



INSTALLATION AND OPERATION MANUAL DOWN PUMP

SHURflo's Blaster series pumps are designed to handle the harsh marine environment. Blaster motors have **precision ball bearings** supporting the armature. Each motor is protected by an integral **thermal breaker**, and are all **U/L Marine listed**. Blaster pressure **switches are sealed** and the motors are finished with a baked-on **polyurethane coating** to inhibit corrosion. The "Pro-Blaster" motor is sealed in an exceptionally tough **epoxy powder coated finish**, allowing it to be in environments where "splashed water" may be present. Blaster series pumps are enclosed to prevent incidental moisture from entering; however, they **are not submersible** units.

DUTY CYCLE

Wash-down pumps are rated for intermittent duty (only), as they operate at higher than average pressures. Operating a pump continuously for more than twenty (20) minutes, within an hour period, is not recommended. Actual duty cycle is determined by amp draw, temperature, and rate of cycling.

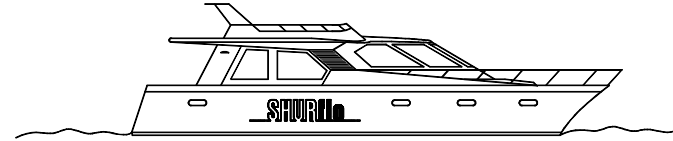
NOTE: Rapid cycling should be minimized to ensure long life. Rapid cycling is defined as ON/OFF within two seconds.

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MOUNTING

- 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 operation.
- Mount higher than the outside water (sea) level. The pump is capable of a 6 ft. [2M] vertical prime above the outside water level. The pump can be mounted in any position. If mounting the pump vertically, the pump head should be in the down position.

BLASTER™ SERIES WASH-



The Blaster delivers water on demand. With the spray nozzle off (output side closed) the pump will turn off. As the nozzle is opened the pressure within the hose (output side) drops. Once the pressure drops below a predetermined point the pumps pressure switch closes and the pump operates. With the nozzle set at a fine mist the pump will cycle, as it is able to pressurize the hose faster than water being released. If the spray nozzle is held wide open the pump will operate continually. The pump may momentarily operate even after the nozzle is closed, as it pressurizes the hose. Once the pressure setting is reached the switch opens and the pump stops.

CAUTION: *Do not* drive screws through the vessel's hull.

- Use #8 stainless steel hardware to fasten the pump. Choose a **solid** surface (bulkhead or stringer) that will not amplify pump sound. The mounting feet are intended to isolate the pump from the mounting surface; over-tightening, flattening, or oversized screws will reduce the mounting pads ability to isolate vibration/noise.

ELECTRICAL

- The pump should be on a dedicated (individual) circuit protected on the positive (+ red) lead with the proper size "slow blow" fuse. For all 12VDC pumps use a 15 amp fuse, on 24VDC pumps use a 10 amp fuse. The total current draw on the circuit **must not** exceed 15 amps.

- An ignition protected switch (U/L approved marine duty) rated at or above 15 amps is recommended, and must interrupt current flow on the positive (+ red) lead.

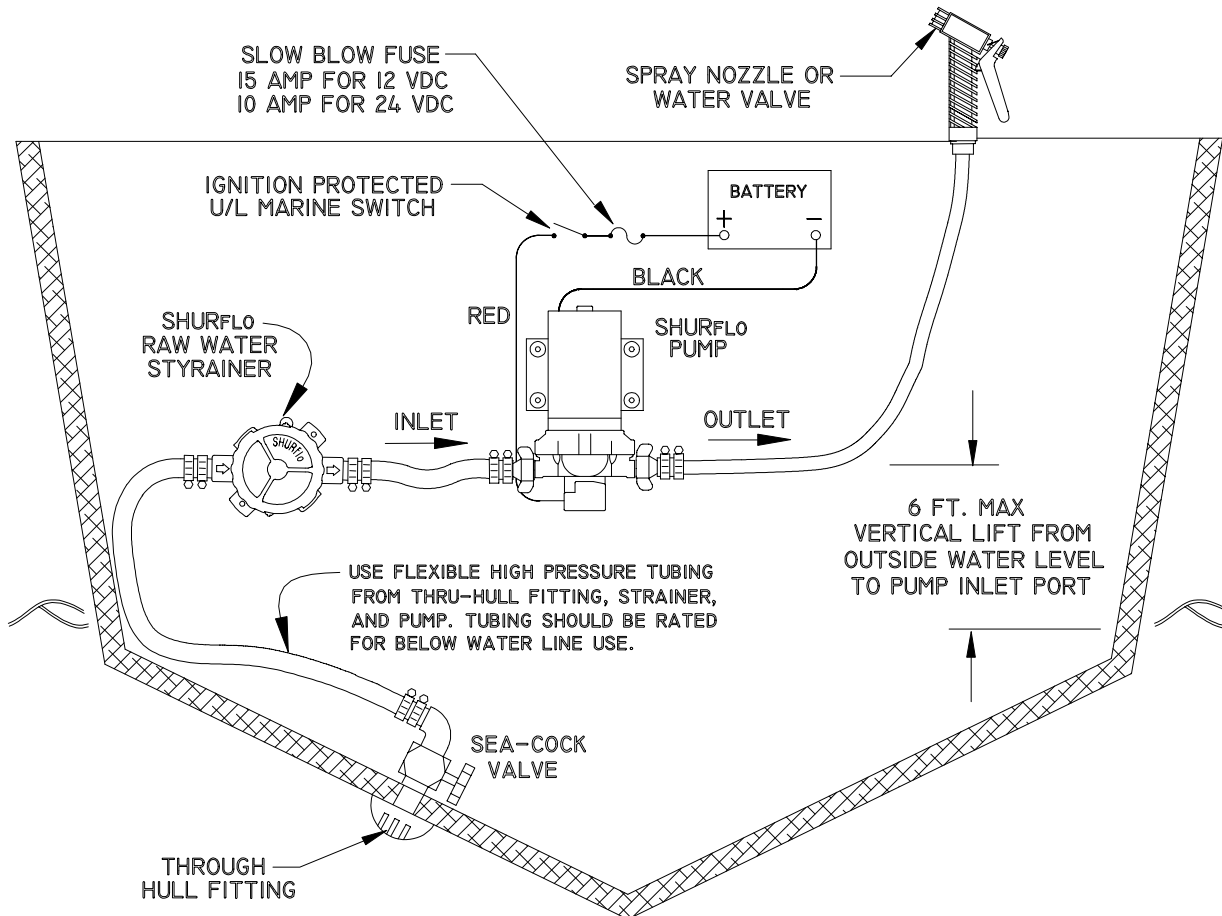
CAUTION: Use of "open" type switches (not ignition protected) may cause an explosion of fuel vapors.

- Wire size (gauge/mm²) is based on the distance from the power source to the pump. The minimum recommended wire size is #14 gauge [2.5mm²]. For lengths of 20-50 ft.[6-15M] use #12 gauge [4mm²].
- The pump must be grounded to a "known ground" (battery). The ground wire must be the same size as the positive wire.

PLUMBING

- SHURflo 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. Retail pump kits include two ¾" swivel barb fittings (straight/elbow) and an adapter to connect a standard garden hose to the pump outlet fitting.
- Avoid any sharp radius in tubing that may kink over time. Route tubing away from any heat (exhaust manifolds etc.) and fasten securely.

- Inlet tubing (½" I.D. min.) from the sea-cock valve to the pump should be rated for vacuum. If rigid pipe is utilized, SHURflo recommends that the pump inlet port be plumbed with 1 ft. [.3M] of flexible tubing. Standard garden hose is not suitable as inlet tubing as it may collapse under vacuum, reducing water flow.
- The pump outlet port **should not** be connected to rigid (plastic) pipe. Normal oscillation of the pump may transmit through rigid plumbing causing noise and possibly loosen or crack components. A 1ft. [.3M] length of flexible high pressure tubing is suggested.



STRAINER / FILTRATION

A wash-down system is only as dependable as the water available to pump. A strainer with adequate capacity to trap debris **must** be part of the system. Screen with a maximum hole size of .025" [0.6mm] (#40 mesh) with a total filtration area of 7 sq. in. [45 cm²] or larger provides

sufficient capacity under most on conditions. The interval for cleaning will be determined by the amount of debris encountered. Check the strainer before and after each use. **Failure due to debris will not be covered under warranty.**

CAUTION: The strainer **must** be mounted above the outside water line to prevent water from siphoning during cleaning, without closing the sea-cock valve. Mount the strainer where it can be inspected and cleaned easily.

NOTES:

- To prevent cavitation, through hull fittings should be located at least 12 in. off the center line of the water pick-up for the motor.
- The through hull fitting should have a sea-cock valve to shut-off in case of an emergency.
- Always use high quality non-corrosive fittings, valves and hardware to assure long term reliability.
- Properly seal all pipe threads before the strainer to prevent unforeseen leaks. **Never** use Teflon tape or sealing compounds on pump threads. Sealer may enter the pump causing a failure not covered under warranty.

TROUBLESHOOTING

Vibration induced by sea conditions or transporting may cause plumbing or pump hardware to loosen. Check for system components that are loose. Many symptoms could be resolved by simply tightening. Check the following items along with other particulars of the system.

PUMP WILL NOT START/ BLOWS CIRCUIT:

- ✓ Is the motor hot? Thermal breaker may have triggered; it will reset when cool.
- ✓ Electrical connections, fuse, main switch, and ground. (corrosion)
- ✓ Is voltage present at the switch? Bypass the pressure switch. Does the pump operate?
- ✓ Charging System for voltage ($\pm 10\%$) and good ground.
- ✓ For an open or grounded circuit, or motor; or improperly sized wire.
- ✓ For seized or locked diaphragm assembly .

WILL NOT PRIME/SPUTTERS: (No discharge/Motor runs)

- ✓ Is the strainer clogged with debris?
- ✓ Is there debris in the through hull fitting?
- ✓ Is the inlet plumbing sucking in air at plumbing connections (vacuum leak)?
- ✓ Is inlet/outlet plumbing severely restricted or kinked?
- ✓ Proper voltage with the pump operating ($\pm 10\%$).
- ✓ For debris in pump inlet/outlet valves or swollen/dry valves.
- ✓ Pump housing for cracks or loose drive assembly screws.

PUMP WILL NOT SHUT-OFF / RUNS WHEN NOZZLE IS CLOSED:

- ✓ Output side (pressure) plumbing for leaks.
- ✓ For air trapped in outlet side or pump head.
- ✓ For correct voltage to pump ($\pm 10\%$).
- ✓ For loose drive assembly or pump head screws.
- ✓ Is the internal check valve held open? Are the valves swollen or held open by debris?
- ✓ Pressure switch operation/adjustment incorrect.

NOISY OR ROUGH OPERATION:

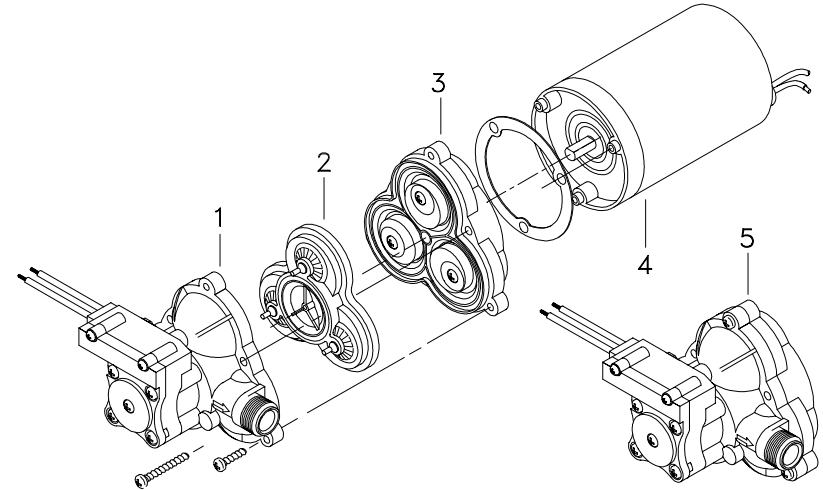
- ✓ For plumbing which may have vibrated loose.
- ✓ Is the pump plumbed with rigid pipe causing noise to transmit?
- ✓ Does the mounting surface multiply noise (flexible)?
- ✓ For mounting feet that are loose or compressed too tight.
- ✓ For loose pump head or drive screws.
- ✓ The motor with pump head removed (3 long screws). Is noise from motor or pump head?

LEAKS FROM PUMP HEAD OR SWITCH:

- ✓ For loose screws at switch or pump head.
- ✓ Switch diaphragm ruptured or pinched.
- ✓ For punctured diaphragm if water is present in drive assembly.
- ✓ Check for damaged pump head (cracked).

SERVICE KITS

To insure the correct service kit, order by the complete model number, date of manufacture and name plate data. Part kits come with complete repair instructions.



1	Switch / Check valve and Upper Housing Kit (Replaces all previous switch designs)
2	Valve plate assembly
3	Diaphragm / Drive assembly w/gsk.
4	Motor
5	Complete Pump Head assembly (includes parts # 1,2,3) (Replaces all previous switch designs)

CE CONFORMITY (Europe)

SHURflo pump models with the **CE** mark printed on the motor label conform with the EU EMC directive 89/336/EEC as specified in EN 55014 (1993) and meet the essential health and safety requirements. These models are intended solely for battery operation and comply with RFI power limits. Conducted emissions limits are not applicable on these models, since they are not intended for applications in which the pump is directly or indirectly connected to the power main.

WINTERIZING

If water is allowed to freeze in the system, serious damage to the plumbing and pump may occur. Failures of this type will void the warranty. The best guarantee against damage is to completely drain the wash down system. To properly drain the system perform the following:

1. Turn OFF power to the pump. Close the sea-cock valve at the through-hull fitting. All water in the inlet tubing should be drained.
2. Remove both inlet/outlet port connections at the pump and drain the tubing.
3. Turn the pump ON and allow water inside the pump to be purged. It is recommended that the pump's inlet/outlet port not be reconnected.
4. Make a note at both the sea-cock valve and hose spray nozzle that the "Plumbing is Disconnected".

LIMITED WARRANTY

SHURflo warrants Blaster series pumps to be free from material and workmanship defects under normal use and service for a period of one year from the date of purchase. In the absence of proof of purchase the warranty is one year from the date of manufacture indicated on the motor name plate, not to exceed two years in any event.

"Pro Blaster" models are warranted for two years from the date of manufacture as indicated on the motor name plate.

Pumps used in commercial applications are warranted for three months from date of purchase only (proof required).

The limited warranty will not apply to pumps that were improperly installed, misapplied, or incompatible with components not manufactured by SHURflo. Pump failure due to foreign debris is not covered under the terms of this limited warranty. SHURflo will not warrant any pump that is physically damaged, or altered outside the SHURflo factory.

Warranty claims may be resolved by an authorized dealer service center, or by a SHURflo service center. All returns are to be shipped with charges pre-paid. Package all returns carefully. SHURflo will not be responsible for freight damage incurred during shipping to a service center.

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GENERAL SAFETY PRECAUTIONS

- When the vessel is not in use the main power switch and sea-cock valves should be OFF. However, if left afloat the bilge pump should still have power.
- If fuel vapor is detected never operate the engine or electrical equipment, until the source is located and/or properly vented.
- Electrical connections should be soldered and insulated to prevent shorts and corrosion. Wiring should be routed away from areas prone to water and excess moisture.
- Be a responsible boater, don't pollute our oceans and waterways.

OPTIONAL FITTINGS

SHURflo supplies taper-seal swivel-barb fittings to connect to the pumps 1/2" threaded ports to various tubing sizes .

TUBING	ELBOW	STRAIGHT
1/2"	8-070-01	8-034
5/8" [15.5	8-155	8-154
3/4"	8-157	8-156
Garden Hose Adapter		8-150-01
Blaster Spray Nozzle		15-010

☐ Included with a retail Blaster pump kits (Aftermarket).

SHURflo's obligation under this warranty policy is limited to the repair or replacement of the pump. Pumps found not defective (under the terms of this limited warranty) are subject to charges to be paid by the returnee for the testing and packaging of "tested good" units.

Warranty returns will be shipped on a freight allowed basis. SHURflo reserves the right to choose the method of transportation.

SHURflo is not responsible nor will it reimburse for labor necessary to remove and reinstall a pump, if found defective

This warranty is only a representation of the complete Marine Products Limited Warranty outlined by Service Bulletin #1050.



★ ISO Certified Facility



SHURflo reserves the right to update specifications, prices, or make substitutions.

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