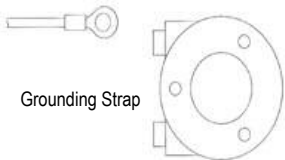
Step Four: Stand unit on base with front facing you. Attach motor to front housing plate with three 7/16" bolts while maneuvering the motor into position from the rear. Tighten securely with a 7/16" socket.

Step Five: Lay unit with the rear of motor facing up. Install the rear end plate by using a nail or other object to align end plate, grounding stud ring and threaded hole.

NOTE: The bolt to which the grounding wire must be attached is located between the two air fittings. Secure the three mounting bolts by tightening with a 7/16" socket.



CAUTION: Failure to reattach grounding stud ring to the same location from which it was removed will break ground continuity and allow the accumulation of static electricity.



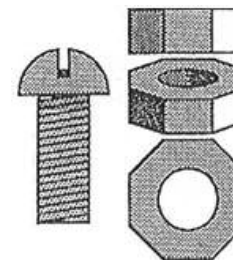
Rear View of Motor

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MOTOR REMOVAL & INSTALLATION TOOL LIST

Socket (7/16")
Deep Socket (9/16")
Open End Wrench (13/16")
Socket and Driver (7/32")
Open End Wrench (3/4")
Loctite #545 or Pipe Seal
Duct tape for sealing motor ports
3 pieces of wood blocking cut to 12"



CAUTION: This unit is UL/CUL listed for use in hazardous locations. The grounding system links all metal components together. If you fail to properly reattach grounding stud rings, washers, star washers, and bolts, static electric build-up can result. The UL/CUL listing for this unit will also be null and void.

MOTOR REMOVAL PROCEDURES

Step One: Remove Grills and Duct Rings from the front and rear of the unit. Use a 1/4" ratchet and a 7/32" socket to remove bolts, washers and star washers. Store these components in a safe place. They will be needed for the reassembly of the unit.

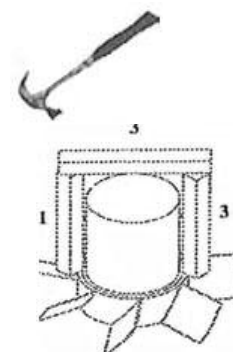
Step Two: Position the unit so that the back of the motor is facing you. Disconnect air hoses from the motor by pushing in on the ferrule lock ring while pulling on hoses.

Step Three: Use a 13/16" open end wrench to spin off brass hex fittings from the air motor. NOTE: A 3/4" open end wrench may also be needed to spin off air connection ferrules of the 90° elbow because of limited space.

Step Four: Lay unit down with the fan blade facing up. Remove the nylon nut that holds the blade on shaft with a 9/16" open end wrench and remove the 3/8" flat washer. You may need to wedge the fan blade to prevent rotation during this procedure.

Step Five: Flip unit so that blade is facing workbench. Create a 3-legged brace with pieces of wood cut approximately 12" in length. Pound gently on the center of the cross beam to release the fan blade from the shaft.

NOTE: Even pressure is required on at least two points at the same time to release the fan hub without causing damage to the blade assembly or motor shaft.



CAUTION: Striking the back of the fan hub directly with a hard or sharp object (e.g. hammer or screwdriver) may damage components.

An automatic lubricator can be installed in the air line just ahead of the motor. The lubricator should be adjusted to feed one drop of oil per minute. Lubrication is necessary for all internal moving parts and rust prevention. Excessive moisture in the air line can cause rust formation in the motor and might also cause ice to form in the muffler due to the expansion of air through the motor. The moisture problem can be corrected by installing a moisture separator in the line and also by installing an after cooler between the compressor and air receiver. USE DETERGENT SAE #10 AUTOMOTIVE ENGINE OIL.

SERVICING AIR MOTOR

If the motor is sluggish or inefficient, try flushing with recommended solvent. The recommended solvent for air motors and lubricated pumps is Gast Flushing Solvent, Part #AH255 or AH255A, Demkote 2X726 Safety Solvent, Inhibisol Safety Solvent or Dow Chemical Chlorothane.

To flush the unit, disconnect the air line from the coupler plate and remove the felt inside the muffler assembly. Add several teaspoons of solvent directly into the air motor fitting. Rotate the fan shaft by hand in both directions for a few minutes. Connect motor to an adjustable air supply. Slowly apply pressure until there is no trace of solvent in exhausted air system. Reinstall the felt insert and secure the muffler cap.



CAUTION: Foreign material exiting the air motor can be hazardous. Solid or liquid material exiting the unit can cause eye or skin damage. Keep away from air stream. Keep face away from exhaust port. Eye protection is required.



CAUTION: Flush unit in a well-ventilated area only.

Re-lubricate the motor by squirting a drop of oil in the chamber. If the vanes need replacing or foreign materials are present in motor chamber, an experienced mechanic may remove the end plate opposite the drive shaft end. DO NOT PRY WITH A SCREWDRIVER.

It will dent the surface of the plate and body causing leaks. A puller tool should be used which will remove the end plate while maintaining the position of the shaft. New vanes should have the edge with the corners cut on an angle or the notched edge towards the bottom of the vane slot.

If motor requires service, it is highly recommended that the user remove the motor from the housing as per the instructions provided in this manual and return it to the factory for repair.

A service kit is available; however, it should only be installed by a qualified mechanic. The tolerances inside the air motor must be maintained to ensure top operating performance.

SHUTDOWN AND STORAGE PROCEDURE

1. Turn off air intake supply and remove plumbing.
2. Remove air motor from the connecting machinery.
3. Use clean, dry air at low pressure to 'flush out' condensates, such as water.
4. Re-lubricate the air motor with a squirt of oil in the chamber. Rotate the shaft by hand several times.
5. Plug or cap each port. The unit is now ready for storage.

If you are the original purchaser of a new Americ Vane Axial Fan from Schaefer, then you are entitled to a limited warranty subject to the terms and conditions set forth herein. To qualify for the limited warranty you must complete the enclosed registration card and mail it to Schaefer within (30) days of the purchase so there is a record of your purchase. Schaefer's limited warranty is for the replacement or repair of any part that proves to be defective in workmanship or materials for a period of one (1) year from the date of the purchase by the original purchaser. During the first year, Schaefer will provide all parts necessary to correct any defects, free of charge. This limited warranty extends only to the original purchaser who retains ownership of the Fan. This limited warranty is not transferable to any subsequent purchaser or second-hand user.

The limited warranty extends only to the repair or replacement of parts found upon Schaefer Ventilation Equipment's examination to be defective. Unless any part or assembled unit replaced hereunder is returned, freight pre-paid, together with a letter describing the problem to Schaefer or an authorized Schaefer dealer, this limited warranty will be void and of no effect.

This warranty is limited to ninety (90) days for labor from the date of purchase. Thereafter, any labor costs incurred will be charged to the customer at the prevailing hourly rate.

This limited warranty shall not extend to a product that has been used in an improper manner, or that has been disassembled, altered or improperly maintained. Nor shall this limited warranty apply if the Fan has been subjected to corrosive chemicals, improper voltage, unauthorized repairs, fire, flood, abnormal wear or any causes beyond Schaefer's control.

This limited warranty does not apply if the serial number has been removed, obliterated or defaced.

Schaefer Ventilation reserves the right to make changes to the Vane Axial Fan in design, materials or specifications as necessary and without prior notice. Schaefer shall not be obliged to make alterations or modifications to existing products previously manufactured.

To obtain replacement parts pursuant to this limited warranty, you must write Schaefer or call (320) 251-8696 to receive an authorization number.

Replacement parts will not be provided unless the customer first provides the serial number of the Fan and also receives an authorization number from Schaefer.

OTHER THAN THE FOREGOING LIMITED WARRANTY, THERE ARE NO FURTHER WARRANTIES OR ANY AFFIRMATIONS OF FACT OR PROMISES BY SCHAEFER WITH RESPECT TO THE VANE AXIAL FAN. THE DURATION OF ANY IMPLIED WARRANTIES ARE LIMITED TO THE TERMS OF THE ABOVE LIMITED WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY MAY LAST, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, SCHAEFER EXPRESSLY DISCLAIMS ANY INFRINGEMENT OR ANY AFFIRMATIONS OF FACT OR QUALITY NOT EXPRESSLY CONTAINED HEREIN. SCHAEFER VENTILATION AND ITS AFFILIATES NEITHER ASSUME NOR AUTHORIZE ANY PERSON TO ASSUME FOR THEM ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH ITS PRODUCTS. THERE ARE NO OTHER WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO EVENT SHALL SCHAEFER VENTILATION BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR LOSS OF PROFITS OF ITS CUSTOMERS OR USERS OF PRODUCT. SOME STATES/JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE SOME OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

INTRODUCTION

Congratulations on your selection of a new Vane Axial Fan from Schaefer Ventilation. Our goal is to provide you with the very best in high performance air ventilators. Reading this Owner's Manual will help you achieve the maximum benefit from your portable air ventilator. If you do not understand any portion of this Manual, please contact Schaefer, or your authorized Schaefer dealer for proper assistance prior to operating this Fan.

Do not allow anyone to operate the Vane Axial Fan without first reading the Operator's Manual and becoming familiar with its operation. Schaefer has endeavored to provide you with the finest equipment available for providing air for portable ventilation purposes. The possibility does exist, however, that the Vane Axial Fan can be subjected to applications not intended by Schaefer. **Misuse and/or misapplication of the Vane Axial Fan can lead to the possibility of serious damage, injury or even death.** Anyone operating the Vane Axial Fan should refer to current OSHA job safety and health rules and regulations pertaining to the construction industry, with a particular emphasis on 29 CFR 1910, which contains rules governing Permit-Required Confined Spaces for General Industry.

Record the Vane Axial Fan model and serial number in the space provided below.

Model No. _____ Serial No. _____

Date Purchased _____


All specifications are general in nature and are not intended for specific application purposes. Schaefer accepts no responsibility for variations which may be evident in actual products, specifications, pictures and descriptions contained in this publication.

PROBLEM	CAUSE	SOLUTION
Unit will not run	<ul style="list-style-type: none"> No air supply to unit Faulty air supply line 	<ul style="list-style-type: none"> Connect air supply Perform maintenance and check line to air supply
Unit runs but fan makes loud scraping noise	<ul style="list-style-type: none"> Unit has been severely jolted causing fan to rub against housing Unit has been severely jolted causing housing to deform 	<ul style="list-style-type: none"> Remove motor and replace damaged motor mounts Perform maintenance and check line to air supply
Unit runs but vibrates excessively	<ul style="list-style-type: none"> Severe jolt has bent motor shaft causing unit to be out of balance Fan blade is damaged Dirt build-up on one side of fan blade 	<ul style="list-style-type: none"> Remove and replace motor Replace fan blade as necessary Replace fan blade Clean fan blade
Unit runs but fan does not turn	<ul style="list-style-type: none"> Fan is jammed Housing has been damaged and presses on the fan blade 	<ul style="list-style-type: none"> Remove motor and replace damaged motor mounts Replace fan blade if necessary Replace housing/unit as necessary
Unit runs but does not develop full power	<ul style="list-style-type: none"> Low air supply pressure Low air supply cfm Excessive duct length Worn motor vanes 	<ul style="list-style-type: none"> Supply 100 psi air Increase size of compressor and/or size of supply lines to provide at least 71 cfm Reduce duct length to recommended maximum Rebuild motor

MOTOR TROUBLESHOOTING GUIDE

REASON	LOW TORQUE	LOW SPEED	WON'T RUN	RUNS HOT	RUNS GOOD, THEN SLOWS
Dirt, Foreign Material	X	X	X		
Internal Rust	X	X	X		
Misalignment	X	X	X	X	
Insufficient Air Pressure	X	X			
Too Small Air Line		X			X
Restricted Exhaust		X			
Poor Lubrication	X	X	X	X	
Jammed Machine	X	X	X		X
Compressor Too Small		X			X
Compressor Too Far From Unit		X			X

SAFETY SYMBOL

When you see this symbol,  CAUTION, be aware that personal injury or property damage is possible. The hazard is explained in the text following the symbol.



CAUTION: Severe personal injury or death COULD occur if hazard is ignored.

AIR MOTOR PRECAUTIONS



CAUTION: The air motor is designed to be driven by compressed air. Under no circumstances should the air motor be driven by any other gases. The air motor must not be driven by fluids, particles, solids or any substance mixed with air, particularly combustible substances likely to cause explosions.



CAUTION: DO NOT USE KEROSENE OR OTHER COMBUSTIBLE SOLVENTS.



CAUTION: Foreign materials exiting the air motor can be hazardous. Solid or liquid materials exiting the unit can cause eye or skin damage. Keep away from air stream.



CAUTION: Keep face away from exhaust port. Eye protection is required.



CAUTION: Water, vapor, oil-based contaminants or other liquids must be filtered out.



CAUTION: Do not drive the air motor in excess of the recommended operating maximums below. Ambient temperature should not exceed 121°C (250°F).

INTERNAL OPERATING MAXIMUMS				
Motor Size	Maximum RPM	Maximum Pressure (psi)	Maximum Torque in lb. – inch	Maximum Air Consumption in cfm
V4	3000	100	36.29	38



CAUTION: Do not allow the air motor to ‘run free’ at high speeds without a load. Excessive internal heat buildup will result in loss of internal clearance and rapid motor damage.

CFM RATINGS			
Free Air	2063 cfm	25' 1-90° Bend	1497 cfm
15' Straight Duct	1753 cfm	25' 2-90° Bend	1433 cfm
15' 1-90° Bend	1616 cfm	100' Straight Blowing	1243 cfm
25' Straight Duct	1619 cfm		




CAUTION: Always disconnect the unit from the air supply before servicing.


These instructions are for your protection and convenience. Please read them carefully since failure to follow these precautions could result in injury or even death.

- Always use the VAF3000P in accordance with the required operation standards listed below.
- Never put the VAF3000P into standing water or allow water inside the motor.
- Never store the VAF3000P outdoors.
- Never allow the air intake screens to become plugged.
- Never put any object in the intake screen unless the unit is disconnected from the air supply line and the fan blade has stopped turning.
- Do not allow the unit to be used as a toy. Close attention is necessary when used by or near children.
- Keep hair, loose clothing, fingers and all parts of the body away from the intake screen. If the fan is not working properly because it has been dropped, damaged, left outdoors or submerged in water, contact Schaefer at (320) 251-8696.

INSTRUCTIONS FOR OPERATION AND CARE

OPERATION STANDARDS	
FOR ALL APPLICATIONS	 FOR HAZARDOUS LOCATIONS
<ul style="list-style-type: none">• 100 psi maximum• Clean, dry, lubricated air supply required	<ul style="list-style-type: none">• CAUTION: Ground unit at lug on coupler plate• Air supply lines shall be made of electrically conductive material in accordance with the recommended practice on static electricity, NFPA 11, and/or any other applicable local code

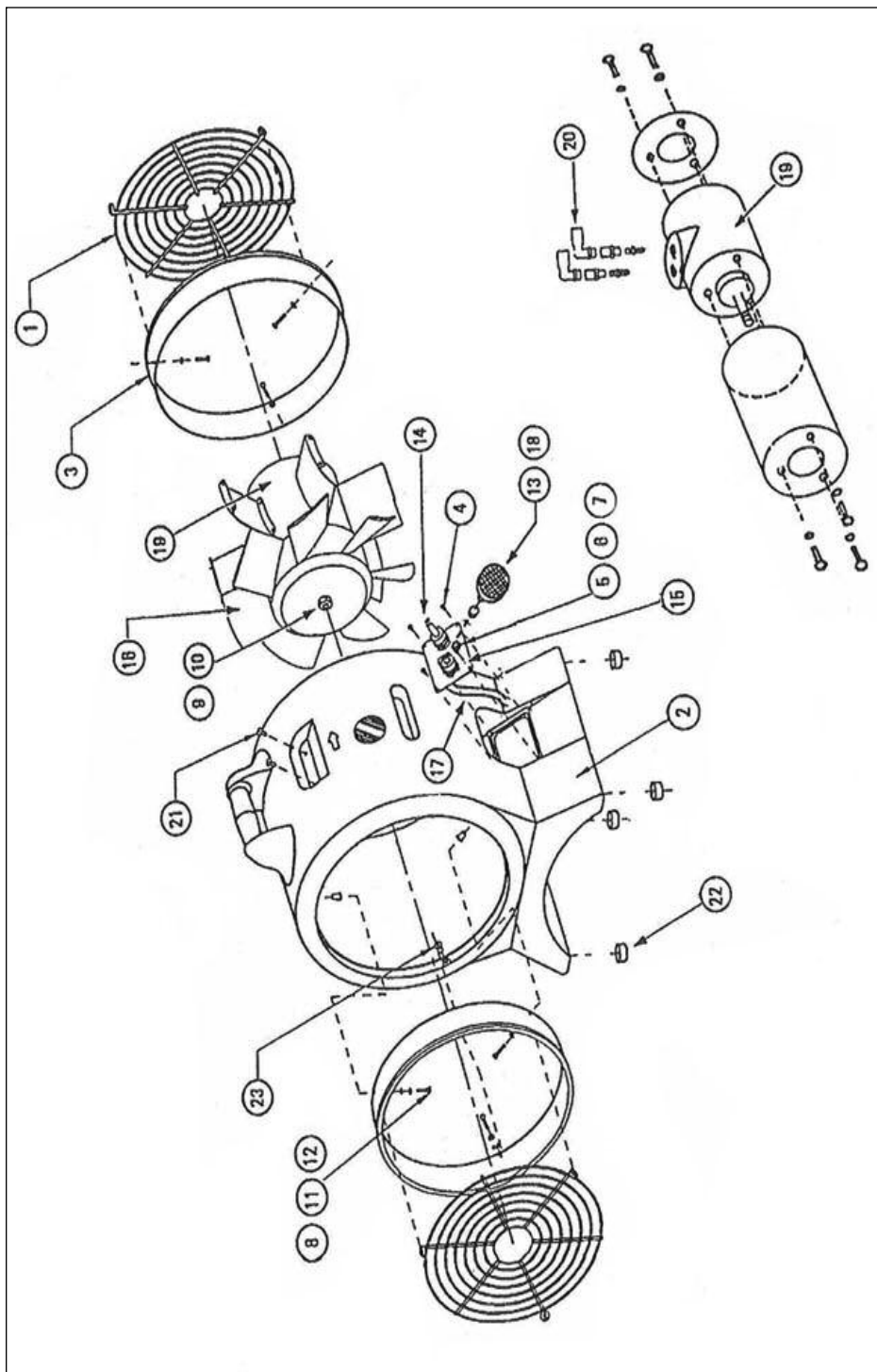
- Your new VAF3000P comes to you completely assembled and ready to operate. Carefully inspect unit for any possible damage from transit.
- When using the VAF3000P, note the directional airflow indicator on the external shell. This is the way the air moves.
- Prior to connecting the VAF3000P to the air supply line, inspect the inlet and outlet screen and remove any debris that may restrict airflow movement.

WHEN USED WITH DUCTING	 FOR HAZARDOUS LOCATIONS
<ul style="list-style-type: none">• Do not install duct when fan is in operation	<ul style="list-style-type: none">• Use only ‘Static Conductive Hose’ properly grounded. If connecting duct to duct, use only ‘Static Conductive’ couplers made of aluminum• Place duct lip over duct adapter and secure firmly• Note the direction of the airflow as indicated by the arrow on the side of the fan

SPECIFICATIONS		DIMENSIONS		
Pneumatic Motor:	1.5 hp	Height:	21"	53.34 cm
RPM:	3000	Width:	14"	35.65 cm
CFM:	2063	Length:	17"	43.18 cm
		Duct Adapter:	12"	30.48 cm
		Weight:	28 lbs.	12.75 kg.

VAF3000P PICTORIAL BREAKDOWN

VAF3000P Parts List



Item	Part#	Description
1	GUARD-VAF3000	Wire Guard 12"
2	HSG-VAF3000	Shell Housing Blue
3	RING-VAF3000	Duct Ring 12"
4	ORIVET6-8A-B	Rivet 3/16" x 1/2" G
5	0B1420X1B	Bolt 1/4"-20 x 1" Brass
6	0N1420B	Hex Nut 1/4"-20 Brass
7	0W14B	Washer 1/4" Brass
8	0BM3-0.5X25HHSS	Bolt M3x.5 25mm
9	0NY3816Z	Nut Nyloc 3/8" -16
10	0W12X118SS	Washer 1/2"
11	0WM3SS	Washer M3 SS
12	0WEL8SS	Star Washer #8
13	RBB38X14	Hex Bushing 3/8" x 1/4"
14	QCFM14FAIR	Male Plug Quick Connector
15		Coupler Assembly
	BHF38F	Bulkhead Fitting 3/8"
	BHFNUT38	Nut Bulkhead Fitting
	EL9038TUBX38NPT	Elbow 90 Swivel Slip On
	COUP-PLATE	Coupler Plate
16	BLADE-VAF3000	Fan Blade 12" 7 Wing
17	POLYTUBE38ODBL	3/8" OD Black Tubing
18	AIRMUF14	Muffler 1/4"
19		Motor Assembly
	AIRMV4-F-709	Motor
	AIRMOTMOUNT	Motor Mount
	AIRMMOUNTENDPL	Motor End Plate
	0B1420X12HSS	Bolt 1/4"-20 x 1/2"
	0SW14SS	Lock Washer 1/4"
	MTRVN-VAF3000	Motor Mount Vane
	0SCS832X12	Socket Cap Screw 8-32 x 1/2"
	0SCS832X34	Socket Cap Screw 8-32 x 3/4"
	0WEL8SS	Star Washer #8
	0SW8SS	Lock Washer #8
	0N832Z	Hex Nut 8-32
20		Motor Connection
	NIPB14H	Pipe Nipple 1/4"
	0REDCOUP38X14	Reducer Bushing 3/8" x 1/4"
	EL9012TUBX38NPT	Elbow 90 Swivel Slip On
21	ORIVET6-8A-B	Rivet 3/16" x 1/2" G
22	0RF78DP	Rubber Foot 7/8" DP
23	0WNM3-0.5HT	Well Nut M3x.5
	WIRE10GGMTW	Wire Motor to Bolt
	WIRE14GGMTW	Wire Grill to Bolt
	WIRE14GGMTW	Wire Label to Bolt
	0RGTERM1210-14	Ring Terminal
	LABELSAFE-3000P	Safety Label
	LABELBP-3000P	Backer Plate
	LABEL-3000P-SN	Label Serial Number
	0CLIP-3000P	Clip 28F524
	0CLIPINS-3000P	Clip Insulator 28F487
	0RGTERM1614-10	Ring Terminal #10