Moonshan MS-RO-200G

Moonshan 200GPD RO Booster Pump (Model MS-RO-200G) Instruction Manual

For Reverse Osmosis Water Filtration Systems

1. Introduction

This instruction manual provides essential information for the safe and efficient installation, operation, and maintenance of your Moonshan 200GPD Booster Pump, Model MS-RO-200G. This pump is designed to enhance the performance of Reverse Osmosis (RO) water filtration systems by increasing water pressure, ensuring optimal filtration efficiency and consistent water flow. Please read this manual thoroughly before installation and operation.

2. Safety Information

- Ensure the power supply matches the pump's specifications (24V DC adapter).
- Do not operate the pump with damaged wiring or power adapter.
- Keep electrical connections dry and away from water.
- Disconnect power before performing any maintenance or installation procedures.
- This pump is designed for use with RO systems under 200 GPD. Using it with systems above this capacity is not recommended.
- Ensure all connections are secure to prevent leaks.

3. Package Contents

Verify that all components are present in the package:

- Moonshan 200GPD Booster Pump (Model MS-RO-200G)
- High-Pressure Switch
- 1/4" RO Water Tube (3.28 inches) x1
- 3/8" to 1/4" Quick Connector (Pre-installed) x1
- 3/8" to 1/4" Quick Connector-L Type x2
- Connection Wire x1
- 2.5mm T-shaped Flat Head Hex Wrench x1 (for pressure adjustment)
- 24V Power Adapter x1

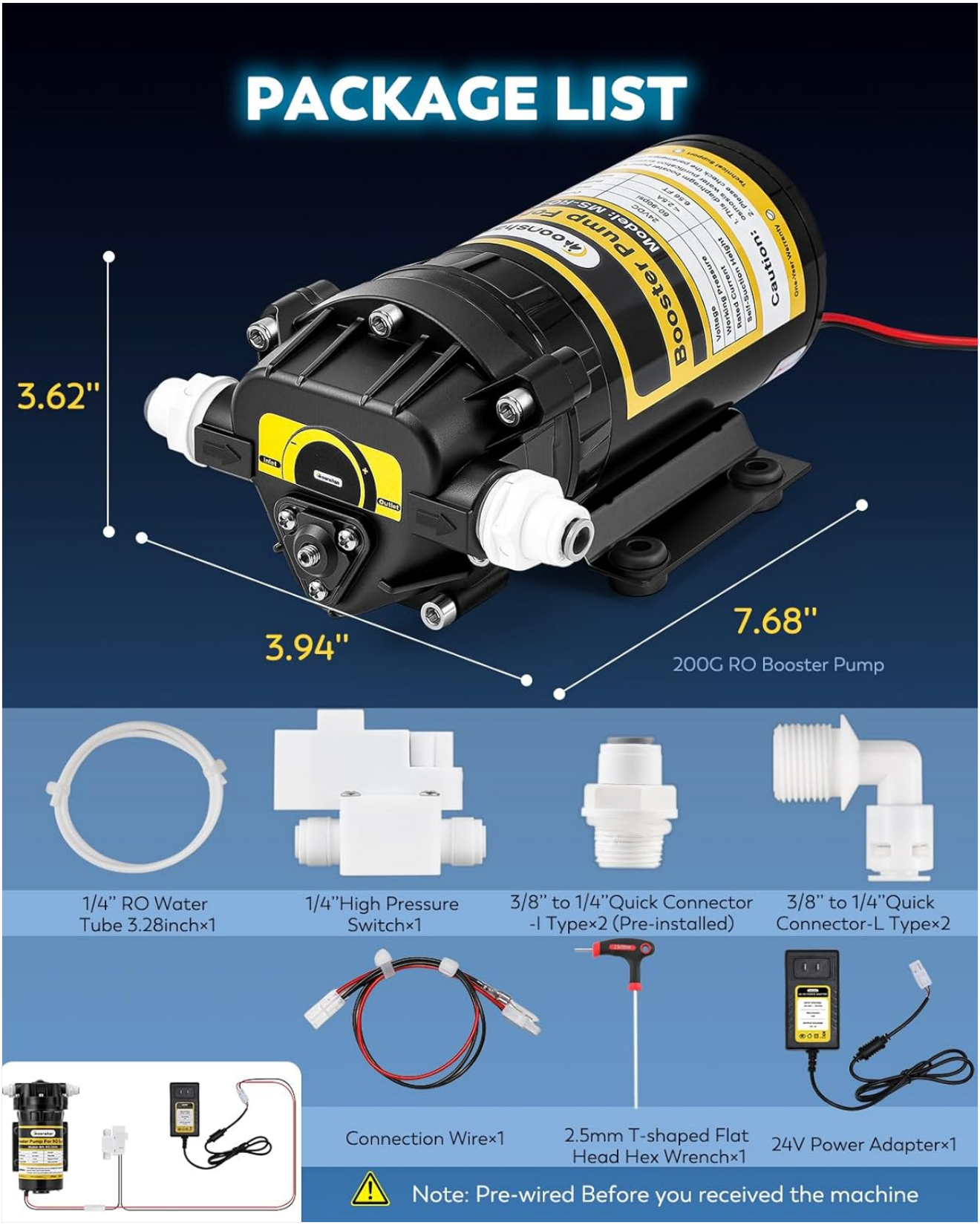

Figure 3.1: Included components of the Moonshan 200GPD Booster Pump kit.

4. Setup and Installation

The Moonshan booster pump features a quick-connection design for straightforward installation. Follow these steps to integrate the pump into your RO system:

4.1 System Overview

Figure 4.1: Typical installation diagram for the booster pump in an RO system.

4.2 Quick Connection Steps

1. **Connect AC Quick-Connect Terminal Cable:** Attach the AC quick-connect terminal cable to the pump's power input.
2. **Connect 1/4" Quick Connectors:** Utilize the provided 1/4" quick connectors to integrate the pump into your RO system's water lines. Ensure a secure fit to prevent leaks. The kit includes both 'I-shaped' and 'L-shaped' fittings for flexible installation.
3. **Install High-Pressure Switch:** Connect the high-pressure switch into the RO system's permeate line (after the RO membrane but before the storage tank). This switch controls the pump's auto start/stop function based on tank

pressure.

4. **Connect Power Adapter:** Plug the 24V power adapter into a suitable electrical outlet.

Figure 4.2: Quick-connect terminal cable and 1/4" quick connector installation.

4.3 Placement and Compatibility

- Mount the pump in a stable, dry location, typically under the sink near your RO unit.
- The pump is compatible with RO systems rated up to 200 GPD. It is not recommended for systems exceeding this capacity.

- The pump is equipped with shock-absorbing rubber feet to reduce operational noise and vibration.

Figure 4.3: Pump compatibility and inlet pressure range.

5. Operating Instructions

5.1 Automatic Operation

The integrated high-pressure switch enables automatic operation. The pump will:

- **Start Automatically:** When the pressure in the RO storage tank drops (e.g., when water is drawn from the faucet),

the pump will automatically turn on to supply pressurized water to the RO membrane.

- **Stop Automatically:** When the RO storage tank reaches its full pressure capacity, the high-pressure switch will detect this and automatically turn off the pump, conserving energy and preventing over-pressurization.

5.2 Pressure Adjustment

The working pressure of the pump can be adjusted to suit environmental conditions and specific RO system requirements. Use the provided 2.5mm T-shaped flat head hex wrench to adjust the pressure screw on the pump. This allows you to fine-tune the output pressure, typically boosting inlet pressure from 30-40 psi to a robust 60-80 psi.

Figure 5.1: Adjusting the working pressure with the hex wrench.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your booster pump:

- **Inspect for Leaks:** Periodically check all connections and tubing for any signs of leaks. Tighten connections as needed.
- **Clean Exterior:** Keep the pump's exterior clean and free from dust or debris. Use a soft, damp cloth for cleaning.
- **Check Power Cord:** Ensure the power cord and adapter are free from damage. Replace immediately if any damage is observed.
- **Listen for Unusual Noises:** While the pump is designed for quiet operation (around 30dB), listen for any unusual or excessive noise, which could indicate an issue.

7. Troubleshooting

Refer to the following table for common issues and their solutions:

Problem	Possible Cause	Solution
Low water flow or slow tank filling	Insufficient inlet pressure; Clogged filters; Incorrect pump pressure setting.	Verify adequate inlet water pressure. Check and replace RO filters if necessary. Adjust pump working pressure using the hex wrench.
Pump does not turn on	No power; Faulty high-pressure switch; Loose electrical connection.	Check power adapter connection and outlet. Ensure all electrical connections are secure. Test or replace the high-pressure switch if it's not activating the pump.
Pump runs continuously	Faulty high-pressure switch; System leak; Low tank pressure.	Inspect for leaks in the RO system. Check the high-pressure switch for proper function. Ensure the RO tank is not damaged or losing pressure.
Water leaks from connections	Loose fittings; Damaged O-rings/seals; Incorrectly installed tubing.	Ensure all quick-connect fittings are fully inserted and locked. Inspect O-rings and seals for damage and replace if necessary. Apply additional thread tape if needed for threaded connections.

Problem	Possible Cause	Solution
Excessive wastewater	Low feed water pressure; Clogged flow restrictor; Damaged RO membrane.	Ensure the booster pump is providing adequate pressure. Check the flow restrictor for blockages. Inspect and replace the RO membrane if it is old or damaged.

8. Specifications

Feature	Specification
Brand	Moonshan
Model Number	MS-RO-200G
Material	Plastic
Style	200GPD
Product Dimensions	7.7"L x 4"W x 3.6"H
Power Source	Corded Electric (24V DC Adapter)
Maximum Flow Rate	1.5 Liters Per Minute
Maximum Lifting Height	6.56 Feet
Special Features	Adjustable Pressure, Auto Start/Stop Function
Item Weight	5.74 pounds

9. Warranty and Support

Moonshan products are manufactured to high-quality standards. This product is covered by a manufacturer's warranty against defects in materials and workmanship. For specific warranty details, duration, and to obtain support, please refer to the warranty card included with your product or contact Moonshan customer service directly. Please have your model number (MS-RO-200G) and purchase date available when contacting support.