



# SHURFLO® REVOLUTION™ 3 GPM

## 115V AC PARK MODEL PUMP

MODEL SERIES 4008

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New SHURFLO® 4008 REVOLUTION™ Designed for potable water applications



### BENEFITS

- 4 independent chambers
- Co-Molded diaphragm
- Adjustable pressure switch
- Adjustable by-pass
- Self-priming up to 6 feet
- Thermally protected
- CSA Listed

### 4008 REVOLUTION™

SHURflo's 4008 pumps are equipped to deliver high performance and reliability every time they are used. SHURflo's potable water pumps operate four independent pumping chambers which allow the pump to self-prime and lift water up to 6 feet. With smooth flow and uninterrupted operation, the 4008 Revolution pumps include a built-in check valve to prevent back flow into the tank. Each pump features an adjustable pressure switch and by-pass and has the capability to run dry without damage to the pump or motor.

### INSTALLATION TIPS

- Mount on a solid surface within 6 feet of tank
- Properly sized plumbing
- Proper electrical protection
- Properly sized wiring
- Use proper fuse size
- Strainer on pump inlet
- Dry and accessible location
- Minimize plumbing elbows and valves
- Flexible high-pressure hose on inlet and outlet
- No accumulator needed

### OPERATION TIPS

- Do not adjust switch or bypass settings without contacting customer service
- Pump is design for intermittent operation only
- Turn off power to the pump when RV is unattended
- Maintain your strainer clean for ultimate pump performance
- Do not use pump for Reverse Osmosis filtration system

**CAUTION:**

“Intermittent Duty” is defined as; operated and/or frequently started within a period of time that would cause the motor to reach its maximum thermal limits. Once the maximum thermal limit is obtained, the motor must be allowed to return to ambient temperature before resuming operation.

**CAUTION:**

**DO NOT** use to pump flammable liquids. Never operate the pump in an explosive environment. Arcing from the motor brushes, switch or excessive heat from an improperly cycled motor may cause an explosion.

**CAUTION:**

To prevent electrical shock, disconnect power before initiating any work. In the case of pump failure, the motor housing and/or the pumped fluid may carry high voltage to components normally considered safe.

**CAUTION:**

Improper adjustment of the pressure switch and by-pass, may cause severe overload or premature failure. Refer to “about the by-pass” section for adjustment details. Failures due to improper adjustment of the pressure switch and by-pass will not be covered under the limited warranty.

**CAUTION:**

**DO NOT** locate the motor near low temperature plastics or combustible materials. The surface of the motor may exceed 250°F [120°C]. The pump may be mounted in any position. However, if mounting the pump vertically the pump head should be in the down position so that in the event of a leak, fluid will not enter the motor. Secure the rubber feet with #8 hardware. **DO NOT** compress the feet, doing so will reduce their ability to isolate vibration/noise.

**CAUTION:**

All 115 VAC pump motors and systems, **MUST** be grounded per local and state electrical codes.

VOLTAGE	WIRE LEADS:	WIRE SIZE	FUSE RATING
115 VAC	BLACK (COMMON) WHITE (NEUTRAL) GREEN (GROUND)	#16 AWG C-UL - TEW / UL 1015	LABEL

**GENERAL INFORMATION**

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

**MOUNTING:**

- The best mounting position is 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. Mount the pump within 6 feet total for best performance.
- Mount in a location that allows access for maintenance of the pump and strainer. The pump should be located in a ventilated space. Excessive heat may trigger the integral thermal breaker and interrupt operation. When the temperature drops the breaker will automatically reset and start operation.
- The pump may be mounted in any position.
- Choose a **solid** surface (thick plywood) that will not amplify pump operation. The mounting feet are intended to isolate the pump from the mounting surface; over tightening, flatterring or use of oversize screws will reduce the ability to isolate vibration and noise through the lines.

**ELECTRICAL:**

The pump should be on a dedicated (individual circuit), protected by the specified fuse or circuit breaker indicated on the motor label.

**PLUMBING:**

Installation of a strainer is required to prevent debris from entering the pump. For noise and vibration reduction we recommend at least 18 in. [.5 m] of 1/2" [13mm] I.D. flexible high-pressure hose to both ports. The pump ports and strainer **should not** be

connected to plastic or rigid pipe. This hose should be anchored where it meets the hard plumbing to reduce plumbing vibration.

### **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 power to the pump OFF when leaving the RV unattended.

### **About the By-Pass**

**NOTE: By-pass adjustment should only be performed by a qualified technician with proper gauges 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 40 psi and creating 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 are adjusted too much, the by-pass and switch shut-off can overlap and **THE PUMP WILL NOT SHUT OFF**. Screwing the switch screw in clockwise will raise the 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 raise the full by-pass pressure. Unscrewing the by-pass screw counterclockwise will lower the pressure at which by-pass starts and lower the full by-pass pressure. **WARNING: If full by-pass is reached before the shut-off setting, the pump will not shut off.** Full by-pass pressure setting should be at least 10 psi higher than pump shut off pressure.

### **Sanitizing**

Potable water systems require periodic maintenance to keep components working properly and deliver a consistent flow of fresh water. Sanitizing is recommended: prior to storing, after a period of storage, or any time the system is opened or contaminated, as follows: **NOTE: Check your Vehicle Owner's Manual for specific instructions. By-pass any filters or remove filter cartridges.**

1. Determine the amount of common household bleach needed to sanitize the tank.  
A) 2 ounces of bleach per 15 gallons tank size: 60 gallon tank [15 x 4] = 4 x 2 ounces = 8 ounces of bleach.  
B) 1 ml bleach per 1 liter tank size: 300 liter tank = 300 milliliters of bleach.
2. Mix the bleach with water in a container such as a gallon jug. If tank is filled through a pressurized fitting, pour the bleach into the hose before attaching the hose to the city water entry.
3. Pour the bleach solution into the tank and fill the tank with potable water. Rock the RV back and forth to coat top and sides of potable water tank.
4. Open **all** faucets (Hot & Cold) allowing the water to run until the odor of chlorine is detected. Allow four (4) hours of contact time to disinfect completely. Doubling the solution concentration allows for a contact time of one (1) hour.
5. Drain the tank. Refill the tank and flush the system once or twice until the odor has decreased. The residual chlorine odor and taste is not harmful.

### **Winterizing Refer to the vehicle owner's manual for specific winterizing instructions.**

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 pump and perform the following:

1. Drain the water tank. If the tank doesn't have a drain valve, open all faucets allowing the pump to operate until the tank is empty.
2. Open all the faucets (including the lowest valve or drain in the plumbing), allow the pump to purge the water from the plumbing, and then turn the pump OFF.
3. 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 the pump plumbing. Make a note at tank filler as a reminder: "Plumbing is disconnected".
4. All faucets must be left open to guard against any damage.
5. Potable anti-freeze may be poured down drains and toilets to protect p-traps and toilet seals. Sanitize the plumbing system before putting the plumbing system back in service.

### **Troubleshooting:**

**Vibration induced by driving can loosen plumbing, strainers and pump hardware. Check for system components that are loose. Also, refer to the chart below for trouble-shooting tips.**

#### **PUMP WILL NOT START / BLOWS CIRCUIT:**

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

#### **PUMP WILL NOT SHUT-OFF / RUNS WHEN FAUCET IS CLOSED:**

- ✓ Output side (pressure) plumbing for leaks, and inspect for leaky valves or toilet.
- ✓ For air trapped in outlet side (water heater) or pump head.
- ✓ For correct voltage to pump ( $\pm 10\%$ ).
- ✓ For loose drive assembly or pump head screws.
- ✓ Are the valves held open by debris or is the rubber swollen?
- ✓ Pressure switch operation. By-pass set higher than shut-off.

**WILL NOT PRIME / SPITTERS: (No discharge/Motor runs:**

- ✓ Is the strainer clogged with debris?
- ✓ Is there water in the tank, or has air collected in the hot water heater?
- ✓ Is the inlet tubing/plumbing sucking in air at plumbing connections (vacuum leak)?
- ✓ Is inlet/outlet plumbing severely restricted or kinked? Restrictive valves?
- ✓ 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.

**RAPID CYCLING:**

- ✓ For restrictive plumbing and flow restrictions in faucets/shower heads.
- ✓ Water filter/purifier should be on separate feed line.
- ✓ Shut-off pressure set too low.

**NOISY OR ROUGH OPERATION:**

- ✓ For plumbing which may have vibrated loose.
- ✓ For a restricted inlet (clogged strainer, kinked hose, restrictive valves).
- ✓ Is the pump plumbed with rigid pipe causing noise to transmit?
- ✓ Does the mounting surface amplify noise (flexible)? Does it bang like a drum?
- ✓ For mounting feet that are loose or are compressed too tight.
- ✓ For air in the system. Check all fixtures for air and bleed system.
- ✓ The motor with pump head removed. Is noise from motor or pump head?

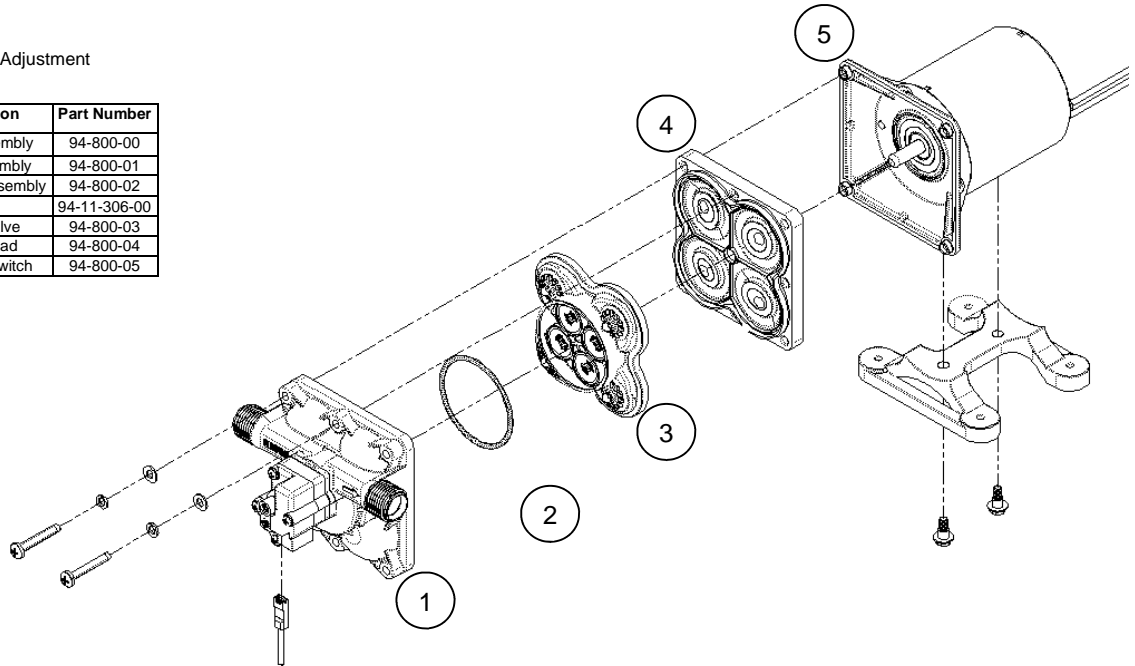
**LEAKS FROM HEAD OR SWITCH:**

- ✓ For loose screws at switch, by-pass or pump head.
- ✓ Switch diaphragm ruptured or pinched.
- ✓ For punctured diaphragm if water is present in the drive assembly.

**REPAIR KITS**

\*With Preset Switch Adjustment

Number	Description	Part Number
1	Upper Assembly	94-800-00
2,3	Valve Assembly	94-800-01
4	2.5" Drive Assembly	94-800-02
5	Motor	94-11-306-00
N/S	Check Valve	94-800-03
1,2,3,4	Pump Head	94-800-04
N/S	Pressure Switch	94-800-05

**LIMITED WARRANTY**

SHURflo warrants its aftermarket retail 4008 series potable water pumps to be free from material and workmanship defects under normal use and service for 2 years from the date of purchase with purchase receipt or 2 years from the date of manufacture indicated on the motor nameplate if no purchase receipt is available, as outlined in document MS-030-152. Pumps installed as original equipment are warranted for 1 year, and fall under the warranty supplied by the manufacturer, as outlined in document MS-030-123. This limited warranty is in lieu of all other warranties, expressed or implied (including without limitation implied warranties of merchantability and fitness for a particular purpose), and no other person is authorized to give any other warranty or assume obligation or liability on SHURflo's behalf. SHURflo shall not be liable for any labor, damage or other expense, nor shall SHURflo be liable for any indirect, incidental or consequential damages of any kind incurred by the use or sale of any defective Product or part. This limited warranty covers Products distributed within the United States of America and Canada. Other world market areas should consult with the distributor for any deviation from this document. The limited warranty will not apply to pumps that were improperly installed, misapplied, or are incompatible with components not manufactured by SHURflo. Product failure due to foreign debris is not covered under the terms of this limited warranty. SHURflo will not warrant any Product that is physically damaged, or altered outside SHURflo. Warranty claims may be resolved by an authorized dealer service center, or by a SHURflo service center. 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. For complete Limited Warranty details, consult SHURflo.

3545 Harbor Gateway South, Ste. 103, Costa Mesa, CA 92626, (800) 854-3218 [www.SHURFLO.com](http://www.SHURFLO.com)

SHURFLO Europe, Middle East, Africa

Pentair Water Belgium bvba, Industriepark Wolfstee, Toekomstlaan 30, B-2200 Herentals, Belgium, +32-14-283500

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