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High Pressure 1000 PSI Pumps Manual

QUALITY MISTING PUMPS

Included Pump Models:

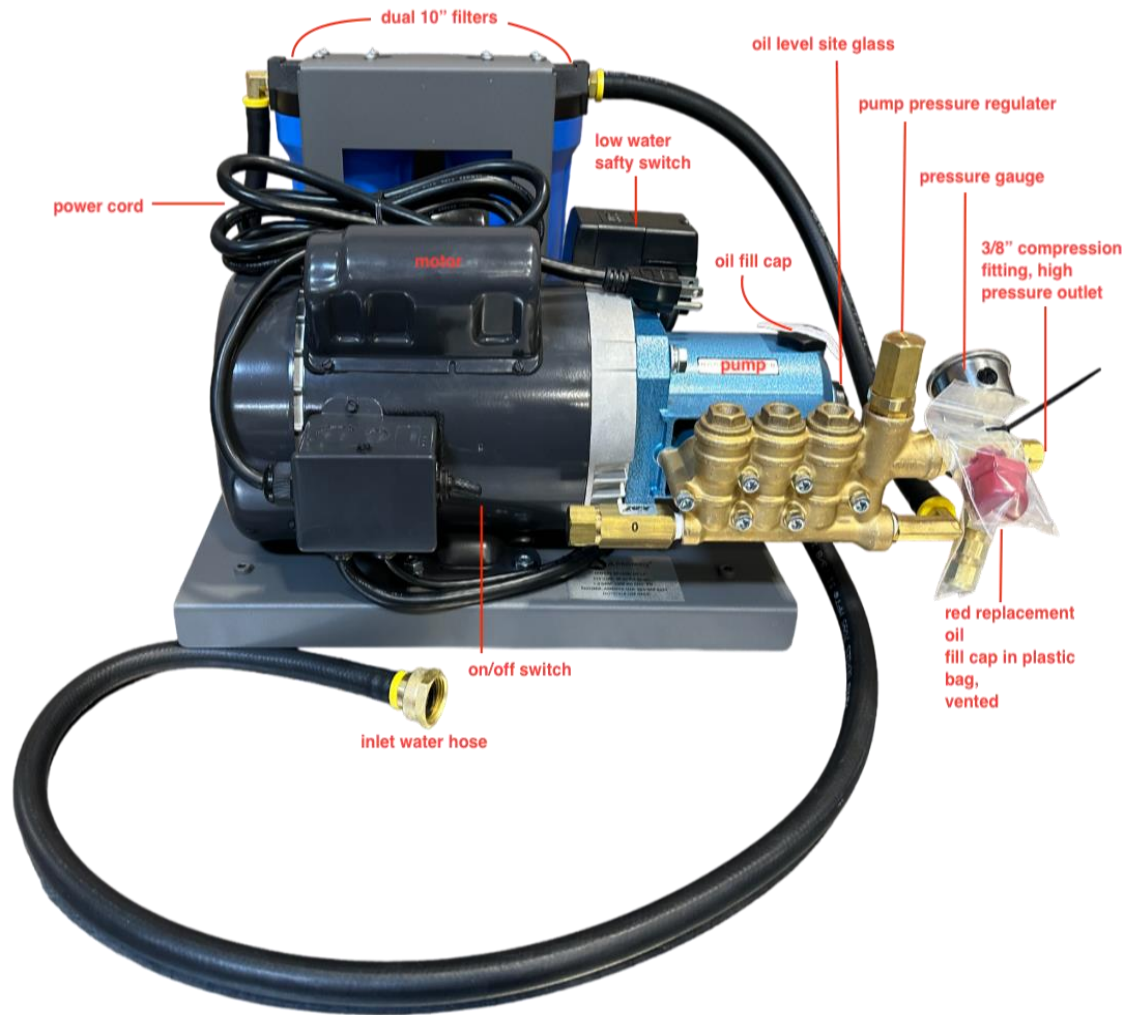
Direct Drive: Base Mount Open Model

**60030K-DF-LP, 60050K-DF-LP, 60100K-DF-LP, 60150K-DF-LP,
60200K-DF-LP, 60300K-DF-220Volt Only**

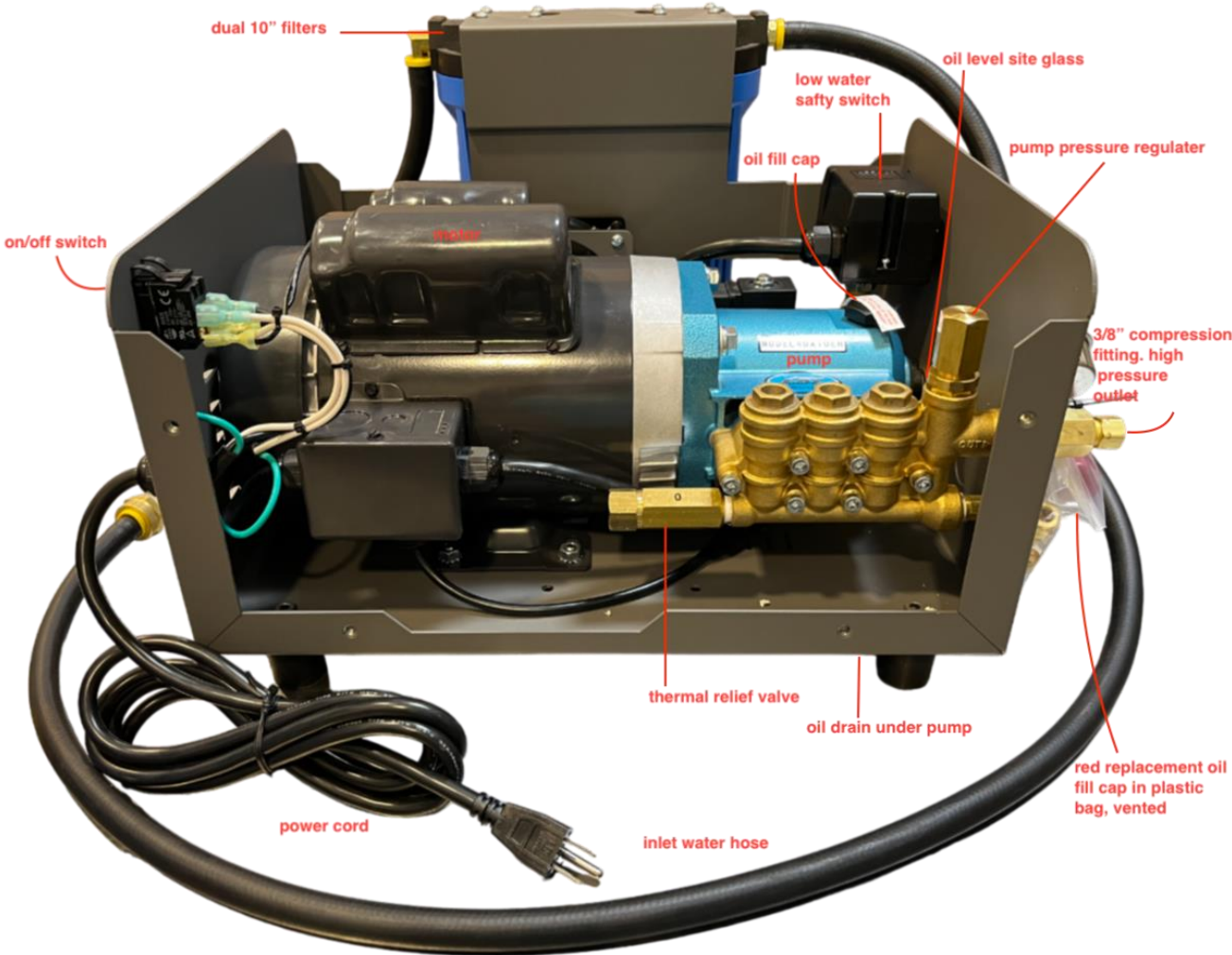
Totally Enclosed Direct Drive Model

**60030KH-DF-LP, 60050KH-DF-LP, 60100KH-DF-LP,
60150KH-DF-LP, 60200K-DF-LP**

DIRECT DRIVE PUMP OVERVIEW



TOTALLY ENCLOSED DIRECT DRIVE PUMP OVERVIEW



Pump Nozzle Sizing Chart

Pumps are sized by how many nozzles you will be running and the orifice size of the nozzle

	.004 (.008 GPM)	.006 (.013 GPM)	.008 (.020 GPM)	.012 (.028 GPM)	.016 (.040 GPM)	.020 (.050 GPM)	Voltage & Amps
.33 GPM	20-40 Nozzles	13-26 Nozzles	8-15 Nozzles	5-10 Nozzles	4-8 Nozzles	3-6 Nozzles	120V 60Hz 8.4 Amps
.5 GPM	30-60 Nozzles	20-40 Nozzles	13-25 Nozzles	9-18 Nozzles	6-13 Nozzles	5-10 Nozzles	120V 60Hz 8.4 Amps
1 GPM	60-120 Nozzles	40-80 Nozzles	25-50 Nozzles	18-36 Nozzles	12-25 Nozzles	10-20 Nozzles	120V 60Hz 8.4 Amps
1.5 GPM	94-188 Nozzles	58-116 Nozzles	37-75 Nozzles	26-53 Nozzles	19-38 Nozzles	15-30 Nozzles	120V 60Hz 14 Amps
2.1 GPM	125-245 Nozzles	80-160 Nozzles	75-150 Nozzles	36-72 Nozzles	25-50 Nozzles	20-40 Nozzles	120V 60Hz 15 Amps
3 GPM	188-376 Nozzles	116-232 Nozzles	75-150 Nozzles	53-106 Nozzles	38-76 Nozzles	30-60 Nozzles	220V 60Hz 8 Amps

OPERATION

The Advanced Mist 1000 PSI Pumps take ordinary city water pressure, which is normally about 50-70 PSI, and “boosts” it up to 1000 PSI. The higher water pressure created by the pump enhances mist cooling and heat absorption in two ways.

First, it produces a higher flow of water through the nozzle. More water being expelled from the nozzle means more cooling. Second, it creates a smaller finer mist droplet that allows the droplet to evaporate more quickly. Better evaporation means better cooling.

There are many applications for the 1000 PSI Pump.

Applications Include: patio cooling for homes and restaurants, greenhouses, humidification, dust control, odor control and many more.

Caution

WARNING & SAFETY INSTRUCTIONS:

Warning: Before plugging in the unit for the first time, read the following section carefully. To reduce the risk of electric shock, plug in supplied grounded cord into a properly grounded receptacle. When servicing this unit, unplug the power cord before attempting any service or repair.

1. Outdoor use ONLY! Not for indoor use.
2. Install pump in a suitable place to prevent property damage, if in the event that a leak should occur.
3. Turn water off and disconnect power to the unit when not in use for extended periods of time.
4. Do not place the pump in damp or wet environments.
5. Feed system with portable cold-water supply only. Do not connect the pump to hot water supply.

INSTALLATION

Install pump above grade level on a pre-formed concrete pad (16”x 24”). This pump is non-submersible. Locate pump in a location where flooding and roof runoff does not occur to avoid water damage to the electric motor.

Verify water feed to pump location is portable cold-water supply only.

Connect cold water feed to pump inlet and connect nylon high pressure tubing to pump outlet.

Important: Install 50 ft. or more of nylon tubing from the pump to the stainless steel or copper tubing to prevent line noise and vibration.

Remove black shipping cap on the pump crankcase and install the red breather cap provided.

The unit is pre-filled with oil and ready to operate. Oil should be half full on the sight glass when unit is off. Do not overfill.

Plug pump into a properly grounded receptacle. Do not use extension cords!

When installing the nylon high pressure tubing into the misting pump have the 3/8" compression nut loose and push the tubing all the way. Remove the nut after pushing it in to make sure it's about 1/4" past the crush ferrule. Reinstall the nut with the tubing and tighten very tight. If this process is done correctly the tubing will not leak.

On new misting systems, ITS VERY IMPORTANT to flush the lines before installing nozzles. Turn the pump on and let the water run awhile while you're installing all the nozzles until you get to the last few then turn the pump off and install the last few.

- Start the system and check for leaks.
- Make sure the pressure is no more than 1000 PSI.
- The system will not build pressure until all the nozzles are installed.

MAINTENANCE

- Change oil every 500 hours of operation or once a year using approved CAT pump oil (52025).
- The proper oil level is half full on the sight gauge when the unit is off. Do not overfill. Oil capacity is 8.5 Oz.
- Change water filter cartridges annually or as needed.

PARTS

- Item # 57011 5 Micron Filter
- Item # 57006 1 Micron Filter
- Item # 57011-ES Ecosmart Scale X Filter (Formally 57011X)
- Item # 57003 Filter Housing
- Item # 57025 CAT Pump Oil
- Item # 52475 Nozzle Cleaner 8 Oz Bottle
- Item # 57251 Pressure Gauge 0-2000 PSI
- Item # 57025 CAT Pump Oil
- Item # 26042 Hose Splicer 3/8" To Extend Hose
- Item # 30103 Power Cord
- Item # 52623 Compression Nut W/Sleeve
- Item # 26038 Water Inlet Hose 3/8" ID Sold Per Ft
- Item # 26104 Female Garden Hose Adapter

WINTER SHUTDOWN:

Do not expose the pump to freezing temperatures. When winterizing unplug pump power cord, shut off water supply, remove filter bowl and drain water. Drain water out of all lines using compressed air to prevent freezing damage. Store in a dry safe place.

GENERAL

The motor rating, as shown on the motor nameplate, and the power supply must have compatible voltage, phase, and hertz characteristics along with WIRE SIZE. The electrical wiring between the power supply and electric motor varies according to motor horsepower and other factors. Installing adequately sized power leads to protection against excessive voltage drop during start-up. Refer to the National Electric Code (NEC) for information on selecting the proper wire size and securing electrical connections. If you connect additional electrical equipment to the same circuit, consider the total electrical load when selecting the proper wire size.

DO NOT UNDERSIZE WIRING. DO NOT USE EXTENSION CORDS.

TROUBLE SHOOTING

Pump is tripping GFCI or breakers:

- 1 If pump unit is wet or installed without a platform or base it could be detecting water and tripping GFCI.
- 2 Make sure the pump is dry, install a base of some sort to keep pump motor dry.
- 3 Check wiring to pump motor and make sure the power to the motor is the correct voltage.
- 4 Wires to the motor could too small of gauge to correctly operate the voltage needed to run the pump motor.
- 5 If ran with an extension cord it can certainly trip a breaker. Under no circumstances use an extension cord.
- 6 Consult a licensed electrician for help.

Motor will not turn on:

- 1 Make sure the power to the pump motor is working and voltage is correct for the motor you have.
- 2 Make sure the water to the pump unit is on and pressure is over 35 PSI.
- 3 If you're using DI or reverse osmoses systems, this can be problematic for the low-pressure safety switch on the pump units. It's best to install the pump using City water hose and run the pump unit before connecting to your filtration system. If the pump will not run when installed to your filtration system you don't have the pressure to start the pump unit. Call us for help.
- 4 It's always best to install the pump unit and test before you install the high pressure 3/8" nylon tubing. These pumps can air lock. After the water sprays out turn the pump off and connect the nylon tubing in the high-pressure outlet.
- 5 Check to make sure the water filters are clean.
- 6 The motor could be faulty.

Filters leaking:

- 1 Check for loose filter housing. Turn pump off and remove the blue housings, Check the O-rings and re install. Tighten (hand tight).
- 2 Check for cracks. Freezing can bust and crack filter housings. Contact us for replacements. Always drain for winter shutdown.

Mist still comes out when system is off:

- 1 Inlet water solenoid is not working. Disassemble and clean or replace.

System runs but does not build pressure:

- 1 Check for leaks in the mist lines of any kind. These systems are low volume but high pressure. The smallest leak will show a loss of pressure.
- 2 Make sure the motor is running.
- 3 If the pump has been run without water, it will overheat the pump seals and will not build pressure.
- 4 If the pump has excessive run time it could need to be rebuilt or replaced.

Can't get pressure up to 1000 PSI:

- 1 Check our nozzle chart for number of nozzles and nozzle size (orifice) to make sure you have not installed too many or too big nozzles. This will decrease nozzles pressure.
- 2 Check for leaks in the line or fittings. Check each nozzle to make sure the O-rings are not blowing out water and are sealed correctly.
- 3 Turn the pump pressure regulator up but not exceed over 1000 PSI.
- 4 Make sure the inlet water pressure is over 35 PSI.

Pump pressure is over 1000 PSI:

- 1 Check our nozzle chart and make sure you have the correct number of nozzles and nozzle size (orifice) for your pump. Never operate the pump with less than 50% of recommended nozzles.
- 2 Turn the pump pressure regulator down to 1000 PSI or lower.

Pump chatter and will not start:

- 1 Check your inlet water pressure.
- 2 Check to make sure your filters are clean.
- 3 Normally it's the low water pressure switch not getting the correct amount of water pressure and rapidly turning the pump on and off. Do not run the system like this. It will damage the switch.
- 4 Check and clean the inlet screen inside the water bib fitting.

Motor hums and trips breaker:

- 1 Motor is shorted out. Needs to be replaced.

Pump leaks oil:

- 1 Pump seals are worn and need replacement.

Pump and nylon tubing are violently vibrating:

- 1 This is normally a water valve in the pump pressure head that is stuck open due to a dirty or worn valve disk. Must be cleaned or replaced.

WARRANTY

Advanced Misting Systems, warrants its customers that Advanced Misting products, excluding nozzles, to be free of defects in materials and workmanship for a period of (1) year from the date of purchase to the original purchaser. With customers proof of receipt Advanced Misting Systems, Inc. will fix or replace the defective part or parts. Advanced Misting Systems reserves the right to inspect the defective part or parts prior to replacement. Advanced Misting Systems will not be responsible for consequential or incidental cost or damage caused by the product failure. Advanced Misting Systems liability under this warranty is limited solely to the replacement or repair of defective parts.

Neither this warrant nor any implied warranty applies to damage or harm caused by any or all the following:

1. Freight damage
2. Damage caused from freezing, fire, natural disaster, improper installation, chemicals, unusual characteristics of water supply.
3. Damage caused by parts, accessories, or components not obtained from or approved by Aero Mist, Inc.
4. Damage due to misapplication and/or misuse.
5. Normal wear of moving parts or components affected by moving parts
6. Use of flammable materials is forbidden.

The liability of Advanced Misting Systems under the foregoing warranty is limited to the repair or replacement at the discretion of Advanced Misting Systems. The return of the entire pump or other product to Advanced Misting Systems factory must be within the warranty period, at the sole expense of the purchaser. Upon examination the returned product will be deemed to have been defective in terms of material or workmanship.

Advanced Misting Systems., expressly warrants its pumps and other products as stated above. There are no other express warranties. Any implied warranties including implied warranty of merchantability or of fitness for a particular purpose are limited in duration to one year from the date of purchase by the original purchaser except in states that do not allow time limitations on implied warranties. There is no implied warranty of fitness for a particular purpose or merchantability when this product is put to industrial, commercial, or rental use.

No person including any dealer or representative of Advanced Misting Systems. is authorized to make any representation or warranty concerning Advanced Misting. products on behalf of Advanced Misting. or to assume for Advanced Misting. the obligations contained in the warranty. Advanced Misting reserves the right to install the same upon its existing products or products then in process or manufacture. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.