



Portable High-Pressure Misting System

USER'S MANUAL



SCHAEFER
Ventilation Equipment

800-779-3267

sales@schaefervent.com • www.schaefervent.com

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Thank You!

The employees of Schaefer Ventilation Equipment would like to thank you for your recent Schaefer purchase. If a problem should arise, your Schaefer dealer can supply the necessary information to help you.

This manual is designed to provide comprehensive safety, set up and operation, maintenance, troubleshooting, parts listing and warranty information. To order replacement parts contact the dealer from whom you purchased your VersaFog®. If you do not have that information, please call Schaefer Ventilation Equipment at 800-779-3267 to locate a dealer near you.

The cool air you will now enjoy when using this misting equipment is created through the process of evaporation. Heat is required to change water from a liquid to a gas or water vapor. Our high-pressure misting equipment creates a very fine fog by pumping high pressure water at a very low flow rate through small nozzles. When combined with the air provided by a fan, this fog is rapidly evaporated. The heat required to evaporate the fog is extracted from the air causing a reduced air temperature. This cooler air is then distributed to people or animals creating a direct cooling effect and will also gradually replace warmer, saturated air from enclosed spaces.

The performance of your misting system can be affected by local conditions. Using this equipment for any other purpose than it was intended or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury. All information, illustrations and specifications in this manual are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice.

Keep this manual in a clean, dry place for future reference.

Thank you again, and stay cool!

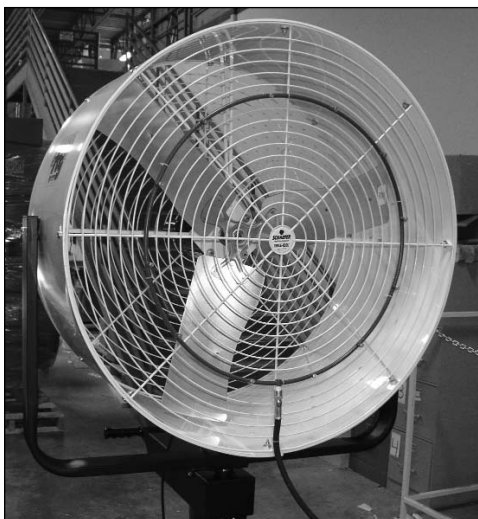


A warning decal (pictured below) has been placed on the equipment to warn of potential danger. Care should be taken to keep this information intact and easy to read at all times. Replace missing or damaged safety decals immediately.



- This is an electric device with moving components. There is the possibility of fire, electric shock, or injury to persons. Ensure all safety recommendations are adhered to in order to minimize this risk.
- Comply with all local and national electric codes.
- Disconnect all power and unplug the unit before you inspect, clean or perform maintenance on the components of the unit.
- Do not allow electrical cord connections to fall or lay in water.
- A GFCI (Ground Fault Circuit Interrupter) is recommended for use with this product.
- Use only extension cords properly rated for this product.
- Only use water considered clean and safe for drinking.
- Protect the unit from freezing.

Fan and Mist Ring Specifications



FAN

Height and width 37½"
 Depth (front to back) 20½"
 Guards are white powder-coated steel.

FAN MOTOR

Voltage (VAC)	115	230
Frequency (Hz)	60	60
Amps	6.0	3.5
HP	1/2	1/2
Speeds	1	1

MIST RING

Nozzles	12
Nozzle flow rate (each)	0.022 GPM @ 1000 PSI
Total output	0.264 GPM @ 1000 PSI

Mist Pump Specifications

The pump assembly includes a pump, motor and control assembly designed to provide high-pressure water supply to the mist ring. The assembly is housed in a galvanized steel enclosure with a blue, textured powder-coat finish. The enclosure is mounted on a tubular-steel cart with two eight-inch all-terrain pneumatic wheels for ease of mobility on any surface. Two stainless steel latches enable easy access to the interior components via the hinged lid.

The pump assembly includes an automatic low-pressure shutoff; the pump will not operate without water pressure.

MIST PUMP AND MOTOR

Voltage (VAC)	115	208-230
Frequency (Hz)	60	60
Amps	8.7	4.4
HP	3/4	3/4
Pump output	.75 GPM @ 1000 PSI	
Filter	5 micron polypropylene	
Water supply pressure and flow	15 PSI min.; 75 PSI max. 1 GPM minimum	
	POTABLE ONLY	
Main power supply cord	115V - 16/3 SJOOW (w/ integral GFCI plug) 230V - 14/3 SJO (no plug)	
Pump crankcase oil	15W-50 synthetic	

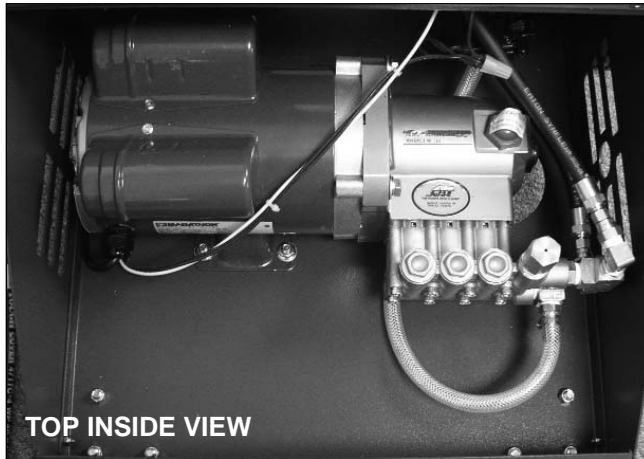


WARNING

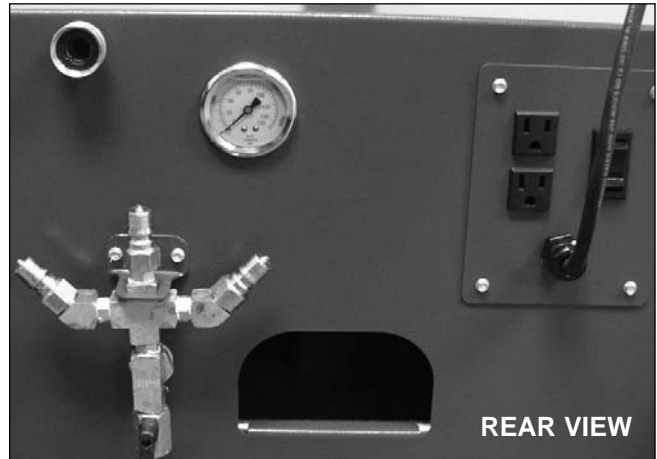


ELECTRICAL SHOCK HAZARD

- Serious injury or death is possible.
- Use a receptacle protected by a Ground Fault Circuit Interrupter (GFCI).



TOP INSIDE VIEW



REAR VIEW



FEATURES

- Die cast flange-style aluminum crankcase means high strength, lightweight, and excellent tolerance control.
- Heavy-duty dual crankshaft bearings provide extended drive-end life.
- Chrome-moly crankshaft provides unmatched strength and surface hardness for long life.
- High strength connecting rods assure durability and bearing quality.
- Strong chrome plated brass plunger rods with chrom-moly crosshead pins.
- Special, concentric, high-density, polished solid ceramic plungers provide a true wear surface and extended seal life.
- High tensile strength, forged brass manifold head with built-in integral regulator and eight mounting screws for exceptional strength.
- 100% wet seal design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
- Stainless steel valves, seats and springs provide corrosion-resistance, ultimate seating and extended life.
- Unique design and specially formulated Hi-Pressure Seals offer unmatched performance and seal life.
- Crossheads are 360° supported for uncompromising alignment.



STEP 1 - REMOVE SHIPPING OIL PLUG

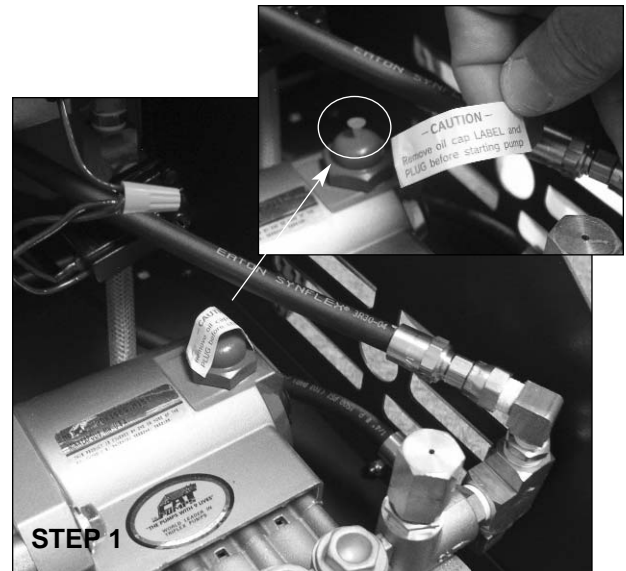
1. Remove mist pump assembly from carton and place on a level surface.
2. Release the two latches on the front of the enclosure and lift the hinged lid.
3. The pump has been pre-filled with crankcase oil at the factory.



CAUTION

The plastic shipping plug must be removed before operating the mist pump.

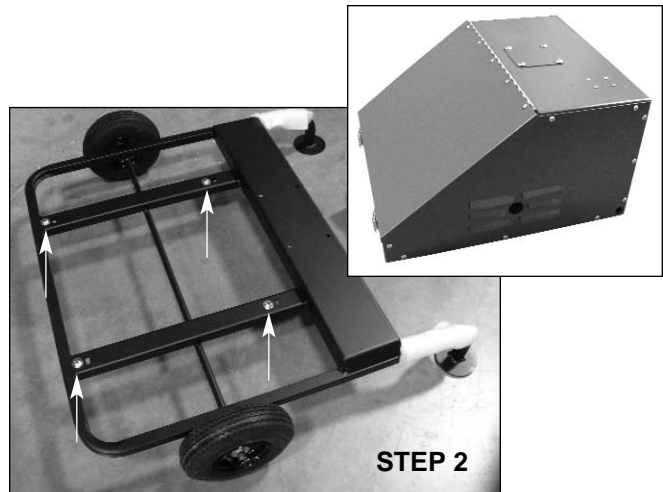
4. Remove the label and small plastic oil plug from the pump and save for future transportation use.



STEP 2 - ASSEMBLE PUMP TO BASE

TOOLS REQUIRED: Two 7/16" wrenches.

1. Place base on a level surface.
2. Remove four bolts and flange lock nuts from base.
3. Place pump assembly on base. Be sure the pump assembly is oriented so the back of it faces the footpads on the base. Insert the four bolts to secure the pump to the base.



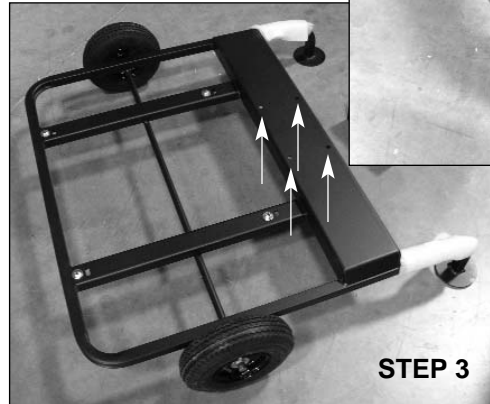
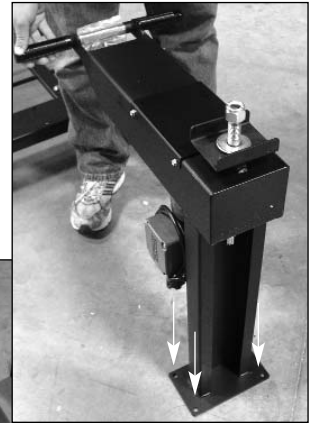
FRONT ← → BACK

Assembly Instructions (continued)

STEP 3 - ASSEMBLE COLUMN TO BASE

TOOLS REQUIRED: Two 9/16" wrenches.

1. Remove four bolts and flange lock nuts from column flange.
2. Place column flange over the four holes in the base. Be sure the column is oriented so the handle faces the back of the base. Insert the four bolts to secure the column to the base.

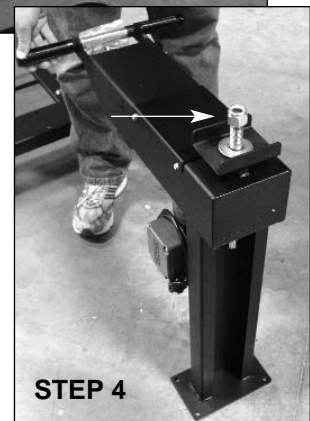


FRONT ← → BACK

STEP 4 - ASSEMBLE UPRIGHT TO COLUMN

TOOLS REQUIRED: Large adjustable wrench.

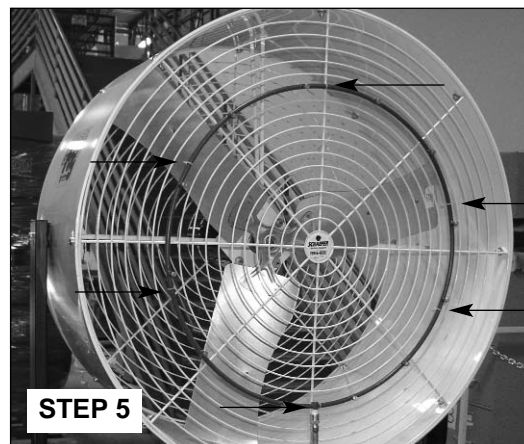
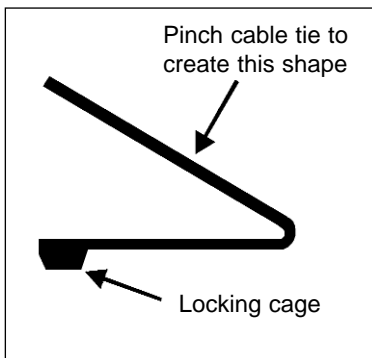
1. Remove the large nylock and washer from the column.
2. Place the upright over the threaded shaft. Be sure the "FRONT" label on the upright points to the front of the assembly. Replace the washer, then the nylock to secure the upright to the column.



STEP 5 - ASSEMBLE MIST RING TO FAN

TOOLS REQUIRED: Wire cutter.

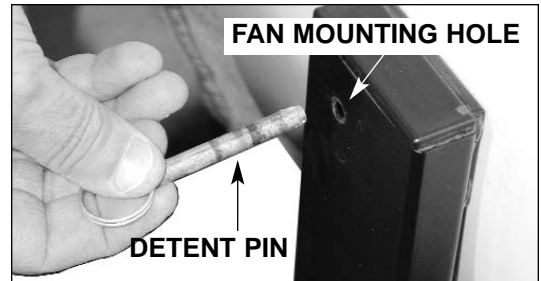
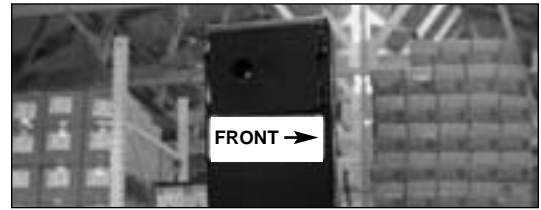
1. Center the mist ring on the front face of the fan guard with the nozzles directed **away from the fan** and the water supply fitting oriented in a downward direction.
2. Secure the ring using six of the 4" cable ties found in the hardware bag.
3. The cable ties will need to be pinched in the middle to form a "V" (see illustration below) which will enable you to put the tie through the fan guard and bring the end back out to wrap around the mist ring. Pull the end through the locking cage until tight and cut off the excess length.



STEP 6 - ASSEMBLE FAN TO UPRIGHT

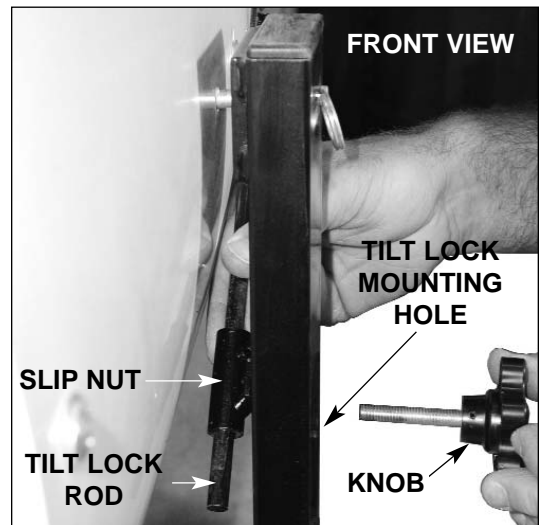
**** THIS ASSEMBLY REQUIRES TWO PEOPLE! ****

1. Lift the fan into position. Be sure the front of the fan is facing out as well as the front of the upright. There is a label on the upright that indicates which side is the front.
2. Insert a detent pin through the left side of the fan mounting hole in the upright into the hole in the left side of the fan. Repeat this step for the right side.



STEP 7 - ASSEMBLE TILT LOCK TO UPRIGHT

1. Remove knob from fan.
2. Position slip nut on the inside of the upright centering over the tilt lock rod and tilt lock mounting hole by sliding slip nut down on the tilt lock rod.
5. Insert the knob through the tilt lock mounting hole in the upright and into the slip nut. Tighten the knob securely. A fully assembled tilt lock is pictured below.



STEP 8 - ASSEMBLE HOSE

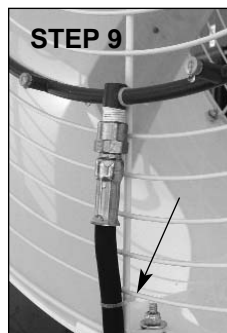
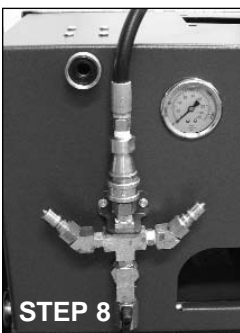
TOOLS REQUIRED: 11/16" wrench.

1. Secure the end of the 1/4" ID hose without the quick-disconnect to the water supply fitting on the bottom of the mist ring using the 11/16" wrench.
2. Pull back the locking ring on the quick-disconnect and fasten it to the top male connection located on the back of the pump housing.



STEP 9 - INSTALL CABLE TIES

1. Use the two remaining 4" cable ties to secure the fan power cord to the back guard, and the mist hose to the front guard.
2. Use the two 14" cable ties to secure the mist hose and the fan power cord to the upright as shown.



Assembly Instructions (continued)

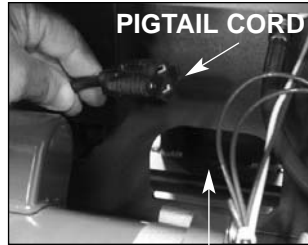
STEP 9 - ELECTRICAL CONNECTIONS

There are two standard electrical outlets located on the back of the pump housing.

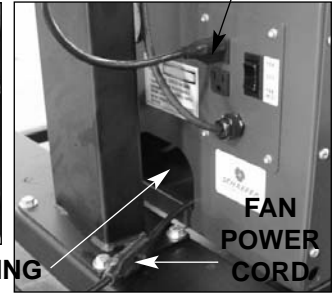
NOTE: Receptacles on pump base are live when main power cord is plugged in.

Plug the power cord from the oscillator motor into one of the outlets. Plug the power cord from the fan into the pigtail cord pulled through the large hole in the back of the pump housing.

(INSIDE HOUSING)



OSCILLATOR CORD



Start-Up / Operation

To begin the start-up procedure, the power cord must be disconnected from the electrical supply. You will also want to ensure that the ball valve on the back of the unit is in the closed position.

STEP 1 - WATER SUPPLY

Connect a 1/2" or larger water supply line or hose to the valve on the back of the enclosure. Make certain that the following water supply conditions are met:

- Supply pressure of 15-75 PSI
- Constant minimum flow rate of 1 GPM
- Water pH of less than 7.5
- Total dissolved solids content of less than 500 PPM



CAUTION

Fluctuating water supply can cause cavitations in mist pump resulting in permanent damage.

Use only stainless steel, copper or brass pipe and hardware to plumb the water supply. Black or galvanized steel plumbing parts will corrode, creating particulate that can plug nozzles.

Excessively hard (high solids) water can plug nozzles.

A plugged filter caused by poor quality water can restrict flow to pump causing permanent damage.

Never operate pump without water supply.

Do not close off system completely on discharge side of pump when operating at high pressures (greater than water supply pressure). Always provide flow to at least four nozzles while operating pump.



WARNING



ELECTRICAL SHOCK HAZARD



PINCH HAZARD





TRIP HAZARD

- Serious injury or death is possible.
- Plug these units into properly grounded receptacles only.
- Receptacles on pump base are live when main power cord is plugged in.
- Do not operate fans without guards in place.
- Do not insert anything into fan guard while fan is operating.
- Position cords and hoses to lie flat on the ground or floor.

STEP 2 - START-UP AND VENTING

1. At first use, air may be entrained in the internal hoses and pump chambers. This will prevent the system from pressurizing properly. You may experience motor and pump operation with minimal or no misting.
2. **With the GFCI power cord inserted into a properly grounded power supply receptacle** and the pressurized water supply open to the unit, move the rocker switch to the FAN/MIST position.
3. Flush the mist ring (**without** nozzles) to remove dust and particles from manufacturing.
4. Move the rocker switch to the OFF position and unplug the main power cord.
5. Insert the nozzles into the mist ring. No tools should be used - **HAND TIGHTEN ONLY**.
6. Plug the main power cord into a properly grounded receptacle, and move the rocker switch to the FAN/MIST position.
7. Turn the regulator hex cap clockwise (by hand) until the pressure on the gauge reads approximately 1000 PSI.

 **WARNING**

 **ELECTRICAL SHOCK HAZARD**

- Serious injury or death is possible.
- Only connect power supply (GFCI) plug to a properly grounded (bonded) receptacle.



CAUTION

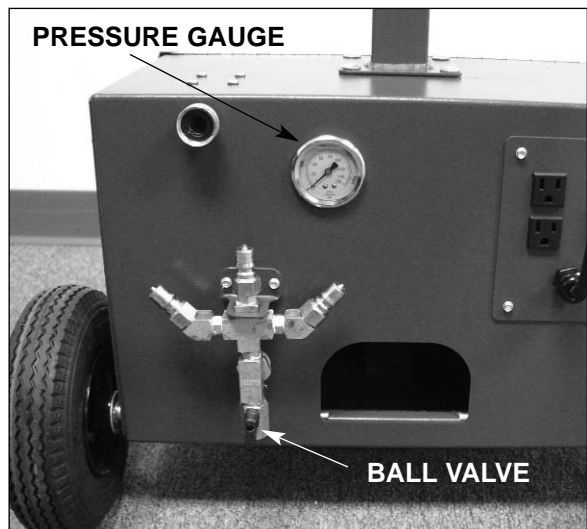
DO NOT RAISE SYSTEM PRESSURE ABOVE 1000 PSI. DAMAGE TO INTERNAL COMPONENTS COULD OCCUR.

8. If the system fails to pressurize, open the ball valve slightly, allowing a small amount of water to escape.
9. Continue this until pressurization occurs, then close the valve. This may take several minutes. Open the valve further if necessary.
10. Close and latch lid for operation.

STEP 3 - FAN OPERATION

For best results, always attempt to place the fan in an upwind position (fan blowing in same direction as wind) when misting.

Never allow the "fog" from the nozzles to come in contact with surfaces. This will cause condensation and water will form on those surfaces. Redirect the fan to prevent this circumstance.




Maintenance

PUMP


The pump's crankcase was filled with oil at the factory. This initial oil fill should be replaced after approximately 50 hours of operation. It should be changed every 500 hours of operation or every three months thereafter.

Use only 15W-50 synthetic oil in this pump.

The oil level in the pump can be read on the site glass at the end of the pump. The level should always be maintained so that it is touching the red dot on the center of the site glass.




WARNING



ELECTRICAL SHOCK HAZARD

- Serious injury or death is possible.
- Disconnect from electrical supply before opening pump enclosure.



DISCONNECT FROM ELECTRICAL SUPPLY

SYSTEM DRAIN / STORAGE

When it is time to store your mist system or take it out of use for more than a few days, it is strongly recommended that the water be drained from the system to prevent calcification problems and the formation of algae.

To drain the system:

1. Open the ball valve at the back of the pump housing.
2. Tilt the unit slightly to accomplish a complete drain.
3. Remove and empty the filter housing. Do not leave a damp filter cartridge in the unit for extended time periods.

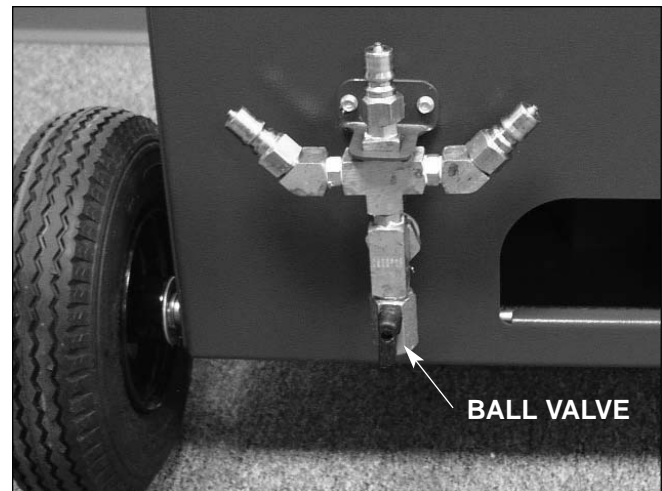
NOZZLES

At the beginning of each new cooling season or after the unit is transported, ensure that the nozzles are properly seated in the mist ring. The nozzles need only be hand tightened while the unit is turned off (no water pressure).

The fog or spray pattern exiting from the nozzles should have an even cone shape. If this is not the case, the nozzle should be replaced. Nozzle function should be checked regularly to assure best misting and evaporation performance.

To clean or replace a nozzle:

1. Turn off power to unit and disconnect water supply.
2. Drain the system as described in the "System Drain / Storage" section of this manual.
3. Unscrew and remove the nozzle.
4. Soak in vinegar, rinse in water OR replace with new nozzle.
5. Screw the nozzle assembly into the mist ring by hand - **NO TOOLS SHOULD BE USED TO TIGHTEN THE NOZZLE.**
6. Repeat steps 1-5 for remaining nozzles.



FILTER

Filter maintenance requirements will change with changing water conditions. The filter cartridge should be inspected frequently and changed as needed. A dirty filter will restrict water flow to the pump and can cause permanent damage.

To change the filter cartridge:

1. Turn off and disconnect water supply.
2. **Disconnect unit from electrical supply.**
3. Open pump enclosure.
4. Unscrew blue filter housing from black bracket.

NOTE: When opening the filter housing, it is common for the O-ring to lift out of housing and stick to cap.

5. Remove used cartridge and discard. Rinse out housing and fill 1/3 full of water. Add two to three tablespoons of bleach and scrub thoroughly with brush. Rinse thoroughly.
6. Remove O-ring from housing and wipe groove and O-ring clean. Lubricate O-ring with a coating of clean silicone grease. Place O-ring back in place and press down into the groove.

NOTE: This step is important to ensure proper filter seal. Make sure the O-ring is seated level in the groove.

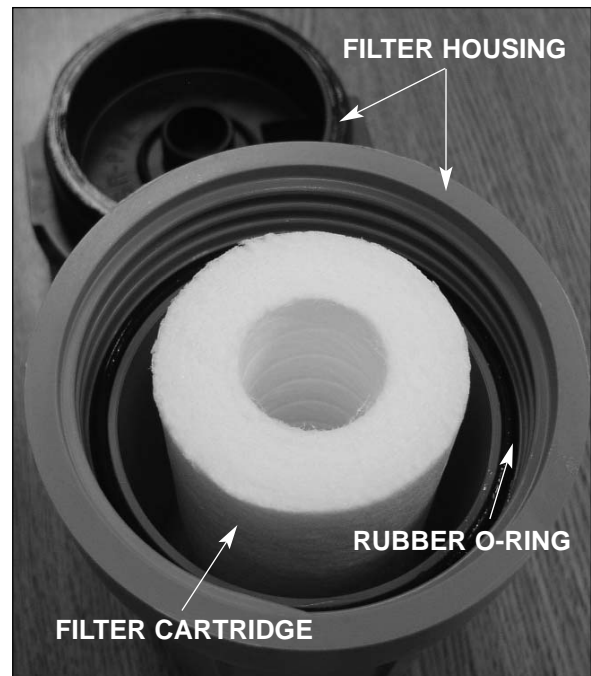
7. Insert a new cartridge into the housing, making sure that it slips down over the sump standpipe.
8. Screw the housing onto the bracket and hand tighten.
DO NOT OVER TIGHTEN.
9. Turn on the water supply slowly to allow filter housing to fill with water.
10. Check for leaks.
11. Close the cover.

**WARNING****ELECTRICAL SHOCK HAZARD**

- Serious injury or death is possible.



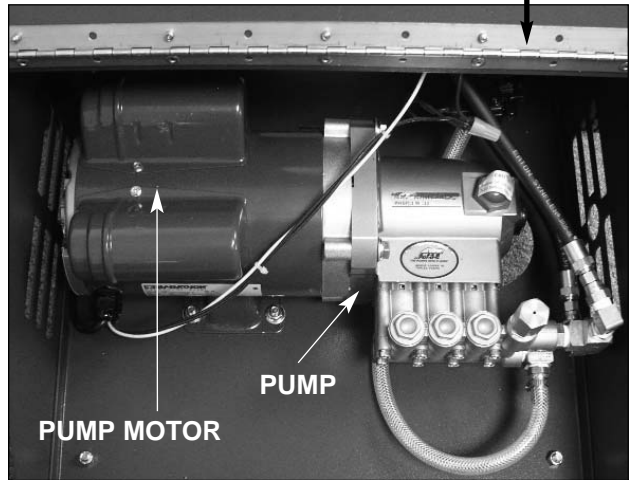
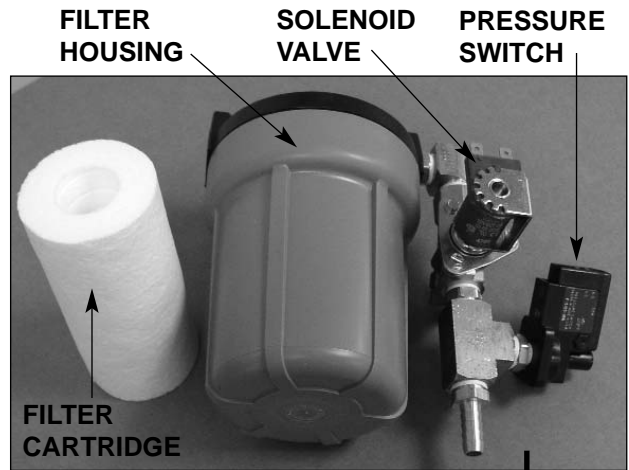
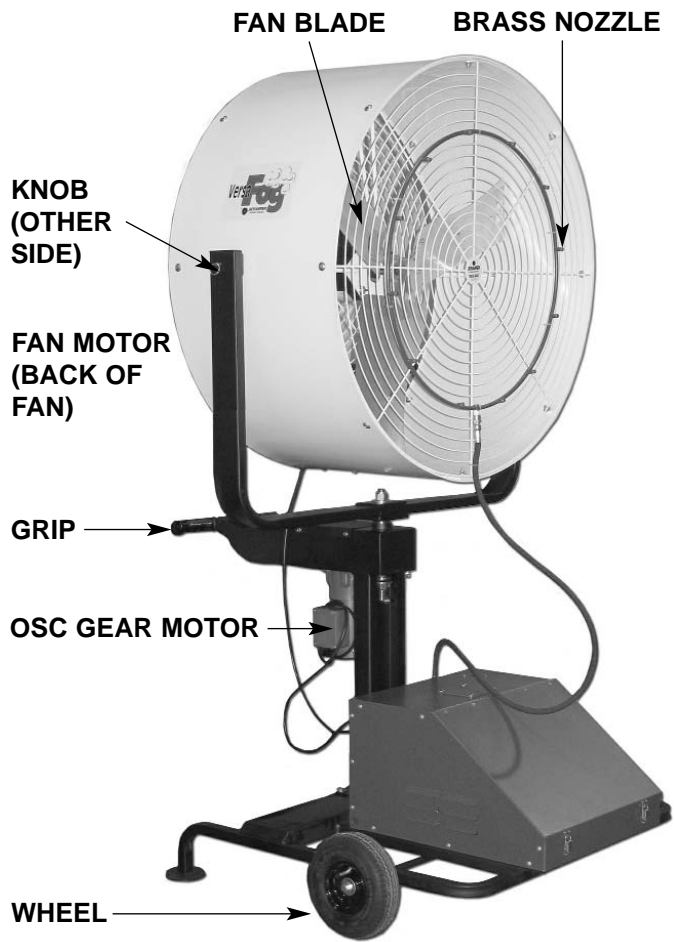
- Disconnect from electrical supply before opening pump enclosure.



Troubleshooting

SYMPTOM	POTENTIAL CAUSE(S)	CORRECTIVE ACTION
Low pressure.	<ol style="list-style-type: none"> 1. Worn nozzle. 2. Air leak in inlet plumbing. 3. Pressure gauge inoperative or not registering accurately. 4. Filter clogged. 5. Leaky discharge hose. 6. Inadequate water supply. 	<ol style="list-style-type: none"> 1. Replace nozzle. 2. Tighten fittings and hoses. 3. Check with new gauge. 4. Replace filter. 5. Replace discharge hose. 6. Confirm that supplied water pressure is between 15-75 PSI.
Pump is on but mist ring is not working.	<ol style="list-style-type: none"> 1. Pressure regulator turned low. 2. There may be a leak in the system. 3. There may be an air lock. 	<ol style="list-style-type: none"> 1. Turn pressure regulator clockwise to increase pressure. 2. Confirm that nozzles are intact. Check for loose hose fitting in manifold line. 3. Follow pump venting instructions in this manual.
Water sprays from nozzles after system is turned off.	<ol style="list-style-type: none"> 1. Pressure may not be completely bled from system. 	<ol style="list-style-type: none"> 1. Allow pressure to bleed slowly while running fan.
Pump stops running.	<ol style="list-style-type: none"> 1. Power supply interrupted. 2. Circuit breaker switched off. 3. Low-pressure switch activated. 4. Pump motor overheated. 5. GFCI is tripped. 	<ol style="list-style-type: none"> 1. Restore power. 2. Confirm breaker is not being overloaded or is worn. 3. Confirm inlet water supply is still on and is 15-75 PSI. Inspect filters and replace if required. Water supply being shared can reduce water pressure. Confirm low-pressure switch control wires are intact. 4. Never operate pump above 1000 PSI. Confirm proper ventilation is available to pump motor. Confirm voltage and that motor is within service factor. Low-pressure sensor tripping motor on and off. Check water pressure is 15-75 PSI. 5. Press RESET button on GFCI.
Knocking noise.	<ol style="list-style-type: none"> 1. Inadequate water supply. 	<ol style="list-style-type: none"> 1. Ensure that correct inlet water pressure is supplied, especially at system start-up.
Nozzle(s) leaking during operation.	<ol style="list-style-type: none"> 1. Nozzle not tightened. 	<ol style="list-style-type: none"> 1. With unit turned off (i.e. no water pressure), hand tighten nozzle(s).
Nozzle does not spray water.	<ol style="list-style-type: none"> 1. Nozzle clogged or broken. 	<ol style="list-style-type: none"> 1. Clean or replace nozzle.
Oscillator does not run.	<ol style="list-style-type: none"> 1. Not plugged into pump enclosure. 2. Defective switch. 3. Defective gear motor. 	<ol style="list-style-type: none"> 1. Ensure oscillator is plugged into outlet on pump enclosure. 2. (115V) Plug oscillator directly into a wall outlet. If oscillator works replace switch. 3. (115V) If oscillator does not run while plugged into the wall outlet, ensure all wiring connections are secure - if oscillator still does not run, replace oscillator motor.

Replacement Parts



REPLACEMENT PARTS

P/N	DESCRIPTION	115V	230V
BN8-1224	Brass nozzle .008 orifice	12	12
0HANDLEGRIP	Finger lugged grip - 1"	2	2
CS237	Pump motor, 3/4 HP 115/208-230V	1	1
PUMP.75C	Pump, direct-drive plunger	1	1
VKF-FILTERCART	Filter cartridge, 5 micron, 4 7/8"	1	1
VKF-FILTERHOUS	Filter housing, 5"	1	1
PS-F-5100-100	Pressure switch F-5100	1	1
SV38	Valve, solenoid 3/8" FPT	1	
SV38-220V	Valve, solenoid 3/8" FPT 220V		1
C2500GFCI	Power cord, 25 ft 16/3 w/GFCI	1	
WC-220VPWRCORD	Power cord, 25 ft 14/3 (no plug)		1
0KNOB51618X2	2" Knob	1	1
0WHEEL280/250	Wheel, pneumatic 8" x 2 1/2"	2	2
CS802	Fan motor, 1/2 HP 115/230V	1	1
GFB-363	36" Galvanized fan blade, 3-wing	1	1
GM36VKO-DV	Oscillating gear motor, dual voltage	1	1

Warranty

Schaefer Ventilation Equipment, LLC. warrants to the original purchaser that our products which prove to be defective in material or workmanship within one year (unless otherwise specified) from date of purchase will be repaired or replaced at the option of Schaefer Ventilation Equipment, LLC. F.O.B. Sauk Rapids, Minnesota.

What is Not Covered By The Warranty

The warranty does not cover:

- (1) Installations not made in accordance with installation instructions;
- (2) Where the operation of the product varies substantially from our operating instructions;
- (3) Malfunctions resulting from misuse, negligence, alteration, accident or lack of performance of required maintenance;
- (4) Loss of time, inconvenience, loss of use of the product, or other consequential damages;
- (5) Removal of any manufacturer nameplate.

The above constitutes our sole warranty.

THERE IS NO WARRANTY OF MERCHANTABILITY AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF.

All information, illustrations and specifications are based on the latest product information available at the time of printing. Product specifications subject to change.



800-779-3267

www.schaeferfan.com