



# *PRO mist* 35

## **1/3 HP High Pressure Misting Pump**



User Manual

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## 1. General Information

This manual provides you with the information for proper use and maintenance of the misting pump. Please carefully follow the instructions provided. The manufacturer/supplier is not liable for any damage to people, goods, or to the system itself if the equipment is used differently from as described in this manual.

Information provided in this manual does not replace any safety regulations. Therefore, the user should comply with the regulations in the area where the pump is installed, as well as following common sense rules.

Do not use the product if you notice any defect or wear that may compromise a safe environment. The user or the maintenance technician must report any manufacturer defects to the supplier. The machine is meant for specific misting applications only. Do not modify and/or use it for applications other than the ones specified.

Instructions, drawings, tables, and all contents of this document are confidential technical documentation and are the exclusive property of the manufacturer. No information may be released to third parties without written permission by Advanced Misting Systems. Descriptions and images in this document are meant for reference and as practical examples. They may be modified at any time and without prior notice. If further technical and functional details are needed, please contact the manufacturer/supplier.

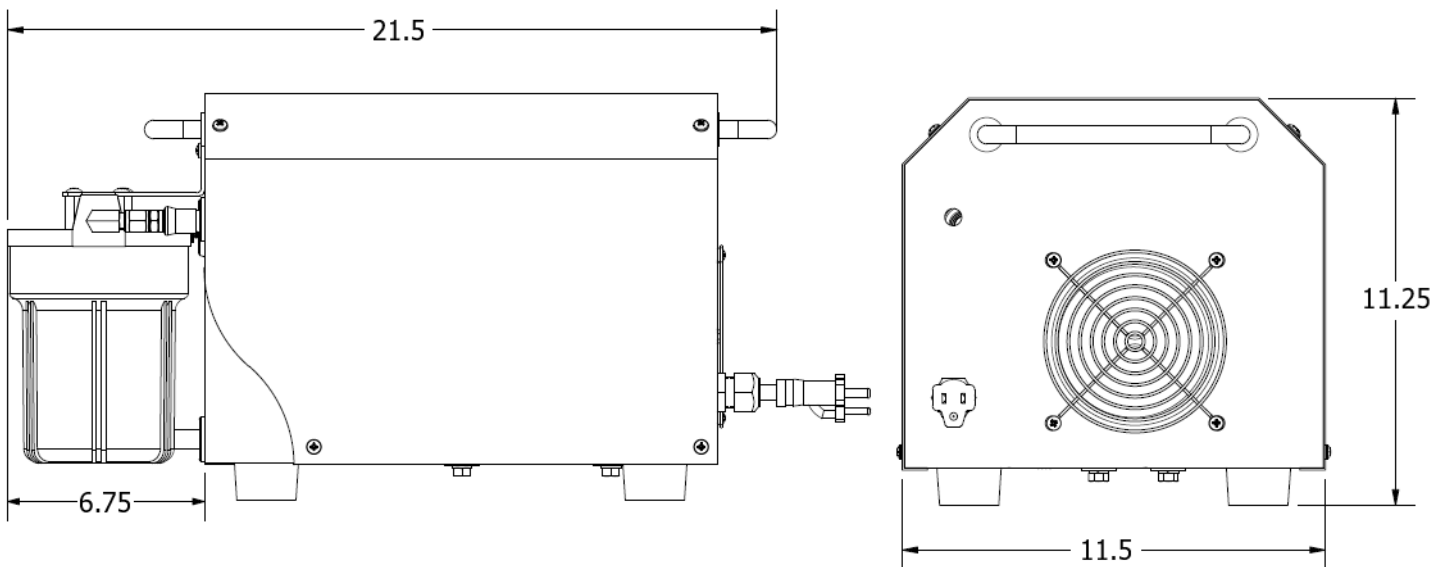
### **IMPORTANT**

- Please read the information contained in this booklet. It will provide information and instructions required for safe installation, use, and maintenance.
- The manufacturer is not liable for any damage to people, goods, or to the machine itself if the pump is used differently from what is described in this manual.
- Keep this booklet in a safe place to make it available for future reference.
- Upon delivery, check for any possible damages that may have resulted from shipping and handling.

## 2. Specifications

Pro Mist 35 Pump Specifications	
Model	Pro Mist 35
Part Number	F10-04-003
Operating Pressure	Maximum = 1000 psi
Flow rate	0.2 GPM @ 1750 RPM
Nozzle Capacity	#2 Nozzles (.008"/0.2mm)   Minimum = 4   Maximum = 16
Motor	115 Volt, Single Phase AC @ 60 Hz 4 Amp, 1/3 HP Totally Enclosed Induction Motor
Dimensions (Inches)	L×W×H: 21.5 x 11.5 x 11.25
Weight	41 lbs.

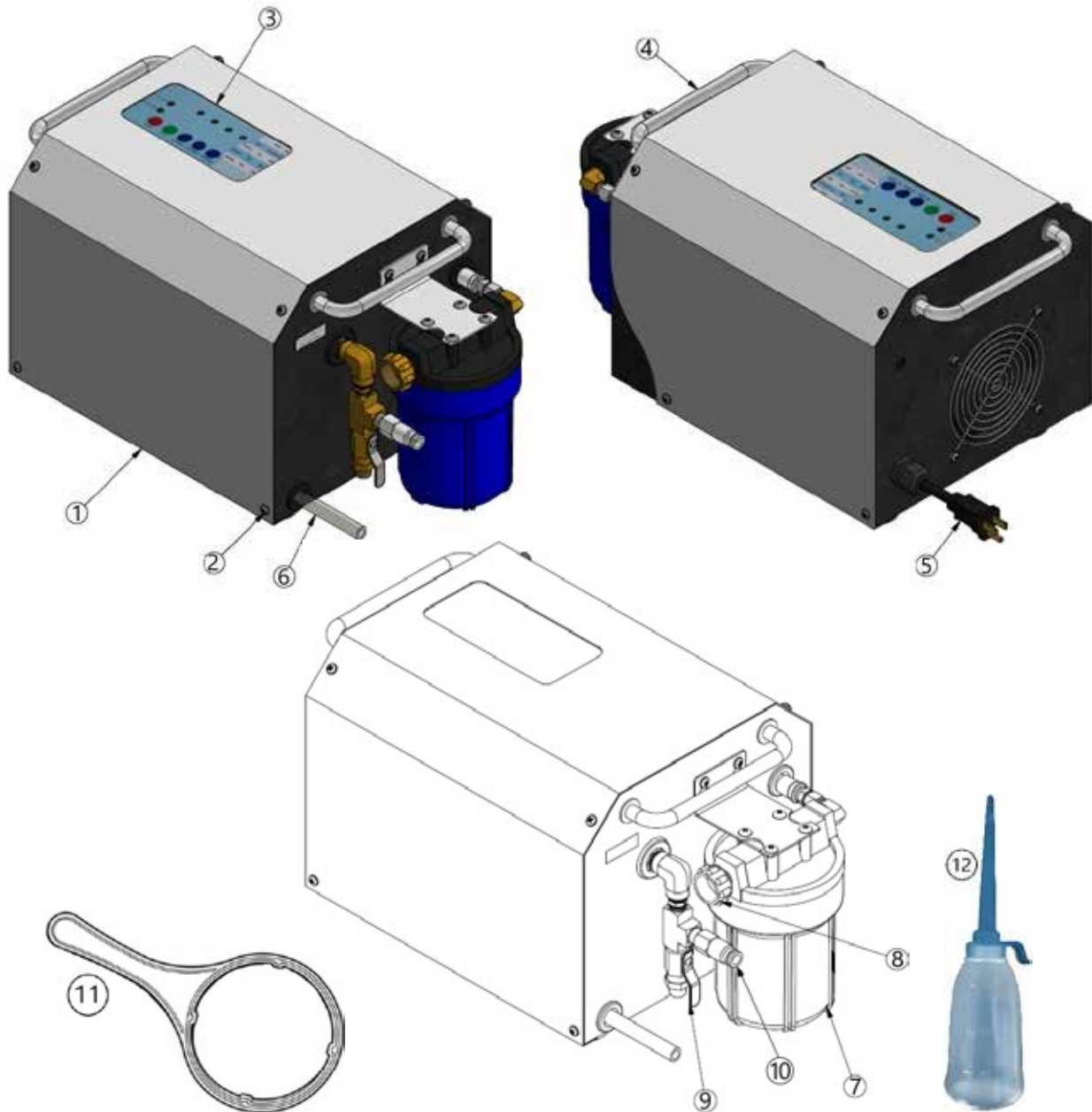
Dimensions in Inches



Note: Advanced Misting Systems recommends using the stainless steel #2 nozzles which have a center hole measurement of 0.008"/0.2mm. This is our standard offering for all high-pressure misting systems to deliver the best performance in evaporative cooling

Extra misting nozzles can be purchased under the part number: F10-08-001.

## 2.1 Components

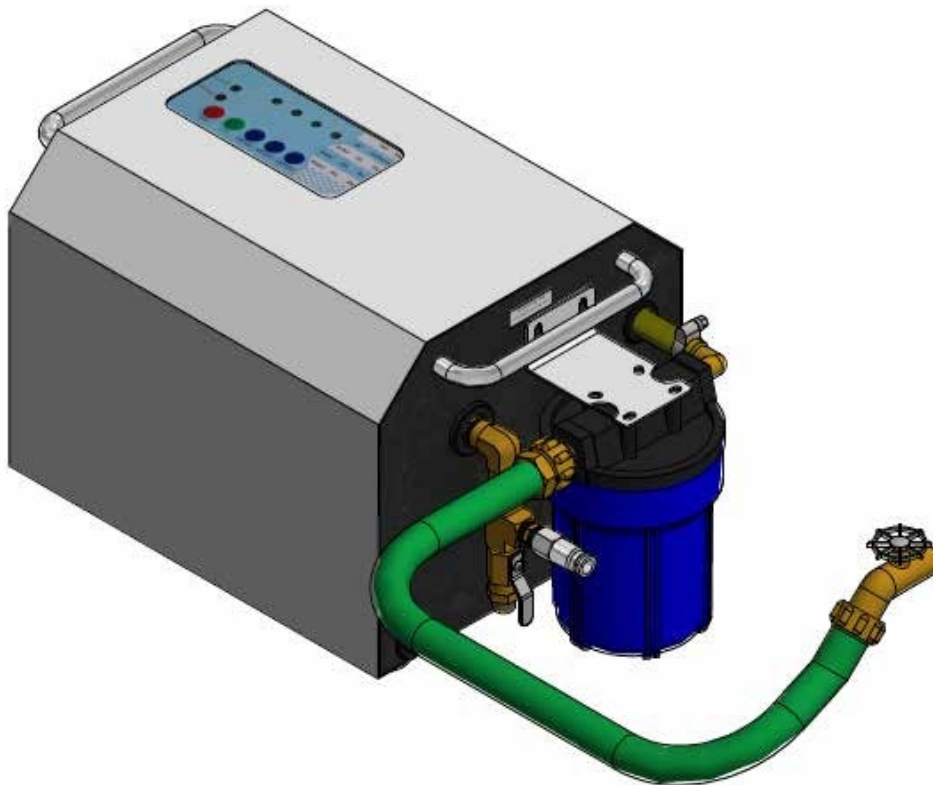


Part Descriptions			
1	Pump Cover	6	Purge Outlet Hose
2	Pump Cover Screw	7	Filter Housing
3	LED Control Panel	8	Water Inlet
4	Carry Handle	9	Purge Valve
5	Power Cord Plug	10	High Pressure Outlet
11	Water Filter Wrench	12	Oil Fill Squeeze Bottle

### 3. Installation

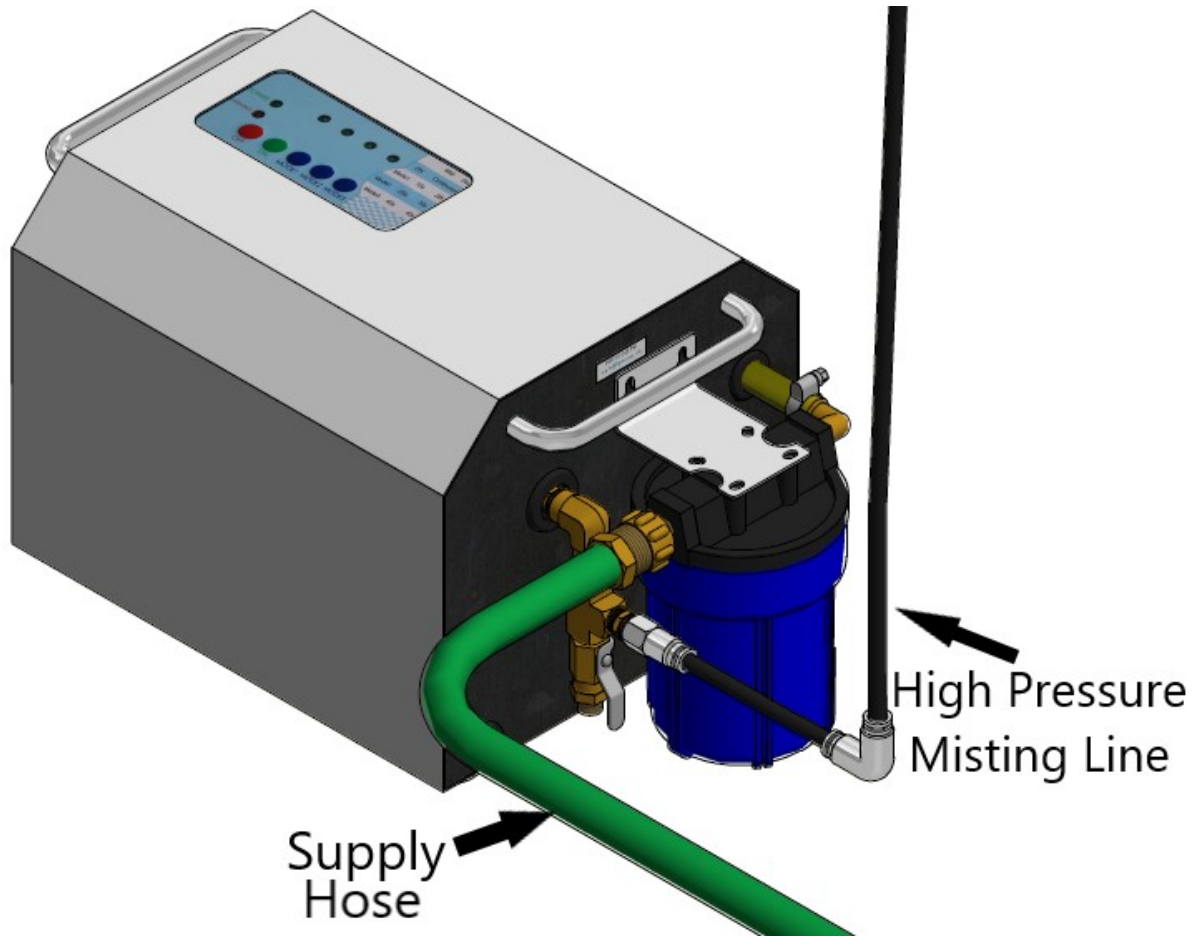
The pump needs to be installed near an electrical and water connection. Place the pump in a location where water leaks or accumulation will not cause damage to nearby property or goods. The purge hose discharges about ½ oz of water when the pump is stopped, or in between the intermittent modes when the pump stops.

Connect the pump to a water supply with a hose rated for constant pressure. Standard residential water pressure, generally between 40 and 60 PSI, is sufficient to supply the pump with enough water flow. **Regular garden hose may not be suitable** to hold a constant pressure over time, and can swell up and leak if left under pressure.



Advanced Misting Systems has hoses available, made specifically for the permanent connection of the misting pump to a standard garden hose bib.

Part Number	Description
F10-10-009	Hose, 5 feet w/ Garden Hose Connections
F10-10-010	Hose, 10 feet w/ Garden Hose Connections



Connect the pump outlet to a misting system. The slip-lock outlet fitting provided is for high pressure 3/8" nylon tube. This pump is only compatible with high pressure misting systems, connections, rings, pipes, or hoses designed for 1000 PSI of water pressure. The pump will not work with medium or low-pressure misting components or systems.

## 4. Important Information

### 4.1 Dangers



#### **OBSERVE THE FOLLOWING IN ORDER TO PREVENT SERIOUS INJURY OR DEATH.**

- 4.1.1 Do NOT use during severe storms, flooded areas, or near open bodies of water.
- 4.1.2 Only trained personnel may operate this machine. Children and adults who are not well-trained should not operate the machine.
- 4.1.3 The power source must be equipped with overload circuit breaker protection (Fuse or Circuit Breaker) to prevent injury from electrocution, fire, or other unforeseen circumstances.
- 4.1.4 Do NOT move the machine during operation.
- 4.1.5 Mount the machine on a cement surface or another solid, flat surface that provides a firm, level support. Keep the machine and its surroundings dry.
- 4.1.6 Do NOT operate the machine before reading this operating manual carefully.

### 4.2 Warnings



- 4.2.1 While the machine is in operation, do not open the cover or touch the motor or pump.
- 4.2.2 Before running the machine, check that the electrical cords are in good condition.

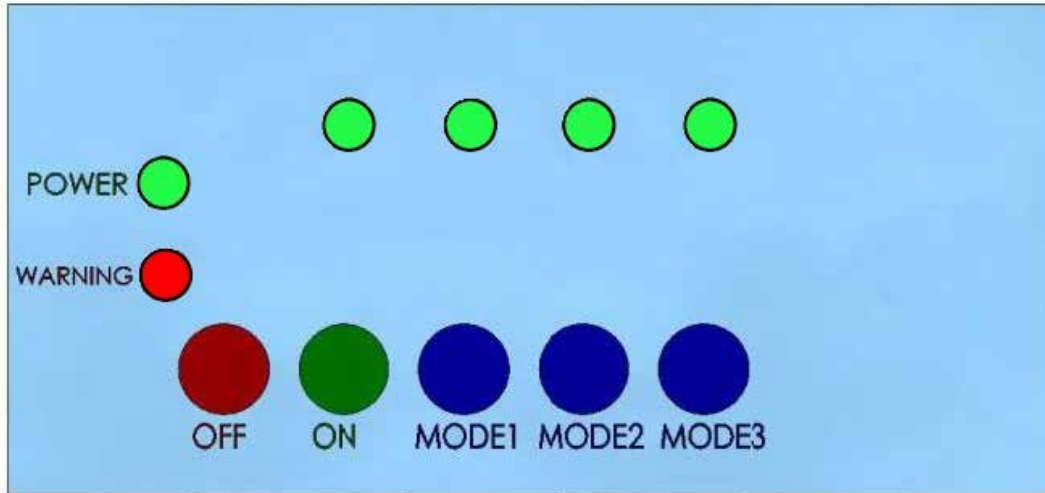


### 4.3 Cautions



- 4.3.1 Do not operate in temperatures below freezing (0°C/32°F).
- 4.3.2 Before use, check for oil leakage. If there has been any leakage, fix the leak and fill the pump oil.
- 4.3.3 Only use a power source with the electrical voltage (V), frequency (Hz), and current (A) rating according to the machine specifications.
- 4.3.4 Do not increase the operating pressure to over 1000 psi.
- 4.3.5 Do NOT use an extension cable than 30 ft. All extension cables must be rated for the required voltage and amperage, and be outdoor rated with a grounding prong.
- 4.3.6 The water supply pressure should be at least 30 psi for continuous operation.
- 4.3.7 Water inlet temperature must not exceed 50°C/120°F.
- 4.3.8 Before use check that all hose fittings and high-pressure fittings are FIRMLY attached and fully seated.
- 4.3.9 If a lower number of nozzles than recommended is used, the system will be over-pressurized and the pump seals will deteriorate quickly.
- 4.3.10 A valve installed at the end of a misting system is recommended. It will help to easily purge air from the system, especially in extensively long installations, or with configurations where air is easily trapped in the misting lines.
- 4.3.11 When misting, check all nozzles and ensure none are blocked. If blocked, clean or change the nozzle.
- 4.3.12 For storage during winter months, or where the pump will not be used for an extended period of time, discharge the system pressure and drain any standing water from the misting system and filter housing.

## 5. Control Panel Instructions



The control panel has 5 buttons and 6 LED lights.

Buttons	LED Lights
OFF	POWER (Green)
ON	WARNING (Red)
MODE 1	CONTINUOUS ON (Green)
MODE 2	MODE 1 ON (Green)
MODE 3	MODE 2 ON (Green)
	MODE 3 ON (Green)

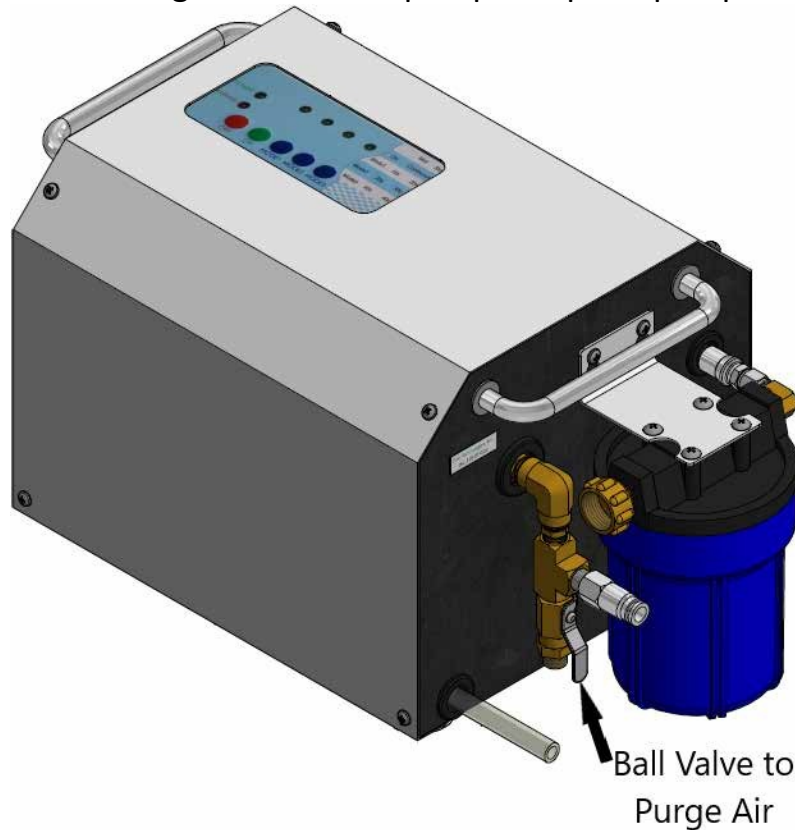
Misting Modes		
Press ON	Continuous Misting	The pump will operate until the OFF button is pressed, or the water supply is turned off.
Press MODE 1	Intermittent Misting	15 Seconds on (Misting On), 20 Seconds off (Misting Off), Repeat.
Press MODE 2	Intermittent Misting	25 Seconds on (Misting On), 30 Seconds off (Misting Off), Repeat.
Press MODE 3	Intermittent Misting	40 Seconds on (Misting On), 40 Seconds off (Misting Off), Repeat.
OFF	System Off	The pump will be turned OFF at any time.

The POWER light will always be on when the power cord of the pump is plugged in. The WARNING light will be on when the water pressure cutoff switch detects no water pressure or too little water pressure at the pump inlet. To reset the water pressure cutoff switch, connect the pump to a water supply, press OFF, and then press ON or any of the mode buttons.

## 5.1 First Time Operation

Follow these steps to purge the pump and misting system of air.

1) With your pump plugged in, and the water source turned on, open the ball valve at the high-pressure misting outlet on the pump. Keep the pump off for now.



2) Remove a misting nozzle at the furthest end of your misting system. This will allow air to be forced out of the system. If you have a system where the hose splits off into multiple dead ends, remove a misting nozzle at the end of each leg of your system.

3) Turn on your misting pump to continuously run. Once a constant stream of water comes out of the ball valve at the high-pressure outlet, close the ball valve.

4) Allow the pump to fill all of the misting lines with water, forcing air out of the system. Once a continuous stream of water flows out of the end(s) of your misting system. Turn the pump off.

5) Install all misting nozzles that were removed in step 2.

6) Turn on the misting pump. After a few seconds the system will pressurize. Depending on the length of hose and size of your misting system, the time to pressurize may vary slightly.

7) Check your misting system fittings and nozzle for leaks or blockages. Make sure the pump is turned off before attempting to fix any leaks or blockages.

## 5.2 Storage

- 5.2.1 Please follow the steps below to drain water from the pump.
- a. Disconnect the water supply to the pump.
  - b. Run the pump briefly with the ball valve open to expel any water from the internal pump cavities. There may be some intermittent spraying and drainage while the pump purges water from itself.
  - c. After water stops coming out of the pump outlet, turn the pump off.
  - d. Drain misting lines, pipes, and rings of standing water to prevent cracking from freezing.

### **CAUTION**

- **When the machine is not in use, please keep it indoors.**
- **If exposed to rain, stop the machine, and immediately remove the plug to avoid electric shock or leakage.**
- **Use caution when disassembling high pressure hose, pipe, nozzles, rings, and fittings. There may be pressure (up to 1000 psi) inside and serious injury can occur.**
- **Do not use this machine when temperature is below (0°C/32°F). Running the pump with ice in the hoses or pump will cause damage to the pump and can cause an over-pressure situation that may be dangerous.**

## 6. Troubleshooting



**Before troubleshooting, disconnect the power source from the machine.**

FAULT	CAUSE	REMEDY
No mist comes out of the nozzle	<ul style="list-style-type: none"> <li>• The misting nozzle is blocked.</li> <li>• Air is in the lines.</li> <li>• Air inside the pump.</li> <li>• Misting nozzle is worn out.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the nozzle. If it doesn't work, change the nozzle.</li> <li>• Purge air from the lines.</li> <li>• Make sure a steady flow of water supply is present. Purge air using the ball valve.</li> <li>• Change misting nozzle.</li> </ul>
The pump fails to pump water	<ul style="list-style-type: none"> <li>• No water supply.</li> <li>• The pump is clogged.</li> <li>• Air is in the pump.</li> <li>• The water filter is blocked.</li> </ul>	<ul style="list-style-type: none"> <li>• Turn on the water faucet.</li> <li>• Purge air from the pump. Turn the pump on/off several times without connection to high-pressure misting system.</li> <li>• Make sure a steady flow of water supply is present.</li> <li>• Clean or replace water filter.</li> </ul>
Abnormal noise or vibration	<ul style="list-style-type: none"> <li>• The pump oil is burned or worn.</li> <li>• Nylon hose and nozzle circuit is blocked.</li> <li>• Pump components loose.</li> <li>• Pump is over pressurized</li> </ul>	<ul style="list-style-type: none"> <li>• Add or change oil.</li> <li>• Clean or change nozzle and/or lines.</li> <li>• Remove the pump cover to visually inspect the internal components.</li> <li>• Decrease the pump regulator to a maximum of 1000 PSI.</li> </ul>
Oil or water leaks	<ul style="list-style-type: none"> <li>• There is a clamp or fitting that is loose or faulty.</li> </ul>	<ul style="list-style-type: none"> <li>• Check the hose clamps, oil filler plug, oil drain plug, and misting line fittings for proper connection.</li> </ul>
Motor doesn't run	<ul style="list-style-type: none"> <li>• The voltage of the power supply is not stable.</li> <li>• The built-in thermostatic switch activated to protect the motor.</li> </ul>	<ul style="list-style-type: none"> <li>• Disconnect any extension cords and try again.</li> <li>• Reset the overload protection device inside of the pump. Run the machine in a well-ventilated space or add airflow to the space.</li> </ul>

The pump is equipped with a thermal overload protection device. This device behaves like a circuit breaker and protects the pump from damage due to excess heat or electricity.

There is a reset button to allow the user to reset the device if it activates to protect the pump.



The cover must be removed in order to access the reset button on the overload protection device. Once the cover is removed, reset the device by pressing the button in. Plug the pump in and make sure the device does not immediately activate again. If the button will not stay in the normal position (pressed in), check your power supply where the pump is plugged in. Do not attempt to make any repairs while the pump is plugged into a power source.

The misting pump comes preset at a maximum outlet pressure of 1000 PSI for a system with 4 misting nozzles. The larger the system, the lower the total system pressure will be. If the pump produces more than 1000 PSI it can cause a noisy operating condition. You should decrease the pressure to a maximum of 1000 PSI by adjusting the pressure regulator on the pump.

**⚠ CAUTION**

**DO NOT attempt to adjust the pump pressure regulator without using a pressure gauge designed for reading water pressures of at least 1000 PSI.** If you have doubts about your ability to safely and properly install a high-pressure gauge into the high-pressure side of your misting system, contact a professional for service.

Operating the pump above 1000 PSI will quickly and significantly decrease the condition of the internal pump seals. It is outside of the intended use of this product and related high pressure misting system parts.



The pressure regulator has an adjustment knob located underneath the pump cover on the brass pump head.



Turn the knob counterclockwise to decrease the output pressure.  
Turn the knob clockwise to increase the output pressure.



## 7. Maintenance

### 7.1 Periodic Check and Inspection

Items	Interval				
	Before Operation	50hr	100hr	200hr	300hr
<b>Main Components</b>					
Check All Fittings are Tight	◆				◆
Check Water Lines for Leakage	◆				◆
Check Pump for Oil Leakage	◆				◆
Inspect Pump Cover for Damage	◆				◆
<b>Hose/Pipe/Rings</b>					
Check Connectors and Hoses for Damage or Loose Fittings	◆			◆	
Check and Clean Inlet Water Filter	◆			◆	
Check Nozzles for Leaks or Blockage	◆	◆	◆	◆	◆
<b>Electrical</b>					
Check Control Panel Operation	◆			◆	
Check Electric Cord for Damage	◆			◆	
<b>Pump</b>					
Check Oil: Quality and Quantity	◆		◆		◆
Change Oil		◆ (Only for the first time)			◆
Oil Seals					◆
Plungers					◆
<b>Motor</b>					
Check the Rubber Motor Mounts					◆

The above maintenance schedule is for operation at normal conditions. Varying environmental conditions may cause excess wear on the pump or misting system components, and your equipment may need to be serviced more frequently.

## 7.2 Procedure for Oil Change

**NOTE:** The misting pump comes pre-filled with oil.

**Oil must be changed after first the 50-hour operation mark,**  
and after every 250-300 hours of running.

**Use ISO 68 oil** or equivalent, available from Advanced Misting Systems:

ISO68 Pump Oil, 21oz. bottle: Part# F02-06-001



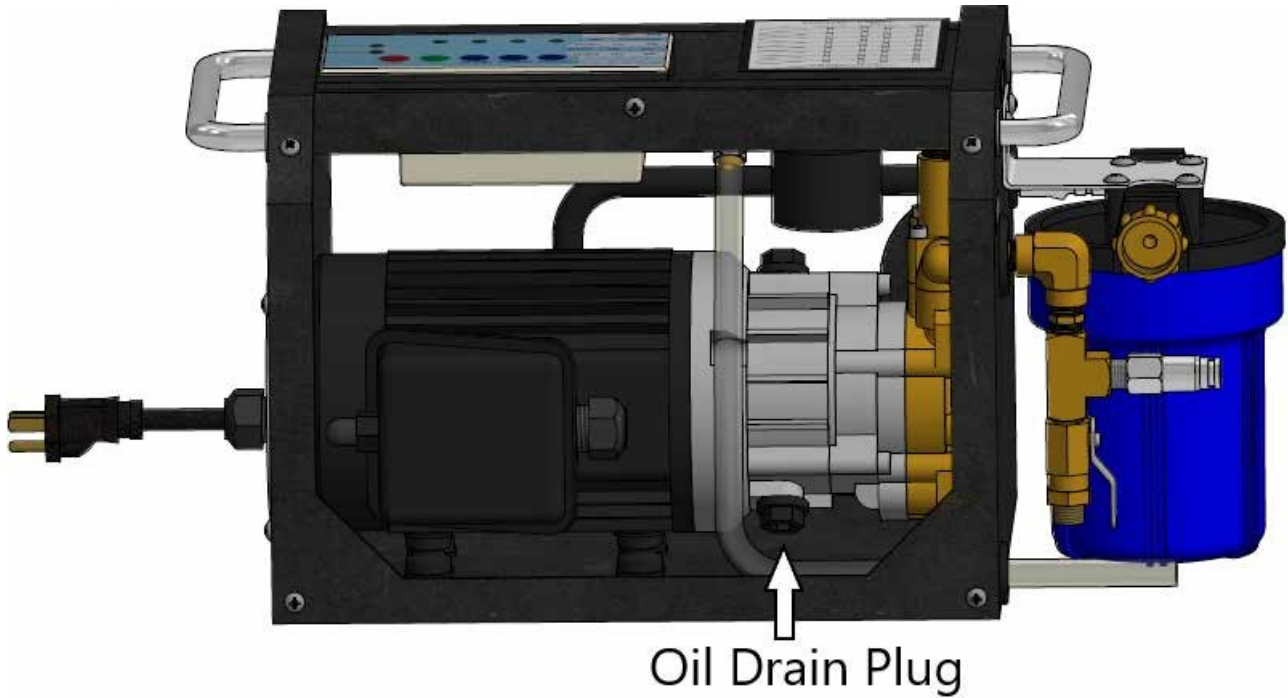
**Always power off the machine and disconnect power before performing any maintenance or inspection.**



- Irregular maintenance and failure to change the oil regularly will cause damage to the machine parts and/or shorten the service life.
- When changing the oil make sure to remove the old oil completely. Too much old oil can affect the quality of the new oil.
- Only change the oil with the pump on a level surface.
- Do not change hot oil. Pump operation increases the oil temperature to a dangerous level and can cause severe burns.

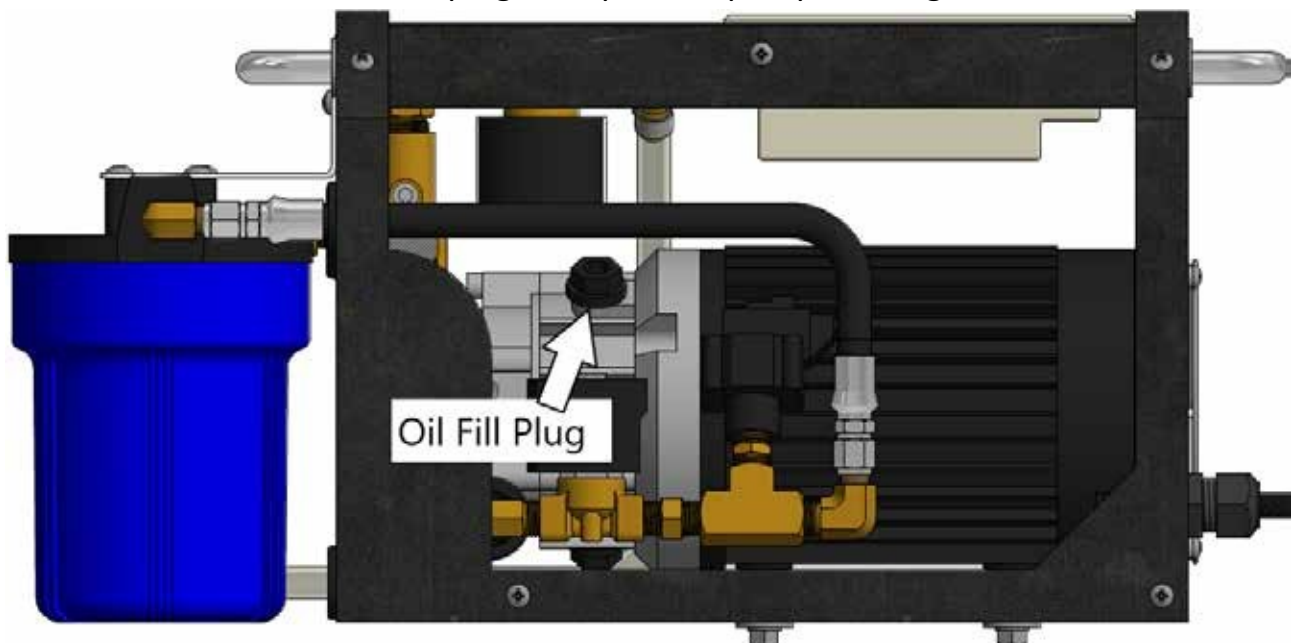
- 7.2.1 Purge pressure and water from the misting system by opening the ball valve on the pump outlet.
- 7.2.2 Remove the water supply hose and high-pressure misting hose connections.
- 7.2.3 Unplug the pump from the power supply.
- 7.2.4 Remove the pump cover by loosening the eight pump cover screws.
- 7.2.5 Check inside the bottom of the machine to see if there is any oil leakage from the pump body. Clean up any oil leaks or spills so that a leak can be detected.
- 7.2.6 The maximum oil capacity is 5 oz. (≈145 ml).

7.2.7 There is an oil drain plug on the bottom side of the pump. Put a catch pan or other small container under the plug and unscrew it to start draining the oil. It is recommended to use an inexpensive plastic bin or other disposable catch pan that can be discarded after use.



7.2.8 After the oil has drained, reinstall and tighten the drain plug.

7.2.9 Unscrew the oil fill plug on top of the pump housing.



- 7.2.10 Add up to 5 oz. of oil through the fill hole. Use the included oil fill squeeze bottle or a funnel to prevent spilling oil during the filling process.
- 7.2.11 Tighten the oil fill plug. Wipe up any spilled oil. Visually check the pump and motor to ensure all bolts, screws and connectors are tight and in good condition.
- 7.2.12 Replace the top cover and tighten the screws to secure the top cover back into place.
- 7.2.13 **RECYCLE YOUR USED OIL.** In many places, **it is a crime to dump used oil** into the environment, down the drain, or into the trash (even in a sealed container). Save your used oil until you can locate a recycling center and/or bring it to an approved drop-off site where used oil is accepted. Many auto parts retail stores have drop-off sites where used oil can be disposed of safely and properly for free.

 **CAUTION**

- **Make sure the oil drain plug and oil fill plug are not leaking after an oil change, and make sure the oil fill plug is securely fastened onto the pump. Make sure the cover screws are securely tightened after an oil change.**

### 7.3 Oil Changes and Checks

Question	Reasoning	Actions
What are the guidelines for oil changes?	<ul style="list-style-type: none"> <li>— Use an hourly schedule to maintain oil changes. Overdue or expired changes will cause component damage due to lack of lubrication.</li> </ul>	<ul style="list-style-type: none"> <li>— Change oil regularly (see Section 7.1).</li> </ul>
	<ul style="list-style-type: none"> <li>• Using improper or inferior quality oil (e.g., recycled oil) does not achieve proper lubricant function and component protection.</li> <li>• If used oil is not drained completely, the impurities left by the used oil will be dissolved in new oil. This will accelerate the oil deterioration.</li> <li>• <b>Avoid using PAG or ester oils.</b></li> </ul>	<ul style="list-style-type: none"> <li>— 1.1 Please use oil listed as: <b>ISO 68 or ISO VG 68</b></li> <li>— Avoid using dirty or used oil.</li> <li>— Whenever changing oil, please ensure the used oil is drained as much as possible to preserve the quality of new oil.</li> </ul>
	<ul style="list-style-type: none"> <li>• In harsh work environments (e.g., excess heat, air pollutants, direct exposure to sunlight or rain, dust, high humidity, bad air quality), the time between oil changes will decrease</li> </ul>	<ul style="list-style-type: none"> <li>— The oil change interval is based on regular operation. The operator should consider the operating conditions in determining intervals and should shorten the interval depending on the observed condition of the oil (smell, color, viscosity, composition).</li> </ul>
	<ul style="list-style-type: none"> <li>• If the machine is left unused for a long time or only used rarely the oil will deteriorate.</li> </ul>	<ul style="list-style-type: none"> <li>— If the machine needs to be run after a long period of non-use, check the condition of the oil first.</li> </ul>

## 8. Warranty

### Advanced Misting Systems ONE (1) YEAR LIMITED WARRANTY

All Advanced Misting Systems products are warranted for a period of one (1) year for defects in workmanship and materials under normal use and service. This warranty is extended solely to the original purchaser.

In General: If an Advanced Misting Systems product fails because of defect in material or workmanship under normal use and maintenance within one year from date of purchase, we will, at our option and after inspection, repair or replace the defective product.

About your Warranty: Advanced Misting Systems products, like all mechanical devices, need periodic maintenance and service to perform correctly. Normal use and service means not to operate in excess of recommended maximum speeds, pressures, temperatures or using fluids not recommended or compatible with component materials.

This warranty does not apply to any component which has been repaired or altered to affect the performance, or reliability of the product. Similarly, the warranty is void if the manufacture date or the serial number has been removed or if the equipment has been altered or modified.

Advanced Misting Systems does not warranty components due to normal wear including nozzles, pumps, motors, and seals. Advanced Misting Systems does not warranty components due to misuse, abuse, neglect or improper maintenance, shipping, handling, warehousing or improper installation. This warranty excludes wear items such as water filters, spray nozzles, or pumps that have been run without water supplied or oil filled to specified capacities; damage or malfunctions resulting from accidents, abuse, modifications, alterations, or improper servicing or freezing or chemical deteriorations. This warranty excludes failures due to acts of God and other force majeure events beyond the manufacturer's control.

This warranty does not cover normal maintenance such as oil changes, water filters, adjustments, or cleaning, etc. This warranty does not cover damage from lack of maintenance (lack of oil or water filter changes) freezing, and obstruction (due to scale, lime, dirt, chemicals, etc.)

Advanced Misting Systems is not responsible for the removal and shipping of the system to Advanced Misting Systems or a service provider, the reinstallation of the product upon its return to the customer, or any incidental or consequential damages resulting from the defect, removal, reinstallation, or shipment of the product.

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**Claims:** All warranty claims must be submitted to Advanced Misting Systems prior to the expiration of the warranty period. Advanced Misting Systems will repair or replace any part of the fan product that is defective in material or workmanship. In order to initiate this warranty, a copy of original purchase invoice must be provided. Transportation charges on the product submitted for warranty must be borne by the purchaser. For warranty service, call Advanced Misting Systems for a Return Materials Authorization (RMA) number. Products shipped collect or without an RMA number will not be accepted.

If Advanced Misting Systems determines that the problem with the product is not due to defects in workmanship or materials, the customer will be responsible for the cost of any repairs and any freight expense to return the product to the customer.

If the product is covered by this manufacturer's warranty, then Advanced Misting Systems will pay the freight to send the product back to the customer within the 48 continental United States ONLY.

**No Other Warranties and Liability Limitation:** This limited Warranty and Policy represents Advanced Misting Systems's sole and exclusive warranty obligation with respect to Advanced Misting Systems products. Advanced Misting Systems's liability to a customer or any other person shall not exceed the purchase price of the Advanced Misting Systems product. Advanced Misting Systems disclaims all other expressed and implied Warranties including the implied Warranties of fitness for a particular purpose and merchantability. There is no other express warranty. Any and all implied warranties are excluded. Liability for incidental or consequential damages are excluded to the extent exclusion is permitted by law. This warranty gives you specific legal rights and you may have other rights which vary from state to state and country to country

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