

## Johnson Pump 05903-00

# Johnson Pump Cartridge Combo 1000GPH Auto Bilge Pump with Switch

MODEL: 05903-00

User Manual

## 1. Introduction

This manual provides essential instructions for the safe installation, operation, and maintenance of your Johnson Pump Cartridge Combo 1000GPH Auto Bilge Pump with Switch, Model 05903-00. This 12V electric submersible pump is designed for automatic removal of bilge water from marine vessels. Please read this manual thoroughly before installation and use to ensure proper function and longevity of the product.

## 2. Safety Information

Adherence to the following safety guidelines is crucial to prevent personal injury and product damage.

- **Electrical Safety:** Always disconnect power before installing, servicing, or performing maintenance on the pump. Ensure all electrical connections are waterproof and comply with marine electrical standards (e.g., ABYC). Use appropriately sized wiring and fuses.
- **Installation:** Install the pump in a location where it can effectively collect bilge water and be easily accessed for inspection and maintenance. Ensure the discharge hose is properly routed and secured to prevent kinks or blockages.
- **Water Level:** This pump is designed for intermittent use to remove accumulated bilge water. It is not intended for continuous operation or as a primary dewatering pump for sinking vessels.
- **Flammable Liquids:** Do not pump flammable liquids, gasoline, or other hazardous chemicals. This pump is designed for water only.
- **Temperature:** Do not operate the pump in temperatures exceeding 100°F (38°C).

## 3. Package Contents

Verify that all components are present before beginning installation:

- Johnson Pump Cartridge Combo 1000GPH Auto Bilge Pump unit with integrated automatic switch.
- Straight hose barb fitting.

- 90-degree elbow hose barb fitting.
- User Manual (this document).



**Figure 1:** Johnson Pump Cartridge Combo 1000GPH Auto Bilge Pump with its integrated automatic switch and included hose barb fittings (one straight, one elbow). The pump features a red body and a black base with the Johnson Pump logo.

## 4. Product Overview

The Johnson Pump Cartridge Combo 1000GPH Auto Bilge Pump is a compact and efficient solution for marine bilge water management. It features a removable cartridge motor for easy maintenance and an integrated automatic float switch for hands-free operation. The pump is designed for 12V DC systems and offers a flow rate of 1000 gallons per hour (GPH).

### Key Components:

- **Pump Body:** The main housing containing the impeller and motor.
- **Cartridge Motor:** Easily removable for inspection, cleaning, or replacement without disconnecting the entire pump housing or plumbing.
- **Automatic Switch:** An integrated float switch that activates the pump when water levels rise and deactivates it when water is removed.
- **Strainer Base:** Filters out debris to prevent clogging.
- **Discharge Port:** Threaded connection for hose barb fittings.

## 5. Installation

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Proper installation is critical for optimal performance and safety.

### 5.1 Mounting the Pump

1. Select a flat, level surface in the lowest part of the bilge where water collects. Ensure the pump is positioned to allow the automatic switch to operate freely.
2. Secure the pump base to the mounting surface using appropriate marine-grade fasteners (not included). Ensure the base is firmly attached to prevent movement during vessel operation.
3. Snap the pump body onto the secured base.

### 5.2 Plumbing Connections

1. Choose the appropriate hose barb fitting (straight or 90-degree elbow) for your discharge hose routing.
2. Thread the chosen fitting securely into the pump's discharge port. Use a marine-grade sealant on the threads to ensure a watertight connection.
3. Connect a marine-grade discharge hose (not included) of suitable diameter to the hose barb fitting. Secure the hose with a stainless steel hose clamp.
4. Route the discharge hose upwards to a through-hull fitting, ensuring a continuous rise to prevent back siphoning. If a loop is necessary, ensure it is above the waterline.

### 5.3 Electrical Wiring (12V DC)

**WARNING:** Improper wiring can lead to fire, electrical shock, or pump failure. Consult a qualified marine electrician if you are unsure.

- **Red Wire:** Connect to a 12V DC positive (+) power source, preferably through a dedicated bilge pump fuse or circuit breaker. This provides power for automatic operation via the float switch.
- **Brown Wire:** Connect to a 12V DC positive (+) power source, typically through a manual override switch on your vessel's electrical panel. This allows for manual activation of the pump.
- **Black Wire:** Connect to a 12V DC negative (-) ground.
- Ensure all connections are crimped, soldered, and sealed with marine-grade heat shrink tubing or waterproof connectors to prevent corrosion and short circuits.
- Install an appropriate fuse in the positive supply line. Refer to the pump's specifications for recommended fuse size (typically 5-10 Amps for a 1000 GPH pump).

## 6. Operation

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The Johnson Pump Cartridge Combo 1000GPH Auto Bilge Pump operates in two modes:

- **Automatic Mode:** When the red wire is connected to a constant 12V DC positive source, the integrated float switch will automatically activate the pump when the water level rises to a predetermined height. The pump will continue to run until the water level drops, at which point the switch will deactivate the pump.
- **Manual Override:** If the brown wire is connected to a manual switch, you can activate the pump regardless of the water level. This is useful for testing or for situations requiring immediate dewatering. Ensure the manual switch is returned to the "OFF" position after use to prevent continuous operation and potential battery drain.

### 6.1 Testing the Pump

After installation, test the pump's operation:

1. Pour water into the bilge until the automatic switch activates the pump. Observe the water discharge.
2. Allow the pump to run until the water level drops and the pump deactivates.

- 3. If a manual override switch is installed, activate it to ensure the pump runs independently of the float switch.
- 4. Check all connections for leaks.

## 7. Maintenance

Regular maintenance ensures reliable operation and extends the life of your bilge pump.

- **Monthly Inspection:** Visually inspect the pump, wiring, and hose for any signs of wear, corrosion, or damage. Ensure the strainer base is clear of debris.
- **Cleaning the Strainer:** Periodically remove the pump from its base (by releasing the clips) and clean any accumulated debris from the strainer and impeller area.
- **Cartridge Replacement:** The motor cartridge is designed for easy replacement. If the motor fails, a new cartridge can be installed without replacing the entire pump housing or disturbing plumbing.
- **Winterization:** In freezing climates, ensure the pump and discharge hose are completely drained of water to prevent damage from ice expansion.

## 8. Troubleshooting

| Problem                                              | Possible Cause                                                                  | Solution                                                                                                                             |
|------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Pump does not run.                                   | No power; Blown fuse; Loose wiring connection; Faulty switch; Clogged impeller. | Check battery voltage; Replace fuse; Inspect and secure all electrical connections; Test switch operation; Clear impeller of debris. |
| Pump runs but no water is discharged or flow is low. | Clogged strainer; Kinked or blocked discharge hose; Air lock; Impeller damage.  | Clean strainer; Inspect and clear discharge hose; Briefly lift and lower pump to release air; Inspect impeller for damage.           |
| Pump runs continuously.                              | Stuck float switch; Wiring error; Back siphoning.                               | Inspect float switch for obstruction; Verify wiring connections; Ensure discharge hose has an anti-siphon loop or check valve.       |

## 9. Specifications

**Model:** 05903-00  
**Brand:** Johnson Pump  
**Flow Rate:** 1000 Gallons Per Hour (GPH)  
**Voltage:** 12 Volts DC  
**Power Source:** Electric  
**Style:** Submersible, Cartridge Type  
**Material:** Stainless Steel (internal components), Durable Plastic (housing)  
**Integrated Switch:** Automatic Float Switch  
**Item Weight:** Approximately 1.15 pounds (0.52 kg)  
**Package Dimensions:** Approximately 7 x 7 x 7 inches (17.8 x 17.8 x 17.8 cm)

## 10. Warranty and Support

Johnson Pump products are manufactured to high-quality standards. For specific warranty information, please refer to the warranty card included with your product or visit the official Johnson Pump website. For technical support, parts, or service

inquiries, please contact Johnson Pump customer service directly.

**Manufacturer:** Johnson Pump

**Website:** [Visit the Johnson Pump Store on Amazon](#) (for general brand information)

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