

**ECCOFLO**

By Eccotemp



**ECP12V**

**ECCOTEMP**  
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ECCOTEMP PROFESSIONAL GRADE MULTI-USE

# DIAPHRAGM PUMP USE & CARE MANUAL

WITH INSTALLATION INSTRUCTIONS

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 **SUPPORT:** [ECCOTEMP.COM/HELP-DESK](https://www.eccotemp.com/help-desk)  **SHOP ONLINE:** [ECCOTEMP.COM/PRODUCT](https://www.eccotemp.com/product)  **STORE LOCATOR:** [ECCOTEMP.COM/LOCATOR](https://www.eccotemp.com/locator)

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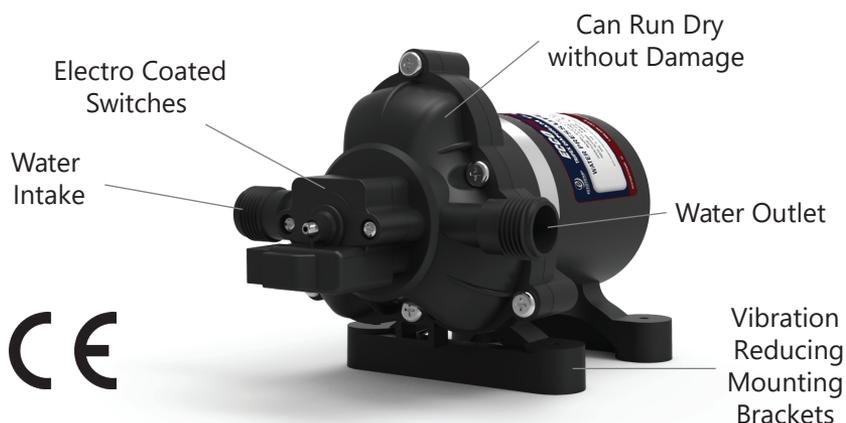
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Get your water pumping like never before with the EccoFlo 3.9 GPM 50 PSI Triplex Diaphragm Pump, a smartly designed unit that will bring pressure to your outdoor showers and cleaning jobs. The EccoFlo Pump works great with Eccotemp L5, L7 and L10 Tankless Water Heaters. Consistent flow at all ranges of operation, the EccoFlo operates smoothly while drawing low current. Soft, absorbing mounts reduce annoying vibration and noise and the self-priming feature allows the pump to safely run dry. All switches are finished with an Electro Coating to prevent corrosion over time. Snap-in 1/2" port fittings simplify installation. Made of corrosion resistant materials, the EccoFlo water pump will keep your water pressurized for years to come.

Please note: It's imperative that you read this manual before attempting installation of the ECCOFLO Triplex Diaphragm Pump. Failure to install properly could void manufactures warranty.



**PUMP FEATURES**

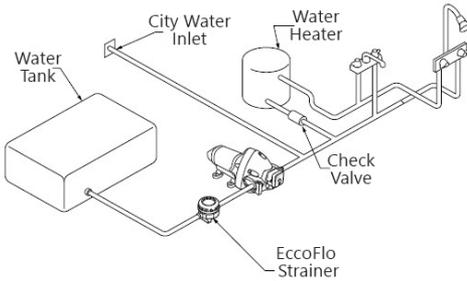
- Self-Priming
- Dry Running
- Soft Noise Absorbing Mounts
- Built-in Check valve and thermal overload
- Corrosion protective coatings

# GENERAL INFORMATION

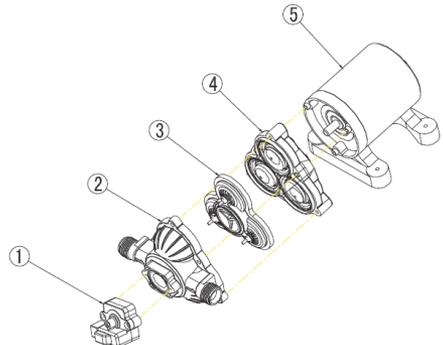
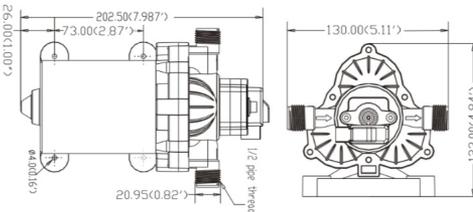
EccoFlo realizes that in many instances our pump is being installed as a replacement pump within an existing system. The following guides should be considered to achieve optimum pump operation. Always follow all local or national installation codes & standards.



**Notice: To help reduce noise and vibration of the pump through the system use flexible lines on the inlet and outlet of the pump as shown above. Be sure to use lines rated to not collapse under pump vacuum.**



NO	Component
1	Pressure switch
2	Pump head
3	Valve plate assembly
4	Diaphragm/Drive assembly
5	Motor



## INSTALLATION INSTRUCTIONS

- Solid surface
- Accessible location away from living quarters
- Properly sized wiring
- Proper electrical protection
- Strainer on plumbing elbows and valves near the pump
- Minimize flow restrictions in the system

### INSTALLATION

**STEP 1.** Remove shipping plugs from pump ports. Some water from factory testing may spill out.

**STEP 2.** Connect fittings supplied with the pump to your hoses. If using the slip-on barb connections use hose clamps.

**STEP 3.** Mount pump horizontally or vertically. Read mounting instructions below.

**STEP 4.** Install inlet and outlet port connectors. Do not overtighten.

**STEP 5.** Install the strainer in an accessible location between the tank and pump inlet. This strainer or equivalent is recommended.

### MOUNTING

(Please read before completing steps)

- The pump can be at the same level or below the water tank. It may be positioned above the water tank if needed, as it is capable of a 6ft. (1.8m) vertical prime. Horizontal inlet tubing will allow priming to 30ft (9m)
- Consider a dry location that allows easy access if maintenance is required. The pump should not be located in an area of less than one cubic foot unless adequate ventilation is provided. Excessive heat may trigger the integral thermal breaker and interrupt operation. When the temperature drops the breaker will automatically reset and start proration.
- The pump can be mounted horizontally or vertically. If mounting of the pump vertically, the pump head should be in the down position.
- The mounting feet are intended to isolate the pump from the mounting surface; over-tightening, flattening, or use of oversized screws will reduce the ability to isolate vibration and noise through the lines.

### WIRING

**STEP 1.** Use 14 gauge stranded wire to 20', 12 gauge to 50' from power source.

**STEP 2.** Use a 10-15 amp rated on-off switch on the (+) (red) motor lead

**STEP 3.** Install a 10 amp fuse protection on the positive lead.

### ELECTRICAL

(Please read before completing steps)

- The pump should be on a dedicated (individual) circuit protected by the specified fuse indicated on the motor label.
- A U/L, CE etc. approved marine duty (ignition protected) switch rated at above 15 amps is recommended and must interrupt current flow on the positive (+ red) lead.
- The pump must be grounded to a known ground (battery). The ground wire must be the same size (gauge/Mm<sup>2</sup>) as the positive wire.
- Wire sizing: Proper wire sizing is required for good pump operation. If the wire is too small, low voltage will affect the pump performance and can create fire hazard.
- The total current draw on the circuit must not exceed 15 amps. If the pump is used in conjunction with other components, overload current protection (fuse or circuit breaker) and wire size must be for the total amp requirements of all devices on the circuit.



## PLUMBING

EccoFlo recommends at least 1 ft (.3m) of 1/2" (13mm) I.D. flexible high pressure tubing to both ports. Ideally the pump's ports/strainer should not be connected to plastic or rigid pipe. The pump's normal oscillation may transmit through rigid plumbing causing noise, and possibly loosen or crack components.

Installation of the 50-mesh strainer such as is recommended to prevent foreign debris from entering the pump. EccoFlo hex/swivel barb fittings provide easy removal if maintenance or access is required. The fittings are designed with a "taper-seal", creating a water tight connection when hand-tightened. Always secure barb tubing connections with properly sized stainless steel clamps to prevent leaks. Never use plumbers tape or sealing compounds on threads. Sealer may enter the pumps causing a failure. Failure due to foreign debris is not covered under warranty.

Rapid cycling may be caused by excessive back pressure created by one or more of the following within a plumbing system: Water filters and purifiers not on separate feed lines, flow restrictors in faucets and shower heads, small ID lines pipe/tubing should be at least 1/2" (13mm) for main lines, restrictive fittings and connections (elbows, "T"s, feeder lines to faucets, etc.) The pump with by-pass do not need to use pressure tank. If the pump is cycling rapidly increase the setting by turning the screw clockwise (1 1/2 turn max) until the pump operates for 1 sec. with at least 2 sec." OFF time".

The pump's duty cycle is: intermittently. Do not use the pump under anti-osmosis filtering systems. Continuous running under higher pressure may reduce pump life and it is not under the warranty.

## OPERATION

**(This pump is designed for intermittent duty only.)**

The pump operates normally up to about 40-psi, where a spring-loaded by-pass valve opens, allowing flow back from the output side to the input side, providing smooth, steady flow with virtually no cycling, all the way down to a trickle. As a faucet is opened back up, the pressure will drop, the by-pass will close and full flow is again obtained. This allows good flow, even with today's restrictive showers and pullout sprayer faucets. Performance will vary, of course, depending on the voltage to the pump; lower voltage = lower flow, higher voltage = higher flow. Remember your electrical safety: It is always best to shut off power to the pump OFF when leaving the RV unattended.

About the by-pass NOTE: By-pass adjustment should be performed by professional technicians with proper gauge and equipment.

The by-pass is a spring loaded diaphragm that opens up allowing water from the discharge side back to the inlet side. The by-pass is set to begin opening at about 40psi and increasing full by-pass at about 62 psi. The pressure switch on the pump is set to shut off at 55 psi. If the switch or by-pass is adjusted too much, the by-pass and switch shut-off pressure. Unscrewing the switch screw counterclockwise will lower the pump shut-off pressure. Screwing the by-pass screw in will raise the pressure at which the by-pass starts and lower the full by-pass pressure.



## SANITIZING

Potable water systems require periodic maintenance to deliver a consistent flow of fresh water. Depending on use and the environment the system is subject to, sanitizing is recommended prior to storing ad before using the water system after a period of storage. Systems with new components, or ones that have been subjected to contamination, should also be disinfected as follows:

1. Use one of the following methods to determine the amount of common household bleach needed to sanitize the tank.
  - a. Gallons: water tank capacity x .13 = Amount of bleach needed
  - b. Liters: Water tank capacity x 1.0 = Amount of bleach needed
2. Dilute the calculated amount of bleach with some water in a separate container.
3. Pour the mixture from the container (water/bleach) into the tank and fill the tank with potable water.
4. Open all faucets (HOT & COLD) allowing the water to run until the distinct odor of chlorine is detected.

### **WARNING!**

Before servicing pump, turn off pump and drain water from system!!!

## WINTERIZING

If water is left to freeze in the system, serious damage to the plumbing and the pump may occur. Failures of this type will void the warranty. The best guarantee against damage is to completely drain the water system.

NOTE: When used per the manufacturer's recommendations **non-toxic antifreeze for potable water** is safe for use with ECCOFLO pups. Refer to the manufacturer for their specific winterizing & drainage instructions.

To properly drain the system perform the following steps:

- Drain the water tank, if the tank doesn't have a drain valve, open all faucets allowing the pumps to operate (15 min, ON/15 min. OFF) until the tank is empty.
- Open all the faucets (including the lowest valve or drain in the plumbing) and allow the pump to purge the water from the plumbing, then turn the pump OFF.
- Using a pan to catch the remaining water, remove the plumbing at the pump's inlet/outlet ports. Turn the pump ON, allowing it to operate until the water is expelled. Turn OFF power to the pump once the plumbing is emptied. Do not reconnect pump plumbing. Make a note at tank filler as a reminder. "Plumbing is Disconnected".
- ALL faucets must be left open to guard against any damage.

### **CAUTION**

Do not use automotive antifreeze to winterize portable water systems. Such solutions are highly toxic and ingestion may cause serious injury or death.



## TROUBLESHOOTING

Vibration induced by sea conditions or transporting can cause plumbing or pump hardware to loosen. Check for system components that are loose. Many symptoms can be resolved by simply tightening the hardware. Check the following items along with other particulars of your system. For more help with troubleshooting and installation please visit [support.eccotemp.com](http://support.eccotemp.com).

<b>Failure to prime – motor operates, but no pump discharge</b>	<ul style="list-style-type: none"> <li>• Restricted intake or discharge line.</li> <li>• Air leak in intake line</li> <li>• Debris in pump</li> <li>• Punctured pump diaphragm (pump leaks)</li> <li>• Crack in pump housing</li> </ul>
<b>Motor fails to turn on</b>	<ul style="list-style-type: none"> <li>• Loose wiring connection</li> <li>• Pump circuit has no power</li> <li>• Blown fuse</li> <li>• Pressure switch failure</li> <li>• Defective motor</li> </ul>
<b>Pulsating flow</b>	<ul style="list-style-type: none"> <li>• Restricted pump delivery. Check discharge lines, fittings and valves for clogging or under sizing.</li> </ul>
<b>Pump fails to turn off after all fixtures are closed.</b>	<ul style="list-style-type: none"> <li>• Empty water tank</li> <li>• Insufficient voltage to pump (low battery)</li> <li>• Punctured pump diaphragm (pump leaks)</li> <li>• Discharge line leak</li> <li>• Defective pressure switch</li> </ul>
<b>Low flow and pressure</b>	<ul style="list-style-type: none"> <li>• Air leak at pump intake</li> <li>• Accumulation of debris inside pump and plumbing</li> <li>• Worn pump bearing (excessive noise)</li> <li>• Punctured pump diaphragm (pump leaks)</li> <li>• Defective motor</li> </ul>

## REPLACEMENT PARTS

To order please visit [www.eccotemp.com](http://www.eccotemp.com) or call 1-866-356-1992.



**10ECF**  
1/2" Barbed  
Adapter



**20ECF**  
1/2" Barbed  
Adapter



**30ECF**  
1/2" Threaded  
Adapters



**40ECF**  
Sediment Strainer



**50ECF**  
Red/Black (+/-)  
clips



## PORTABLE PRODUCT COMPARISONS

Check out these other Eccotemp products that work great with the Eccotemp EccoFlo 12v Triplex Diaphragm Pump. To order visit [www.eccotemp.com](http://www.eccotemp.com) or call 1-866-356-1992

L5

L7

L10



	L5	L7	L10
INSTALLATION	OUTDOOR ONLY	OUTDOOR ONLY	OUTDOOR ONLY
BTU	37,500	41,000	75,000
Flow Rate	Rated 1.5 GPM	Rated 1.6 GPM	Rated 2.65 GPM
Portable	Yes	Yes	Yes
Power Source	2 "D" Cell Batteries	2 "D" Cell Batteries	2 "D" Cell Batteries
Gas Type	Liquid Propane Only	Liquid Propane Only	Liquid Propane Only
Venting	None Needed	None Needed	None Needed
Water Pressure	20-80 PSI	20-80 PSI	25-80 PSI
Regulator & Hose	Standard / Included	Standard / Included	Standard / Included
Temperature Control	Manual 80° - 120°F	Manual 50° - 125°F	Manual 80° - 140°F
Warranty	1 Year	2 Years	1 Year
Product Dimensions	12" x 4.5" x 20" - 11.2 lbs	13.5" x 6.5" x 19.5" - 14.7 lbs	15" x 6.5" x 35" - 17.5 lbs
Package Dimensions	12.4" x 7.7" x 21.9" - 13.8 lbs	14" x 7.7" x 25.8" - 16 lbs	15.7" x 9.6" x 35.4" - 23.5 lbs

SPECIFICATIONS



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