

1500 PSI High Pressure Mist Pump Manual

FLOW RATES: 0.15 and 0.30 GPM (Oil Less)



Tech Support Page Link

<https://bit.ly/3MZI97G>

Manual Link

<https://bit.ly/3N4HwdP>

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Important and Safety Warnings

Important (Read before installation)

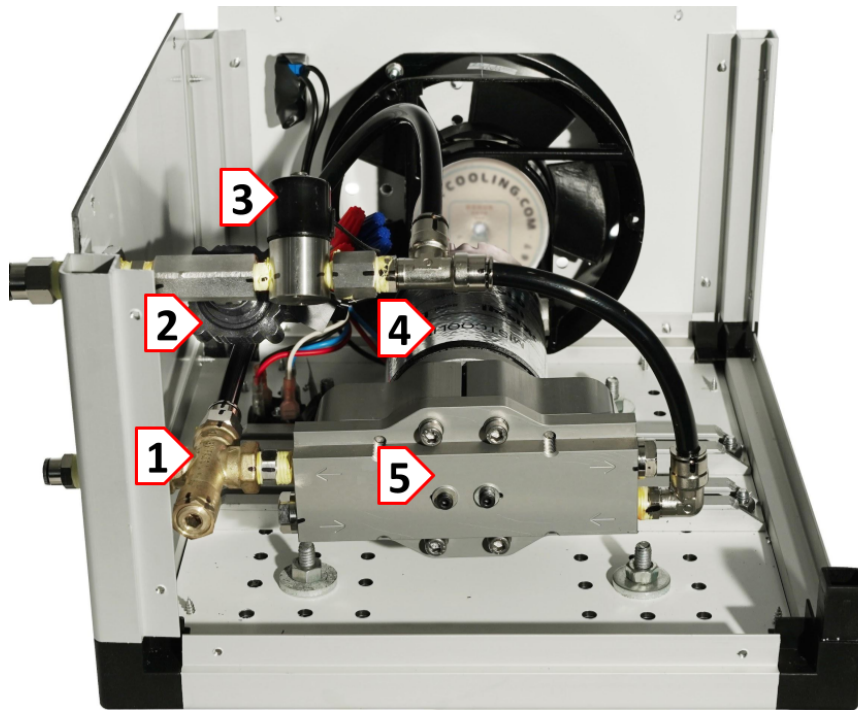
- Filter and some fitting might be packed in the pump enclosure. Open the side mentioning “**OPEN THIS SIDE FOR MAINTENANCE**” to access filter and fittings.

Safety Warnings

- The pump will not turn on unless it is supplied with min—40 psi of water. The built-in pressure switch will shut off the pump if inlet pressure drops below 40 psi.
- **DO NOT RUN THIS PUMP DRY** if the pressure safety switch is removed or bypassed. The warranty does not cover damage to the pump if it is run without water.
- Install in the location where noise from the pump is not a concern. High-performance oil-less pumps do make noise. However, the Pump can be placed up to 200Ft. Away from 1st mist nozzle. The noise level of the misting pump is not considered a defect.
- Recommended continuous run time is 12-15 hours. Please contact our technicians if the application needs longer operating hours than recommended.
- Misting Pumps build heat and pressure during operation; allow pumps to cool before handling or repair the pump.
- Oil-less pumps have a built-in thermal safety switch and may cycle off cool-off.
- To reduce the risk of electric shock, always disconnect the pump from the power source before handling or servicing.
- A qualified electrician should perform any wiring of the pump.
- These pumps are not intended to be submerged.
- For pumping liquids other than water, contact your supplier. Do not pump hazardous materials (flammable, acidic, etc.) unless the pump is specifically designed and designed to handle them.
- May cause water leaks. Install in a dry, flat, ventilated area with easy maintenance access.
- **Mistcooling, Inc. is not responsible for losses, injury, or death resulting from failure to observe these safety precautions, improper installation, lack of maintenance misuse, or abuse of pumps or other equipment.**

 **WARNING: Cancer and Reproductive Harm** www.P65Warnings.ca.gov

Product Description



1. Pressure Adjustment Valve / Bypass Valve
2. Pressure Switch / No water cut-off switch
3. Solenoid Valve
4. Pump
5. Motor

Part Description

1. Pressure Adjustment Valve / Bypass Valve

- Pressure Adjustment Valve allows you to increase or decrease the outlet water pressure. Each MistCooling Inc. pump is tested twice (at manufacturing and once again before shipment).
- Mist Pumps are factory pre-set to recommended working pressure. However, some applications may require pressure adjustment (refer to page 9 for operation).
- This valve also serves as a safety feature and prevents pressure fluctuation on the outlet side. It also redirects "extra" water flow that is not being used by the mist nozzles back into the inlet.

2. Solenoid Valve

- The solenoid valve controls the flow of the water into the pump. You may leave the inlet water source on at all times. Water will enter the pump only when the main power switch is turned ON. Likewise, the water flow will be cut off when the power switch is turned OFF. No adjustment is ever required for the solenoid valve.

3. Pressure Switch

- A pressure switch or No water cut-off switch will turn off the mist pump if the inlet water source is turned off. This safety feature protects the mist pump from any damage due to lack of water. ([Refer to page 9 for operation](#))

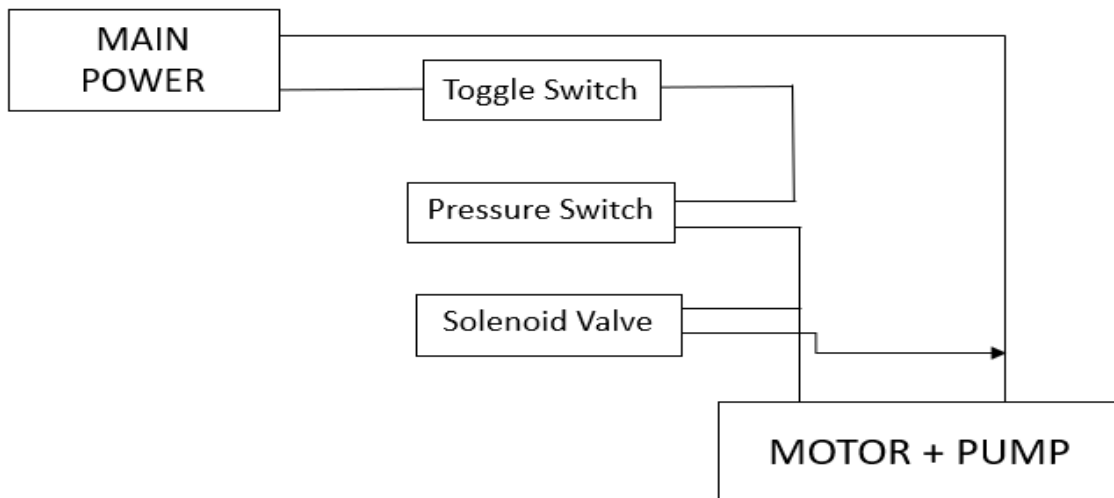
4. Pump

Mist Pump Specifications:

- Maximum Pump Speed (0.15/0.30 GPM): 1800 RPM
- Maximum Inlet Pressure: 100 PSI
- Minimum Inlet Pressure: (Based on setting on Pressure switch) or Flooded if the Pressure switch is bypassed
- Maximum Outlet Pressure: 1500 PSI
- Maximum Flow: 0.15 & 0.30 GPM (Refer to manufacturing label on pump)
- Full load amps. (0.15/0.30 GPM): 1.38 Amps/2.15 Amps
- Voltage: 110V/ 220V AC (Refer manufacturing label on the pump)
- Noise Level: 75 db
- Maximum Fluid Temperature: For Room Temperature / Cold Water applications only

5. Motor

Wiring Diagram:

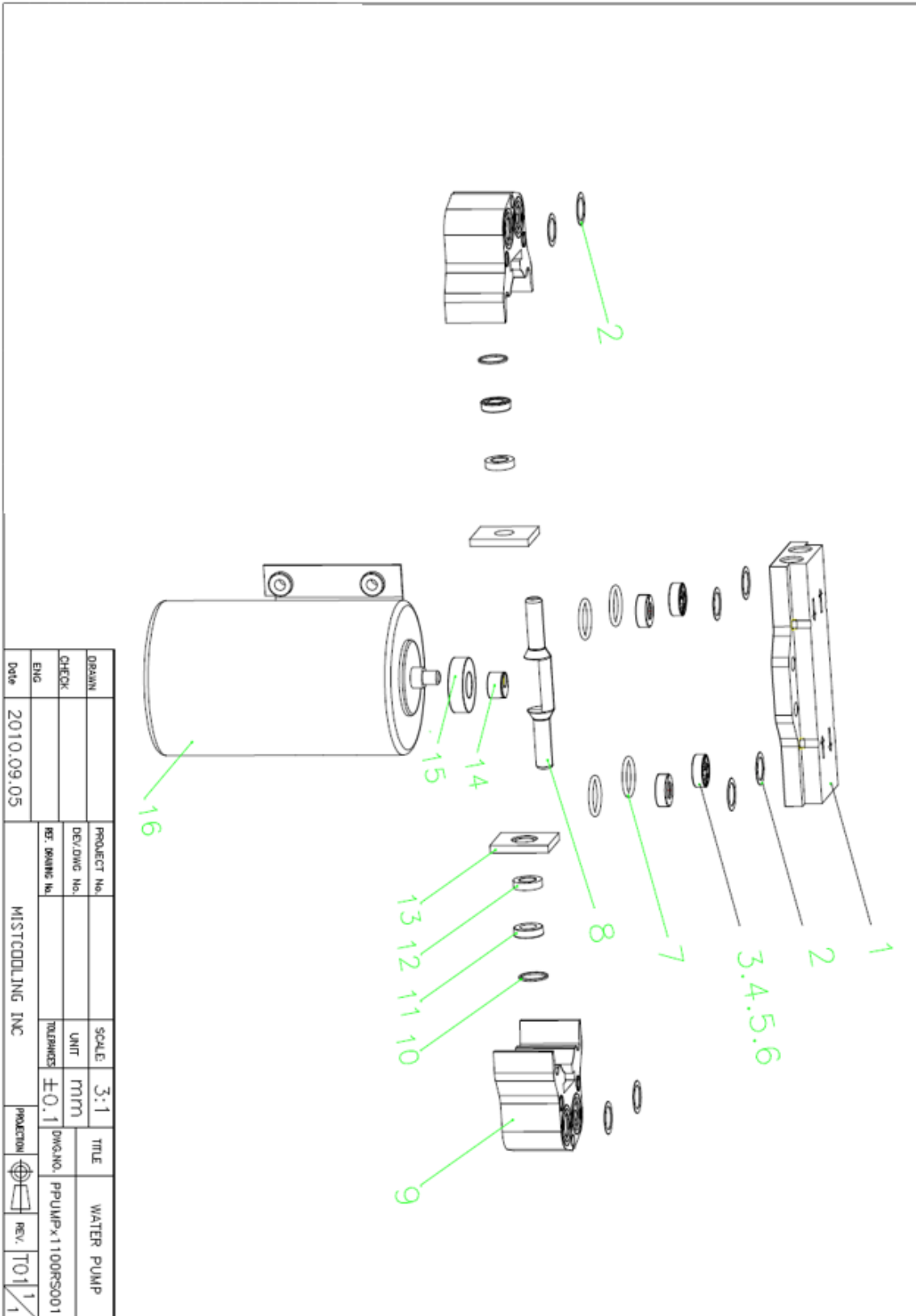


6. Filter

- Filtration is vital for the proper operation of misting systems. All our High-pressure systems have sediment filters on the Inlet side. This helps prevent any large particles from clogging up the nozzles.
- To maintain the proper flow in the mist system, the water filter should be changed every 3 to 6 months or earlier if water quality is terrible.
- Scale-free filters can also be added to mist systems to prevent clogging of nozzles due to hard water. TAC Scale Free filters (SKU: [MC65120](#)) are recommended for such locations and last up to 2 years.



Pump Drawing



DESIGN	PROJECT No.	SCALE	TITLE	WATER PUMP
CHECK	DEV/DWG No.	UNIT	3:1	
ENG	REF. DRAWING No.	TOLERANCES	±0.1	
Date	2010.09.05	MISTCOOLING INC		production
				rev. TO1 1

Installations and Operation

- Every 1500 PSI comes with an industrial-grade filter along with a 3/4in to 3/8in GHT adapter and 3/8in high-pressure feed line.
- The filter in the package comes with a 3/8in inlet and 1/4in outlet fitting.
- Standard pump Inlet: 1/4in push-lock type fitting.
- Standard pump Outlet: comes with 1/4in fitting as standard; however, depending on package requirement, it can be modified to 3/8in.
- **Note:** Mistcooling, Inc. offers various fitting and adapter options to choose:
 - Please visit our website: <https://bit.ly/3QkdzJ4>

Installation Checklist

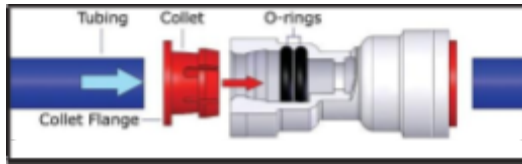
Check	Installation Steps
	<ul style="list-style-type: none"> • First, set the pump to a suitable location that is flat, dry, protected from elements and close to both a 120 GFCI outlet and a water spigot or hose.
	<ul style="list-style-type: none"> • Each Max. 1500 PSI Mistcooling Inc. pump comes with a filter.
	<ul style="list-style-type: none"> • Take out the filter kit.
	<ul style="list-style-type: none"> • Next, attach the 3/4in hose adapter to any outdoor faucet or garden hose and another end of 3/8in feed line into the filter inlet.
	<ul style="list-style-type: none"> • Turn on the water for a minute to flush out the filter.
	<ul style="list-style-type: none"> • The filter kit comes with a clamp, allowing it to mount on the pump casing or to the solid surface.
	<ul style="list-style-type: none"> • Connect pump inlet with in-line filter outlet using 18in flexible tube provided in the package, while water is trickling. (See the arrows to identify Inlet and outlet on the pump).
	<ul style="list-style-type: none"> • Connect High pressure tubing at the outlet of the pump.
	<ul style="list-style-type: none"> • Continue building the line as per your systems design/ layout (See push-lock and compression fittings guide on page 8).
	<ul style="list-style-type: none"> • Use the provided clamps to secure the Mist line to your structure. Clamps should be placed approximately 2in from the fitting joint.
	<ul style="list-style-type: none"> • Install the nozzles one by one but, Before installing the last Nozzle, turn on the water and turn on the pump to flush out the entire line for 1 to 2 minutes to remove any debris from your installation.
	<ul style="list-style-type: none"> • Turn off the pump and install the last nozzle.
	<ul style="list-style-type: none"> • Turn on the water completely and pump, check the leaks.

Necessary: **DO NOT RUN THIS PUMP DRY.** The warranty does not cover damage to the pump if it is run without water.

Necessary: If the application requires running the pump from the tank, please contact the supplier before installation.

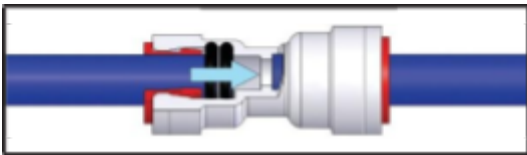
- To run the pump from the tank, place the filter before the tank and bypass the pressure switch.

Push-lock Fittings Guide



Cut the tube straight, ensure that the cut has not made the tube out of shape.

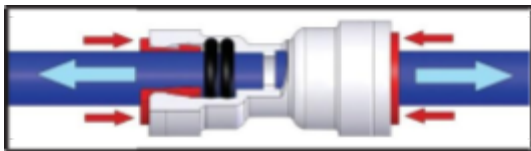
Also, ensure that the tube has a smooth outside diameter without any burrs or score marks before inserting it into the fitting.



Push the tubing through the collet and O-ring(s) until it bottoms out against the tube stop.

The collet holds the tube in place, and the O-ring(s) provide a leak resistant seal. Push and pull the tubing toward and away from the fitting to ensure that it has been installed properly.

TUBE REMOVAL



Relieve pressure from the tubing and fitting. Push uniformly around the collet flange against the fitting body while pulling the tubing away from the fitting to release it.

IMPORTANT

- Make sure there is no pressure in the line while installing or removing push-lock fittings. Turn off the pump and remove the nozzle from the line to relieve the pressure.
- To effectively release the tubing from the fitting tubing, Push-lock release tool also can be used.
- Tubes are pushed approximately 1/2in into fitting. Fittings add ups around 1/4in in the tube runs. Please consider this while designing tube runs.

PREVENTING LEAKS

- Ensure the tube is cut straight and firmly pushed all the way into the fitting.
- Prevent any immediate bends near fittings; clamps should be placed 2in from fitting joints.
- If leaks persist, remove the tube from the fitting and cut it straight another 1/2in and firmly reinsert it into the fitting.

Video Links for Pushlock and Compression Tees and Fittings

- Pushlock: <https://bit.ly/3Odw1kD>
- Compression: <https://bit.ly/3OibwDE>

Operations

Warning: Pumps should continuously be operating at factory settings. If the application requires modification of the settings, please contact technical support before altering.

Outlet Pressure Adjustment

- Outlet pressure can be adjusted from the Pressure adjustment valve.
- **IF REQUIRED**, adjustment on the pressure valve should only be made **AFTER** all nozzles are installed.
- **TO INCREASE THE PRESSURE:** With a 6mm Hex Key (wrench) Very slowly turn the knob **CLOCKWISE**. It is recommended to attach a pressure gauge to the outlet before increasing the pressure. If pressure is raised higher than recommended working pressure, it may result in blow-out in the mist tubing or damage to system components.
- **TO DECREASE THE PRESSURE:** With a 6mm Hex Key (wrench) slowly turn the knob **COUNTER-CLOCKWISE**.



Inlet Water Pressure Switch

- The pressure switch is factory set at 40 PSI. This means that the **Mist pump will not Power on if inlet water pressure is below 40 PSI.** Likewise, if the mist pump runs and the water pressure drops below 40 PSI, the pump will turn off. The mist pump will automatically turn back on once inlet water pressure reaches above 40 PSI.
- **Bypassing the Pressure Switch:** The pressure switch can be "Bypassed" if the application requires inlet water to be fed from a tank or gravity-fed water source.
- To bypass the pressure switch, simply remove the two wires currently on it and loop them together. The pump will now turn on even at 0 PSI inlet water pressure.
- **Warning: The mist pump should not be run dry at any time.** Proper steps should be taken to ensure water is always present on the inlet side. When feeding water through a tank or gravity feed, the filter should be placed **BEFORE** the tank to prevent any flow issues on the inlet side. Any damage to the mist pump due to lack of water is not considered a defect and is not covered under warranty.



Thermal Safety switch

- Oil-less Pumps may generate heat. The motor manufacturer has installed a built-in thermal safety switch to improve the longevity of pumps.
- The thermal safety switch on the pump is turning itself off to cool off when reaching internal temperature 140F/60C. It is not considered a defect.
- Once the heat index is reached, the pump will automatically start back up after the cooling period.
- It is advised to locate the pump at the cool, ventilated, and shaded place.

Maintenance

Filter Change

To maintain the proper flow into the mist system, the water filter should be changed every 3 to 6 months or earlier if water quality is bad. Our TAC Scale Free filters (SKU: [MC65120](#)) are recommended for such locations and last up to 2 years.

- **Instructions:** turn off the water supply to filter.
- Open the housing by simply turning the Cap/lid counterclockwise or turning the bottom by turning clockwise.
- Remove the used filter cartridge and discard. Rinse and clean inside of sump, if needed.
- Insert a new filter cartridge (SKU: [MC60380](#)) into the filter sump, making sure the filter cartridge slips down over the sump standpipe and the filter cartridge sits centered.
- Close the filter sump back onto the cap/lid, and hand tightened it.
DO NOT OVERTIGHTEN. Make sure the cartridge is centered and slips over the cap/ lid standpipe.
- Turn on the water supply slowly to allow housing to fill with water.
- Check and inspect for leaks until the unit or system is pressurized.

Winterization

- To help maintain the mist system's integrity and prevent unnecessary damage, it is important to winterize the mist pump and other components of the misting system BEFORE temperatures drop below freezing. As water becomes Ice, it needs more room to expand. Even one night of freeze can damage the mist pump, bust a misting line, or break filter and mist fittings. Any damage to the system or components due to freezing is not covered under warranty.

To winterize

- Turn off the water supply, Unplug the pump.
- Open filter housing and drain all water from the filter.
- Drain the inlet tubing going to and from the filter into the pump inlet.
- Remove tubing from outlet fitting on the pump and store the pump indoors, if possible.
- Otherwise, use compressed air to blow out water from the inlet/outlet of the pump and its internal components.
- Next, remove the last nozzle in your mist line. Attach a portable compressor on the outlet line (removed from the pump outlet) and blow out excess water from the mist line.
- If you do not have access to the compressor, simply remove all nozzles from the mist line. By doing so, the majority of excess water will drain itself.
- Now is an appropriate time to clean your mist nozzles so they will be ready for summertime.

De-Winterization

Before installing the system to back in operation for sizzling summer months, the following system checks and maintenance should be performed to ensure trouble-free operation.

- Check/Change Inlet Filter. Note: Clogged filter blocks water flow into the pump, which can cause damage.

- Reinstall any other fittings that were removed during winterization.
- Remove the last nozzle/end plug from the mist line.
- Turn on the water and electricity and flush out the system until a smooth stream of water comes out. This will remove any air and debris from the line.
- Reinstall the last nozzle/end plug.
- Check for non-working nozzles. Clean or replace if needed.

Nozzle Cleaning

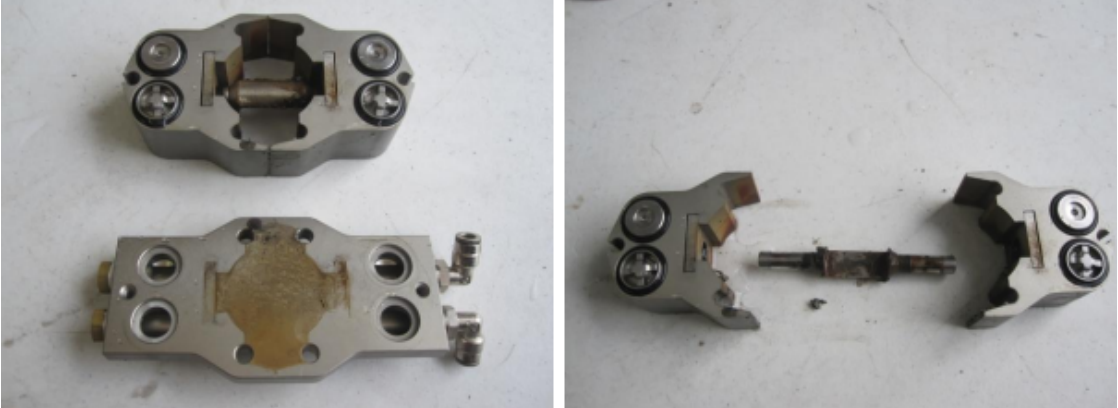
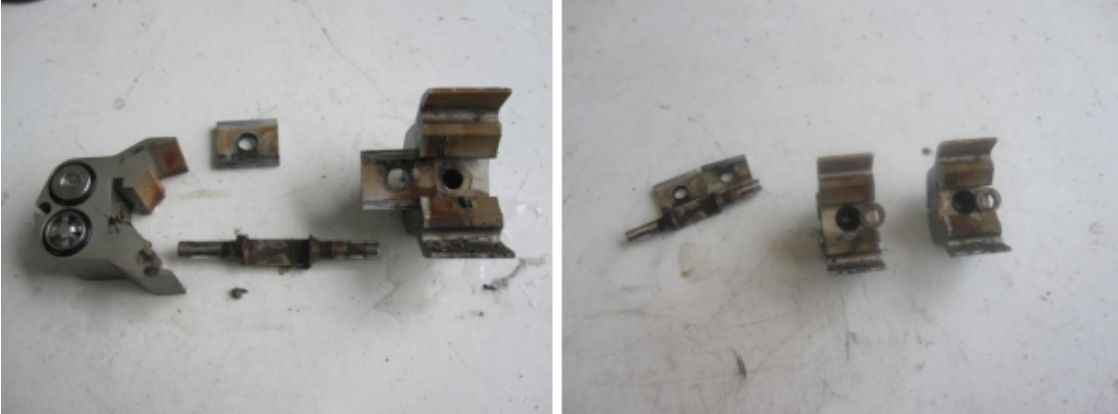
- Nozzles over time do need cleaning or worst case - replacing. The time in-between cleaning or replacing nozzles can depend on water quality. Old nozzles or nozzles that have been sitting without use for an extended period may accumulate a dried liquid near the nozzle orifice that can block the spray from exiting.
- A current way to clean the mist nozzle is to disassemble the nozzle and blow the housing out with compressed air or tapping the mist nozzle on a solid surface to free up the internal pin.
- However, we recommend using our specially designed, industrial-grade [Nozzle Cleaner \(SKU: MC46220\)](#), which instantly loosens rust, hard water deposits, and other sediments.
- Old toothbrushes or wire scrubber are good tools for scraping the build-up from the nozzle tip. Individual nozzle filters are also recommended to increase the life of the mist nozzles.

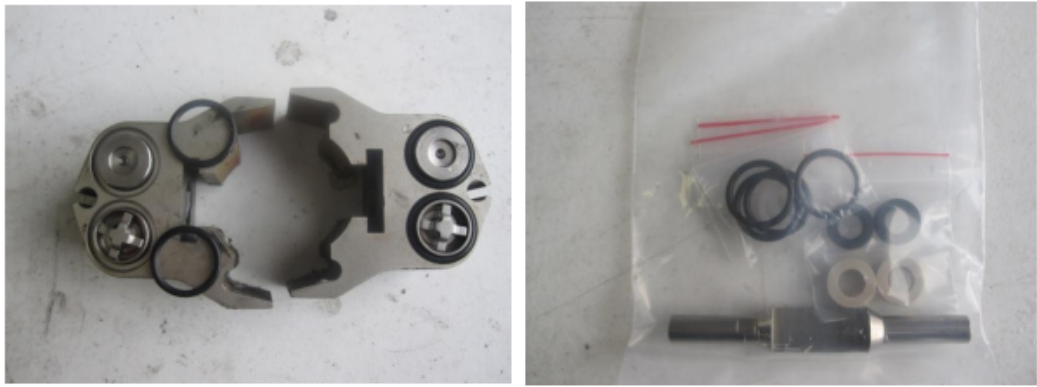

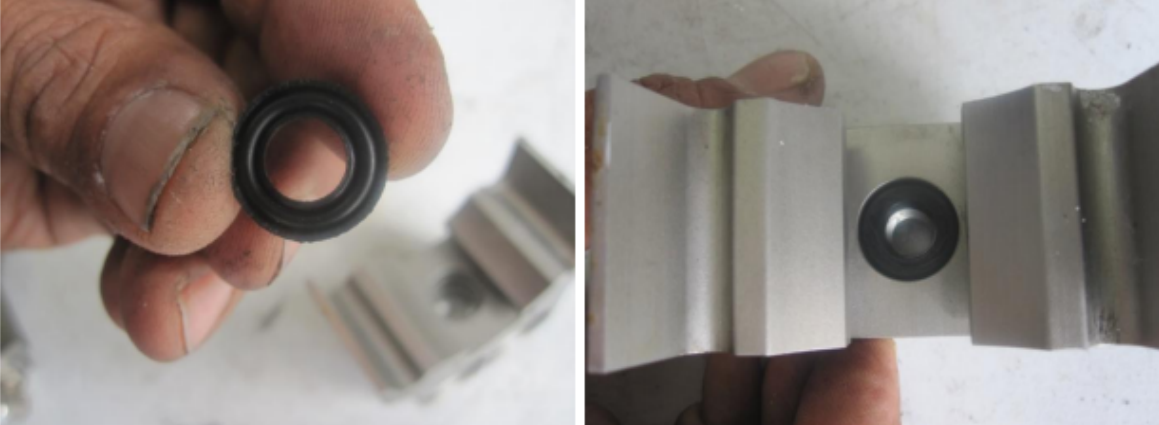
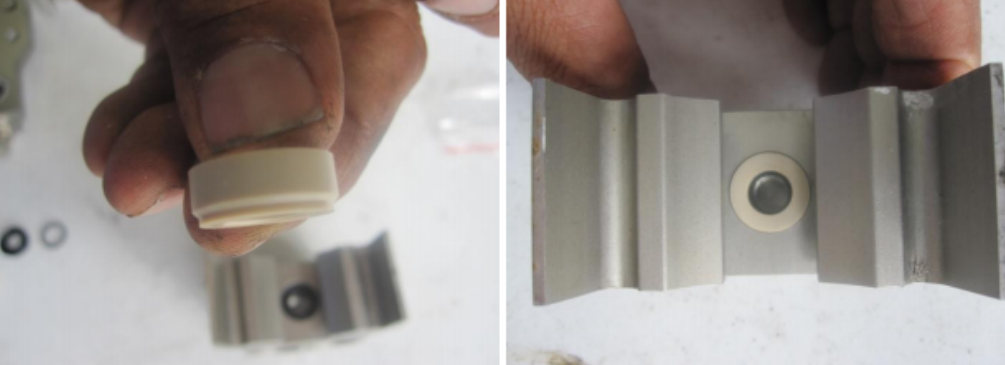
Seal and Carbon Brush Change

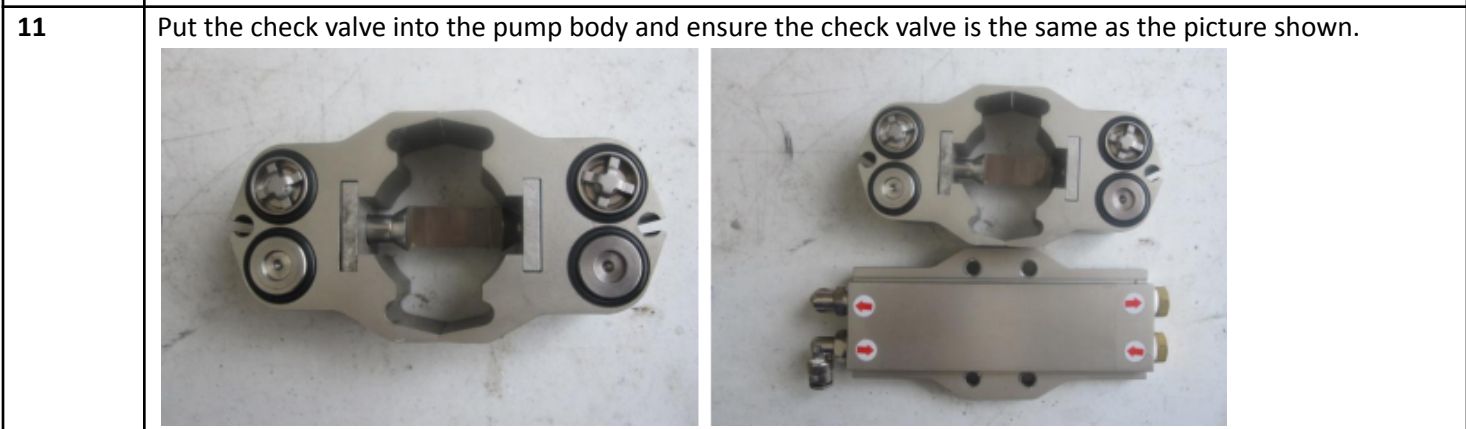
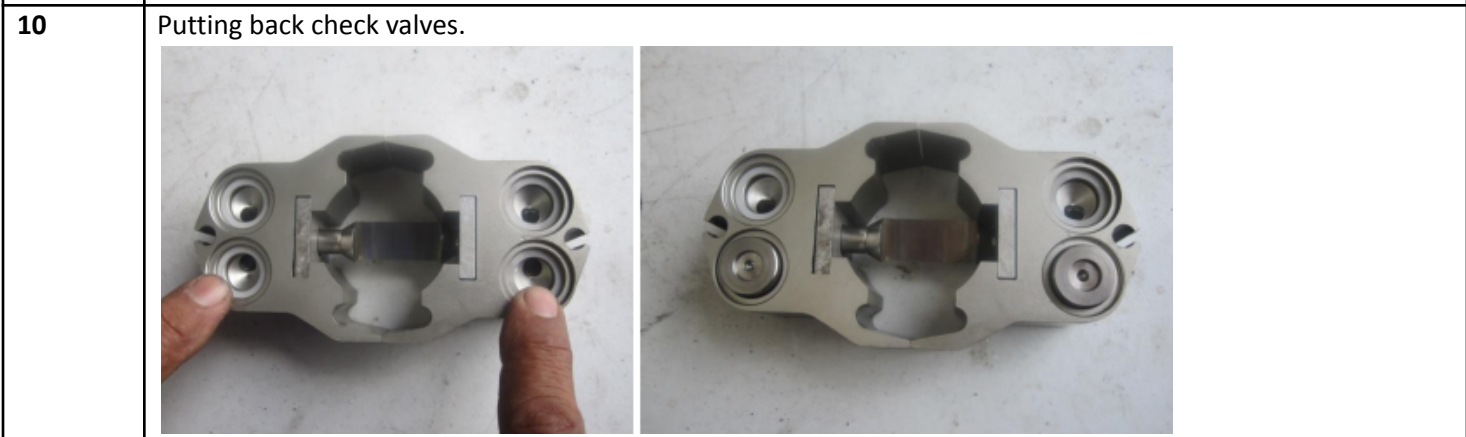
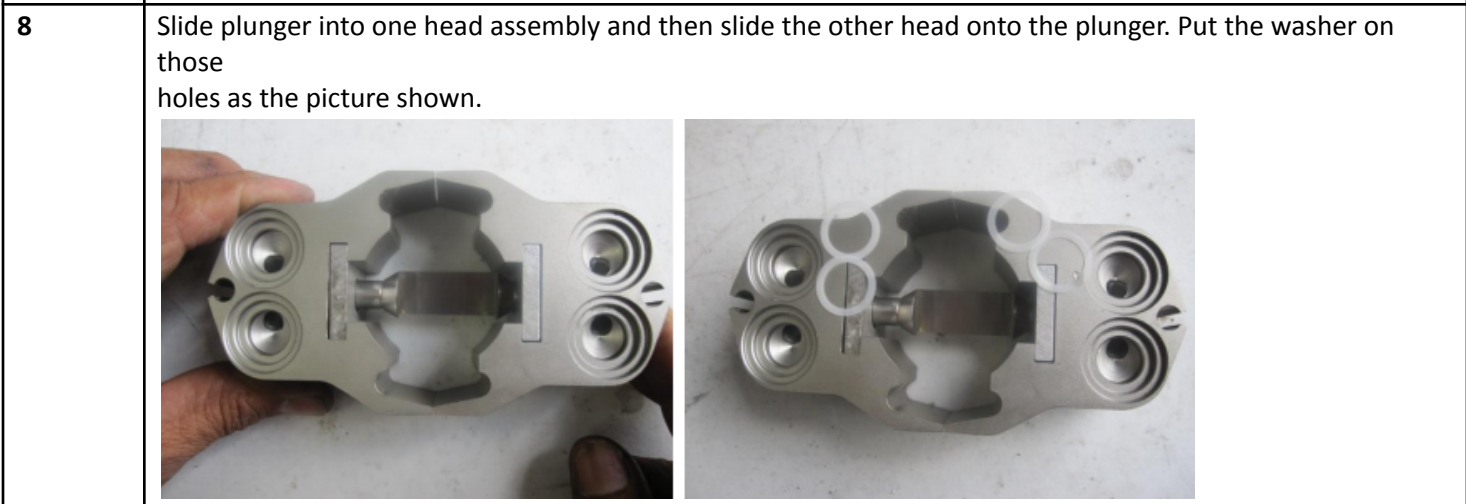
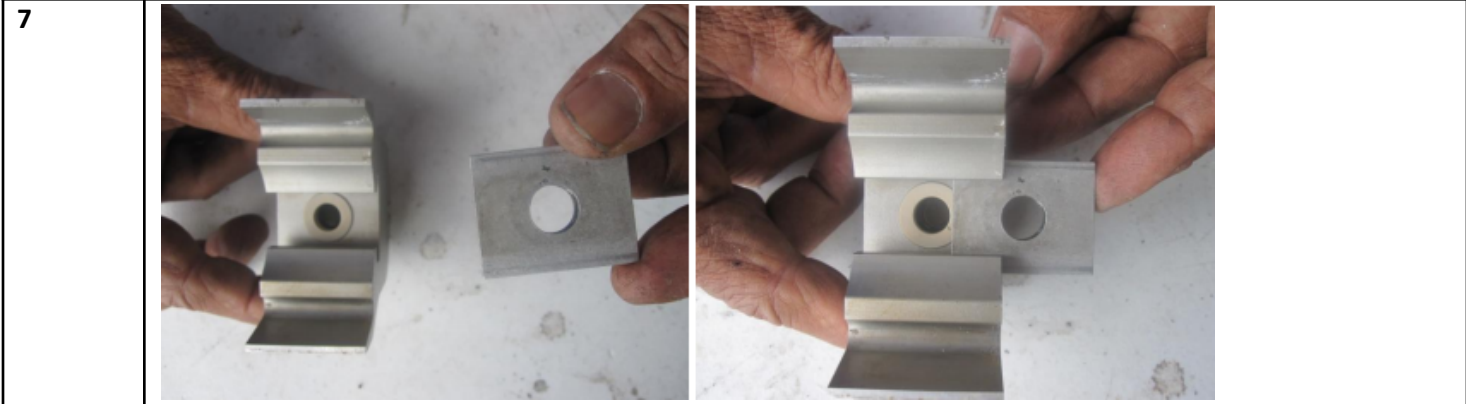
The seal needs to be changed after every 1,500 hrs of operations.

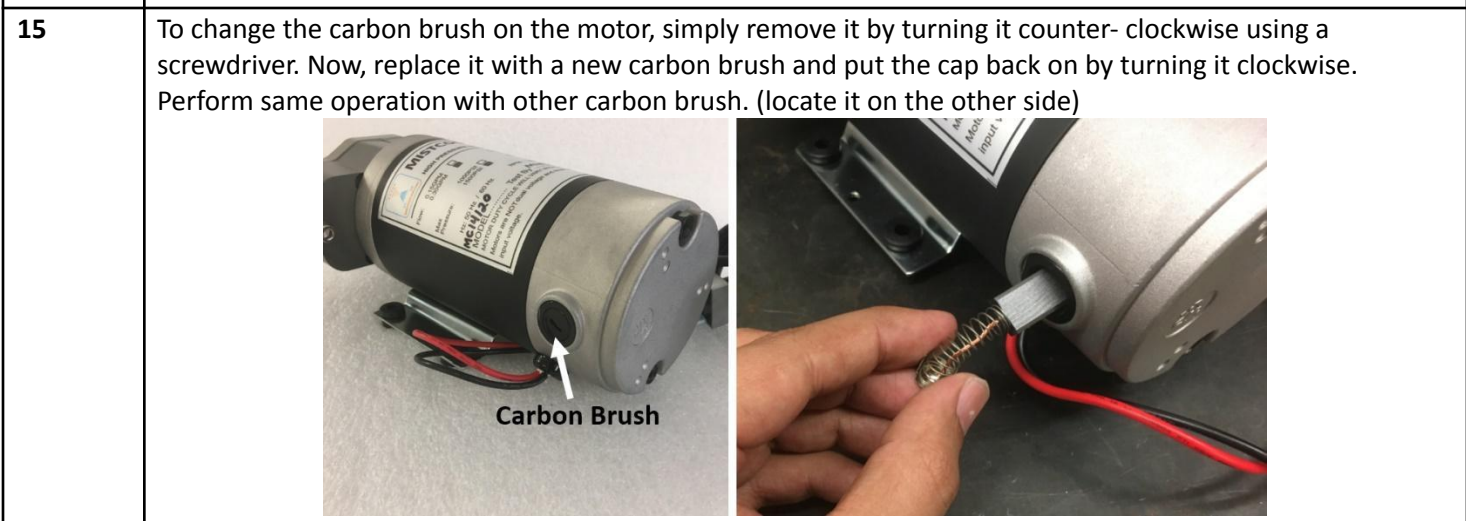
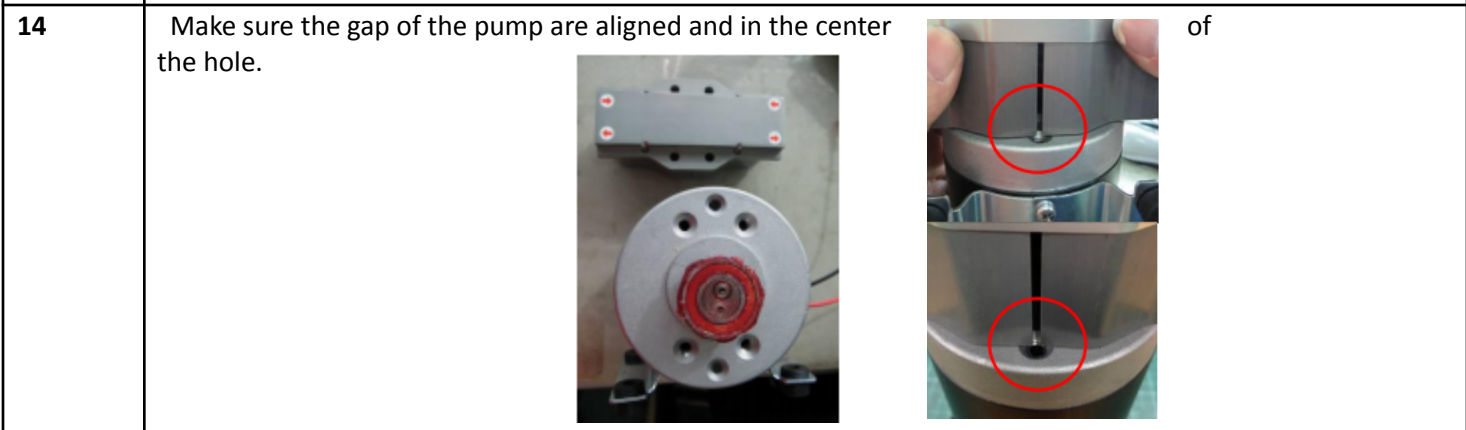
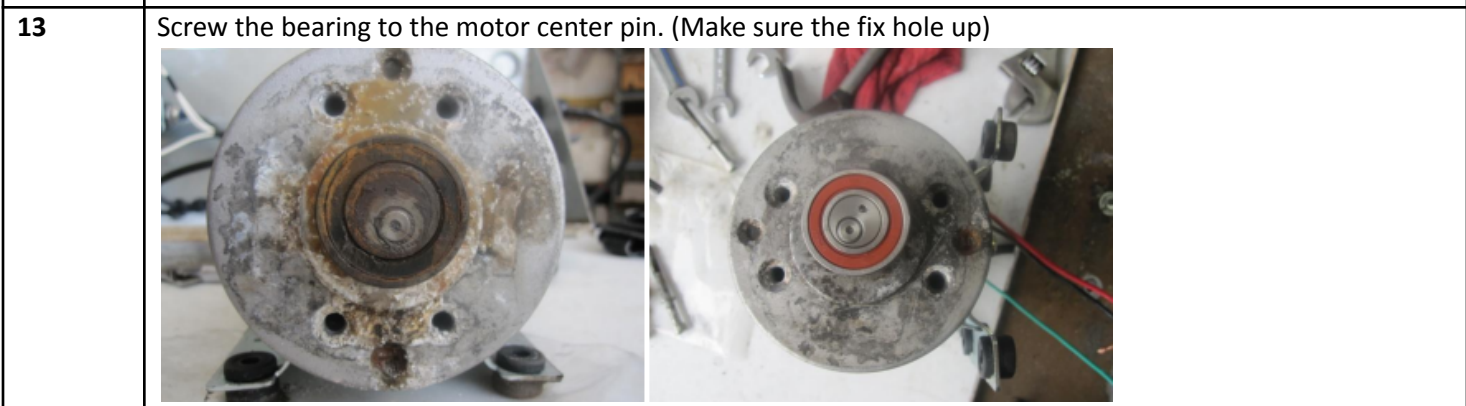
Required Tools:

- 3/16 Hex key
- Flat head screwdriver

1.	<p>Remove the pump from the motor using a 3/16" hex wrench. Remove bolts from the pump. Turn pump over so the manifold is facing upward. Place manifold to side as a reference for reassembly. Figure 1 shows the pump separate from the motor—manifold facing upward and set to the side.</p> 
2	<p>Holding each head, pull them apart to remove the plunger. Remove retaining plate from the pump head. Remove internal seal parts with a finger. Discard parts but keep head and retaining plate.</p> 

3	<p>Replacing seal from the seal kit.</p>  <p>The first photograph shows a metal component with four circular ports, each containing a seal. The second photograph shows a clear plastic bag containing a seal kit, including several black O-rings, two tan O-rings, and a black tool.</p>
4	 <p>The first photograph is a close-up of the seal kit contents. The second photograph shows a hand holding a black O-ring, preparing to install it.</p>
5	 <p>The first photograph shows a hand holding a black O-ring. The second photograph shows the black O-ring being inserted into a circular port of the metal component.</p>
6	 <p>The first photograph shows a hand holding a tan O-ring. The second photograph shows the tan O-ring being inserted into a circular port of the metal component.</p>





Troubleshooting

Issue/s	Possible cause	Action
Pump Not Running	GFCI Tripped or No Power	Check circuits and power source
	Water not Turned on	Turn on the water faucet.
	No water cut Off Switch Activated.	Provide 40-60 psi water source
	Air locked	Bleed air from filter and lines Remove last nozzle and purge line
	Filter clogged	Replace filter cartridge
	Thermal Safety switch activated	Allow pump to cool off
Pump on but No Mist	Leaks or air entering the line	Check for leaks and stop drips
	Airlocks	Remove the last nozzle and purge line.
	Clogged Nozzles	Clean or replace nozzles
	Solenoid not powering on	Replace inlet solenoid valve
Blow out in the line	Excessive pressure	Install a recommended number of nozzles
	Bypass valve setting	Turn the bypass valve counter-clockwise
Not enough Pressure	Bypass valve setting	Turn the bypass valve clockwise to increase
	Filter clogged	Replace filter cartridge
	Worn seal	Replace seal kit
	Improper system expansion	Run recommended number of nozzles.

Warranty

MistCooling, Inc warrants its products to be free of defects in material and workmanship for a period of the following time from the date of purchase:

LIFETIME WARRANTY: Stainless Steel Mist Rings, Stainless Steel Tubing, and Stainless-Steel Fittings

2 YEAR WARRANTY: Mid Pressure Pumps - 250PSI, Commercial Ac Pre-Cooling Kits, All high-pressure brass fittings, high-pressure tubing, and Pool Coolers.

1 YEAR WARRANTY: All High-Pressure Mist Pumps -1500PSI, High-Velocity Mist Fans 14", 18", 24" and 30", Mosquito Control Systems, Odor Control Systems, Dust Control Systems, Timers and Controls, 160psi mid pressure pumps, All Fan based portable units.

6 MONTH WARRANTY: Low-Pressure mist kits, 300PSI portable units, All low and mid pressure push lock and compression fittings and tubing.

90 DAY WARRANTY: All other parts.

The warranty does not cover damage or broken parts due to misuse of the system or damage to the system due to the growth of trees, floods, falling tree limbs, power surges or faulty electrical connections, internal/external water damage, action of customer or third parties. The warranty does not cover modifications to or replacement of any parts of the system required by changes in federal, state, or local laws, regulations, or ordinances. Furthermore, the warranty does not cover normal wear and tear, appearance, accident, fire, external freezing, hot water damage, overuse, or misapplication. Issues such as noise level, clogging of the nozzles, and leaks arising from the improper installation are not considered a defect. Issues arising from poor maintenance and failure to change filter and oil at specified intervals (every 500 hours) do not qualify for warranty replacement. Oil seal wear on high-pressure pumps may be limited to 1000 hours or less. The warranty does not cover damage to the pump when it is run dry.

If the system is not maintained by MistCooling, Inc., or if any person other than an authorized MistCooling, Inc., representative services, and/or modifies the system, the warranty will be void, and any repairs will be charged to the customer. MistCooling Inc.'s obligation under this warranty shall be limited to replacing or repairing at MistCooling Inc.'s discretion, any such product or part which must be returned to MistCooling Inc with a Return Authorization Number (RMA), transportation charges prepaid, and which upon examination, is found to MistCooling Inc's satisfaction to have been defective under the terms of this warranty. No credit will be allowed against future purchases for items returned as defective under the terms of MistCooling Inc's warranty.

This warranty does not extend to any products, which have been altered or modified after shipment from MistCooling Inc, nor does it apply to units that are returned in an unassembled condition. This is a Limited Warranty. It covers the product only. The extent of the coverage is limited to the cost of the product itself, as the manufacturer has no control over shipping, handling, and improper installation. MistCooling, Inc is not liable for damages or any expenses incurred using its products. The warranty will be considered violated if the products are used for other than the criteria described in each product's guidelines for use. This warranty is non-transferable. Labor charges may apply. Nozzles and Filters are excluded from this warranty.

NO IMPLIED WARRANTIES; LIMITATION OF LIABILITY. THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. EXCEPT FOR THE WARRANTY HEREIN, IN NO EVENT SHALL MISTCOOLING INC. BE LIABLE TO CUSTOMER OR ANY OTHER PARTY FOR LOSS OF PROFITS, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY, OR PUNITIVE DAMAGES ARISING OUT OF USE OF ITS PRODUCTS. IN NO EVENT SHALL MISTCOOLING INC.'s MONETARY DAMAGES EXCEED THE PURCHASE PRICE OF THE SYSTEM. THIS LIMITATION OF LIABILITY SHALL APPLY REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT OF TORT, INCLUDING MISTCOOLING INC'S PRICING REFLECTS THE ALLOCATION OF RISK AND LIMITATIONS ON LIABILITY CONTAINED IN THIS AGREEMENT. ANY CUSTOMER PURCHASING AND/OR USING MISTCOOLING INC'S PRODUCTS HEREBY AGREES TO ABOVE TERMS.

If you wish to make a warranty claim, please contact us via email support@mistcooling.com or 1-888-493-5967. Original proof of purchase is required for any warranty claim.