



INSTALLATION AND OPERATION MANUAL

Whale® Watermaster® Automatic Pressure Pump

Power, Performance *plus* Protection



Model Number	Description
Marine Models	
FW0814(B)	2.0 US gals per min (8 ltrs), 12 V d.c., 2 bar (30 psi), 15mm Quick Connect Connections
FW1214(B)	3.0 US gals per min (11.5 ltrs), 12 V d.c., 2 bar (30 psi), 15mm Quick Connect Connections
FW1215(B)	3.0 US gals per min (11.5 ltrs), 12 V d.c., 3 bar (45 psi), 15mm Quick Connect Connections
FW1225(B)	3.0 US gals per min (11.5 ltrs), 24 V d.c., 3 bar (45 psi), 15mm Quick Connect Connections
FT0814B	2.0 US gals per min (8 ltrs), 12 V d.c., 2 bar (30 psi), ½" NPT threaded connection
FT1214B	3.0 US gals per min (11.5 ltrs), 12 V d.c., 2 bar (30 psi), ½" NPT threaded connection
FT1215B	3.0 US gals per min (11.5 ltrs), 12 V d.c., 3 bar (45 psi), ½" NPT threaded connection
FT1225B	3.0 US gals per min (11.5 ltrs), 24 V d.c., 3 bar (45 psi), ½" NPT threaded connection
RV / Caravan Models	
FP0814(B)	2.0 US gals per min (8 ltrs), 12 V d.c., 2 bar (30 psi), 12mm Quick Connect Connections

*The 'B' suffix indicates that a bulk code is available

INSTALLATION AND OPERATION MANUAL

Whale® Watermaster® Automatic Pressure Pump

Thank you for purchasing this Whale® product. For over 40 years, Whale® has led the way in the design and manufacture of freshwater and waste systems including: pumps, plumbing, faucets and showers for low voltage applications.

1. SPECIFICATION

Marine Models

Product Code	FW0814(B)	FW1214(B)	FW1215(B)	FW1225(B)	FT0814B	FT1214B	FT1215B	FT1225B
Voltage (V d.c.)	12	12	12	24	12	12	12	24
Open Flow Rate (per min)	2.0 US gals (8 ltrs)	3.0 US gals (11.5 ltrs)			2.0 US gals (8 ltrs)	3.0 US gals (11.5 ltrs)		
IP Rating	IP65							
Recommended Fuse Size (Amp Automotive)	5	7.5	7.5	5	5	7.5	7.5	5
Max Current Draw (amps)	4	6	6	3.5	4	6	6	3.5
Minimum Wire Size	1.5mm ² (16 AWG)							
Weight	1.5 kg (3.3 lbs)							
Cut Out Pressure	2 bar (30psi)		3 bar (45psi)		2 bar (30psi)		3 bar (45psi)	
Inlet / Outlet Size	Whale® Quick Connect 15mm Female Connections				1/2" NPT Threaded Connections			
Materials	Pump Body: Glass-filled Polypropylene, PBT (Polybutylene Terephylene) Feet, Diaphragm & Valves: Monprene®, Seals: Nitrile®, Fasteners: Stainless Steel							
Materials in Contact with Fluid	Glass-filled Polypropylene, Monprene®, Nitrile®, Stainless Steel							
Service Kits	AK1316 - Replacement Head Kit			AK1317 - Microswitch Kit		AK1319 - Strainer		
Max. suction lift	3 m (9 ft)							
Max. discharge head	20m (66ft)		30m (99ft)		20m (66ft)		30m (99ft)	

*(B) suffix indicated pumps are available as a bulk or retail item.

RV / Caravan Models

Product Code	FP0814 (B)		
Voltage (V d.c.)	12		
Open Flow Rate (per min)	8ltrs (2.0 US gals)		
Cut Out Pressure	2 bar (30psi)		
Recommended Fuse Size	5 Amp Automotive		
Current Draw	4 amps		
Weight	1.48 kg (3.26 lbs)		
Inlet / Outlet Size	Whale Quick Connect 12mm Female Connections		
Hose Connections	For 1/2" flexible hose use WU1282. For 3/8" flexible hose use WU1280		
Semi Rigid Pipework System Connections	For Whale® Quick Connect 12mm no adaptor required - use 12mm semi rigid pipework WX7112		
Materials in Contact with Fluid	Glass-filled Polypropylene, Monprene®, Nitrile®, Stainless Steel		
Service Kits	AK1317 - Microswitch Kit	AK1318 - Replacement Head Kit	AK1320 - Strainer
Max. Wire Size	1.5mm ² (16 AWG)		
Max. Suction Lift	3m (9 ft)		
Max. Discharge Head	20m (66ft)		

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3. PRINCIPLES OF OPERATION

The Whale Watermaster is an automatic pressure pump designed for recreational vessels or vehicles. The pump integrates high specification motors and fully protected wiring to ensure reliability and a smooth consistent flow during use. Please refer to the specifications (section 1) for the model range.

4. TO THE USER

Please read the following carefully before installation.

WARNING: Please note that incorrect installation may invalidate the warranty.


5. TO THE FITTER

Check that the product is suitable for the intended application, follow these installation instructions and ensure all relevant personnel read the points listed below. Also ensure that these operating instructions are passed on to the end user.

6. APPLICATION

The Whale® Watermaster® Automatic Pressure Pump Range is designed for installation in recreational vessels or vehicles, only for saltwater or freshwater use, with 12 V d.c. or 24 V d.c. electrical supply only. If it is intended for use for any other purpose or with any other liquid, it is the user's responsibility to ensure that the pump is suitable for the intended use and, in particular, that the materials are fully compatible with the liquids to be used.

7. WARNINGS

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1. This pump is designed for supplying water in a boat, caravan or motorhome. If it is intended for use for any other purpose it is the user's responsibility to ensure that the pump is suitable for the intended use.
 2. **Not** suitable for pumping flammable liquids, diesel, chemicals etc. Only suitable for freshwater or salt water.
 3. A Whale® strainer **must be** fitted on the inlet side of the pump to prevent any dirt/debris entering the pump (included with retail pumps).
 4. With all applications it is important that a system of safe working practice is applied to installation, use and maintenance. Ensure the electric supply is turned off and water system is drained before installation. In order to securely fasten the unit, ensure that the mounting surface is a minimum thickness of 19mm (¾") when fitted.
 5. **NOTE:** In a marine application, **do not** screw directly to the hull. Must be mounted on a bulkhead or additional board.
CAUTION: Pump **not** intended for continuous use. Maximum duty cycle < 33%.
 6. **WARNING:** Fire hazard. Wiring must comply with applicable electrical standards and include a properly sized fuse or circuit breaker. Improper wiring can cause a fire resulting in injury or death. Switch off the power while making connections. Suggested wiring information is given as guidance only. For full information, refer to the USCG, ABYC and ISO regulations for marine applications and wiring gauges, connectors and fuse protection.

8. PARTS LIST

Qty 1	Whale Watermaster® Automatic Pressure Pump	Qty 2	WX1587B - 1/2" Threaded Connectors (Retail only)
Qty 1	Strainer (Retail only)		
Qty 2	WX1584B - 1/2" Barbed Connectors (Retail only)		

9. OPTIONAL EXTRAS

AK1316	Marine Replacement Head Kit	WF1230	Whale Aquasource Clear Water Filter 12mm
AK1318	RV Replacement Head Kit	WF1530	Whale Aquasource Clear Water Filter 15mm
AK1317	Microswitch Kit		

10. INSTALLATION

NOTE - Always disconnect power sources before installing. Incorrect installation will invalidate warranty.

The Whale® Watermaster® Automatic Pressure Pump is designed for use in the following applications:

- Leisure marine vessels (fig 1a)
- RV/Caravan vehicles (fig 1b)

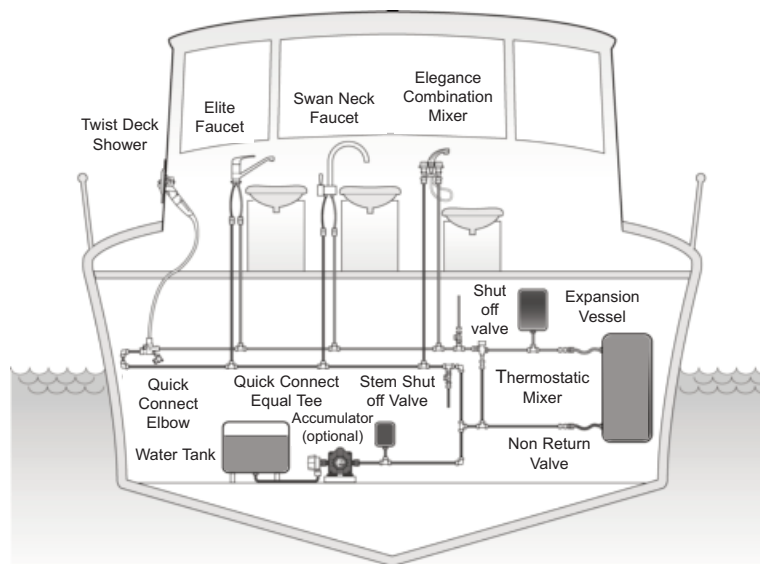


Fig. 1a Typical Installation in a Marine System (Illustration for guidance purposes only)

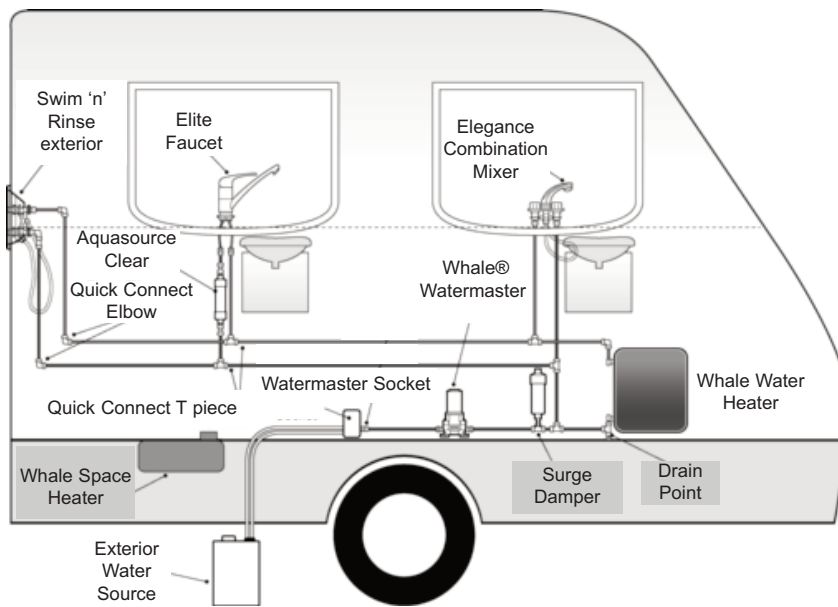


Fig. 1b Typical Installation in a RV System (Illustration for guidance purposes only)

10.i Mounting Instructions

- Step 1** Locate in a dry position with adequate ventilation and no more than 3m (9ft) above the water tank. In normal use, ensure the pump cannot be submerged in water.
- Step 2** Ensure pump is mounted free of obstacles and accessible for maintenance.
- Step 3** In a marine application, the pump can be mounted horizontally or vertically. In a RV/caravan application the pump **must** be mounted vertically. We recommend that the pump head is mounted below motor level (Figure 2). For advice on your specific installation, please contact Whale® support.
- Step 4** Feet positions are adjustable to allow for retrofit. Use 3 stainless steel screws and washers (supplied with retail pump) to fasten pump to solid surface and support the pump securely. See Figure 3.

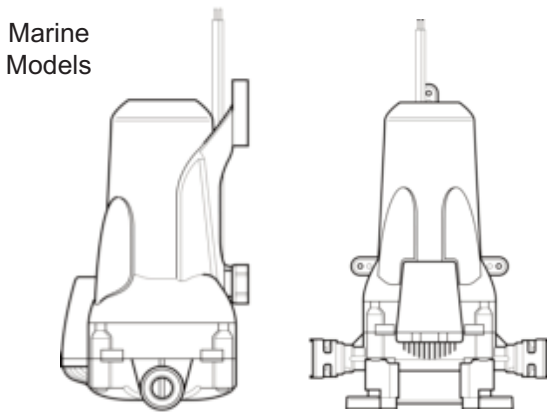


Fig 2 - Recommended Pump Mounting Orientation

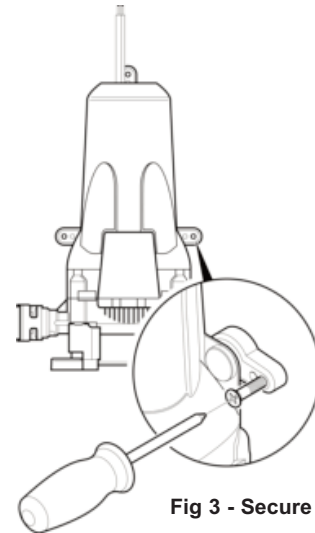


Fig 3 - Secure the Pump

10.ii Plumbing

- Check pump flow direction (as indicated on pump body) and ensure that a strainer (supplied with retail pump) is attached to the pump head inlet (Figure 4).
- Never use pipe sealant or sealing tapes on threaded adaptors, as these may enter the pump and cause failure.

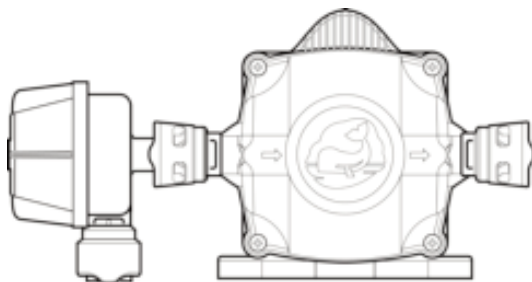


Fig 4 - Attach Strainer to Pump Inlet

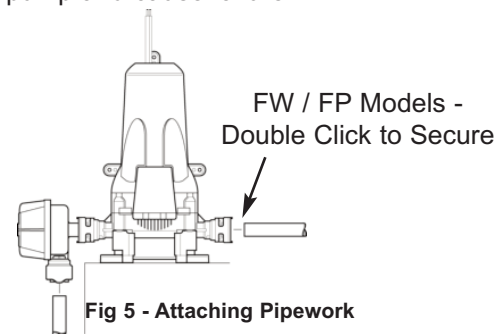


Fig 5 - Attaching Pipework

- For FW or FP models, ensure a double click into Quick Connect connections (Figure 5).
- For FT models a 1/2" male NPT threaded connection is provided for use with a female NPT allowing easy connection onto your existing pipework.
- For retail units, 1/2" threaded and barbed connectors are also provided for alternative installation. These can be easily connected into the Quick Connect head.

10.iii Electrical Wiring

WARNING: Fire hazard. Wiring must comply with applicable electrical standards and include a properly rated fuse or circuit breaker (Please see specification table for fuse rating - section 1).

WARNING: Improper wiring can cause a fire resulting in injury or death.

NOTE: Switch off the power prior to making connections. Suggested wiring information is given as a guide only. For full information, refer to the USCG, ABYC and ISO regulations for marine applications and wiring gauges, connectors and fuse protection.

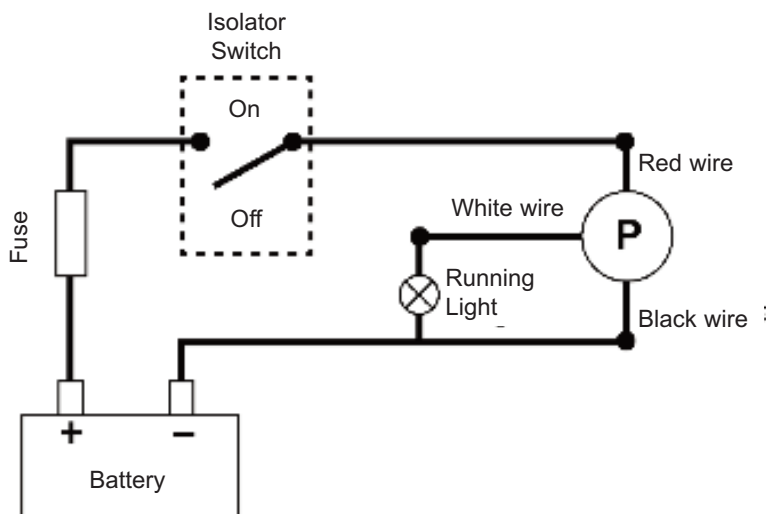


Fig 6 - Wiring Diagram

- Step 1** Use specified fuse, as indicated on motor label in the circuit.
- Step 2** Connect red wire to positive and black wire to negative.
- Step 3** The white wire can be connected to a running light to indicate when in use.
- Step 4** Fit an isolating switch with adequate current rating on the positive side of the supply.
- Step 5** To prevent the pump running continuously, turn off at isolating switch when vessel / vehicle is left unattended or water supply has been allowed to empty.
- Step 6** Use water proof (IP65) connectors if the connection is below maximum bilge water level.

11. INSTRUCTIONS FOR USE

Ensure that pump installation is thoroughly tested before first use.

Step 1 Install your pump following the advice above (see Section 10. Installation).

Step 2 Connect the pump to the water circuit.

Step 3 Connect the power to the pump.

To ensure normal running of your water system, follow the checklist below:

- Remove air from the circuit (to prevent priming issues, drop of performance, noise and vibration).
- Check the priming of the pump (the strainer should be filled with water).
- Check the start and stop of the pump. This should be automatic by opening and closing a faucet/tap/shower/transom shower.

NOTE: Check your circuit regularly for any leaks or loose connections.

For any problems, please refer to the troubleshooting table, Section 14.

12. MAINTENANCE

This Whale® Watermaster® Automatic Pressure Pump is designed to only require minimal maintenance.

WARNING: Ensure that the pump is disconnected from electrics and system is fully drained prior to maintenance.

For Optimal Performance

- Ensure the pump is clear of debris.
- If the pump is not operating at full capacity - disconnect electric and plumbing and check the valve arrangement inside the pump head for blockages.

Annual Checks

- Whale® advise that the vessel / vehicle's plumbing system is checked annually for leaks and obstructions. A pump electrics check is also advisable.

13. WINTERIZING

If water is allowed to freeze in the system, serious damage to the pipe work and pump may occur. Failures of this type will invalidate warranty. To best avoid this damage, completely drain the water system.

1. Drain the tank either using the pump or a drain valve.
2. Open all the faucets (including drain valve) and allow pump to purge the water from the system, and then turn the pump off.
3. Disconnect the pump and turn on to purge into an adequate basin. Only reconnect the pump when water system is to be used.
4. Remember to leave all faucets including showers open to avoid any damage except for Whale Twist™ Deck Shower.

14. TROUBLE SHOOTING

Problem	Possible Cause	Potential Solution
Pump does not run	No power to pump	Check power supply. Attach leads / clean connections.
	Fuse has blown	Replace fuse.
	Pump is faulty	Replace pump.
	Microswitch is faulty	Check operation and replace if faulty (AK1317).
Pump runs but no water appears	No water getting to pump / Blockage in pipework	Check the water tank is not empty. Check strainer is not blocked. Check all connections from tank to inlet of pump are secure - any air leaks will prevent prime.
	Pressure relief valve too low.	Check water supply level and pressure relief settings are appropriate for the system.
	Water leaking at outlet side of pump.	Check pipework/fittings for leaks and repair. Check system drain plugs are closed.
Pump runs but will not switch off	Water leaking at outlet side of pump.	Check pipework/fittings for leaks and repair. Check system drain plugs are closed.
	Insufficient water getting to pump.	Check water supply levels.
Pump cycles on and off periodically when all the taps are closed.	Water leaking at outlet side of pump.	Check pipework/fittings for leaks and repair. Check system drain plugs are closed. System pressure relief valve too low (usually located at heater / calorifier).
Noisy operation	Pump drawing air.	See 'no water getting to pump' (above).
	Noise created by vibration.	Check pump is secured to solid surface. Check pump body is not in contact with hard surfaces. Locate away from interfering surfaces. Check pipework is securely supported.
Low flow	Bore of pipework connection too small.	Ensure 10mm minimum bore.
	Power supply to pump.	Check power supply to pump uses correct wire gauge, in line with relevant standards, to give full voltage at pump. Check battery is not discharged.
	Pipework/connections crushed due to over tightened jubilee clips.	Replace damaged connections.
	Pump too far from water tank.	Pump is best situated beside water tank.
	Water leaking at outlet side of pump.	Check pipework/fittings for leaks and repair. Check system drain plugs are closed.
	Pump strainer clogged.	Remove clear lid, rinse and replace to main strainer body (retain strainer mesh on lid).