Premier Water Systems RO1000AQ203STX

Premier Commercial Grade 1000 GPD Reverse Osmosis Water Filtration System Instruction Manual

Model: RO1000AQ203STX

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the Premier Commercial Grade 1000 GPD Reverse Osmosis Water Filtration System, model RO1000AQ203STX. This system is designed to provide ultra-pure filtered water for various commercial and industrial applications, including restaurants, bars, schools, laboratories, aquariums, and hydroponic setups. It is engineered to remove up to 99% of contaminants, such as arsenic, chlorine, lead, fluoride, and heavy metals.

The system features three high-capacity 2.5" x 20" pre-filters and a stainless steel membrane housing, offering a high output of up to 1000 gallons per day (GPD) at 100 PSI. Production rates may vary with lower water pressure (e.g., 700 GPD at 70 PSI).

2. Safety Information

- Read all instructions carefully before installation and operation.
- Ensure all connections are secure to prevent leaks.
- Do not operate the system with damaged components.
- Always turn off the water supply before performing any maintenance or filter changes.
- Keep the system away from direct sunlight and extreme temperatures.
- This system is designed for cold water applications only.

3. Package Contents

Verify that all components are present before beginning installation:

- Sediment Filter (2.5" x 20")
- Carbon Block Filter (2.5" x 20")
- GAC/KDF 85 Filter (2.5" x 20")
- UV Protective Filter Housing (3 units)
- Stainless Steel Membrane Housing
- Inlet Hose
- Outlet Hose
- Instruction Manual (this document)



Image 1: Overview of the Premier Commercial Grade 1000 GPD Reverse Osmosis Water Filtration System, showing the three pre-filter housings and the stainless steel membrane housing mounted above.

4. Setup and Installation

The Premier RO system is designed for under-sink installation or similar commercial setups. Professional installation is recommended.

4.1 Pre-Installation Steps

1. **Unpack Components:** Carefully remove all items from the packaging and inspect for any shipping damage.
2. **Choose Location:** Select a suitable location, typically under a sink or in a utility area, ensuring adequate space for maintenance and filter changes. The system dimensions are approximately 34 x 24 x 14 inches.
3. **Water Supply:** Identify the cold water supply line for connection. A dedicated shut-off valve for the RO system is recommended.

4.2 System Assembly

1. **Mounting:** Securely mount the filter housing stand to a sturdy surface using appropriate hardware (not included).
2. **Install Pre-filters:** Insert the Sediment filter, Carbon Block filter, and GAC/KDF 85 filter into their respective UV protective filter housings. Ensure they are seated correctly and tighten the housings using the provided wrench.
3. **Membrane Installation:** The stainless steel membrane housing typically comes pre-assembled. If not, carefully insert the RO membrane into the housing and secure the end caps.



Image 2: Close-up view of the stainless steel membrane housing, which contains the reverse osmosis membrane.



Image 3: Depiction of the three types of 20-inch filters used in the system: Carbon Block, GAC/UDF (Granular Activated Carbon/Uniform Density Filtration), and Pleated Sediment filters.

4.3 Plumbing Connections

1. **Inlet Connection:** Connect the 3/8" inlet hose from the cold water supply to the system's inlet port.
2. **Outlet Connection:** Connect the 3/8" production tubing from the system's purified water outlet to your desired dispensing point (e.g., faucet, storage tank).
3. **Drain Connection:** Connect the waste water line to a suitable drain. The system features a 1:1 waste ratio, which is fully adjustable.
4. **Leak Check:** Slowly turn on the water supply and carefully check all connections for leaks. Tighten any leaking connections as necessary.

5. Operating Instructions

Once installed and leak-checked, the system is ready for operation.

1. **Initial Flush:** For the first use, allow the system to run and produce water for several hours (e.g., 2-3 hours) to

flush out any manufacturing residues from the filters and membrane. Discard this initial batch of water.

2. **Water Production:** The system will continuously produce purified water as long as the water supply is on and there is demand.
3. **Production Rate:** The system produces up to 1000 GPD at 100 PSI. Lower incoming water pressure will result in lower production rates. For example, at 70 PSI, the system will produce approximately 700 GPD.
4. **Waste Ratio:** The waste ratio is adjustable, typically set at 1:1 (one gallon of purified water for one gallon of waste water). This can be optimized based on specific water quality and desired efficiency.

6. Maintenance

Regular maintenance is crucial for optimal performance and longevity of your RO system.

6.1 Filter Replacement Schedule

The lifespan of filters depends on the quality of your incoming water and usage volume. General guidelines are:

- **Sediment Filter:** Replace every 6-12 months.
- **Carbon Block Filter:** Replace every 6-12 months.
- **GAC/KDF 85 Filter:** Replace every 12-24 months.
- **RO Membrane:** Replace every 2-5 years, or when water production significantly decreases, or purified water quality declines.

6.2 Filter Replacement Procedure

1. **Turn Off Water Supply:** Close the main water supply valve to the RO system.
2. **Depressurize System:** Open a purified water faucet to release pressure from the system.
3. **Remove Filter Housings:** Use the filter wrench to unscrew the filter housings.
4. **Replace Filters:** Remove old filters and insert new ones, ensuring proper orientation.
5. **Reassemble:** Hand-tighten the filter housings, then use the wrench for a final snug turn (do not overtighten).
6. **Restore Water Supply:** Slowly turn on the water supply and check for leaks.
7. **Flush System:** Allow the system to run for 15-30 minutes to flush new filters before consuming water.

7. Troubleshooting

This section addresses common issues you might encounter with your RO system.

Problem	Possible Cause	Solution
Low Water Production	Low incoming water pressure Clogged pre-filters Fouled RO membrane Kinked tubing	Check water pressure (ensure at least 40 PSI) Replace pre-filters Replace RO membrane Inspect and straighten tubing
Constant Drain Flow	Faulty automatic shut-off valve Damaged flow restrictor High incoming pressure	Inspect/replace shut-off valve Inspect/replace flow restrictor Install a pressure regulator if pressure exceeds 100 PSI

Problem	Possible Cause	Solution
Water Leaks	Loose connections Damaged O-rings Cracked housing	Tighten connections Replace O-rings Replace damaged component
Poor Water Taste/Odor	Exhausted carbon filter Fouled RO membrane	Replace carbon filter Replace RO membrane

8. Specifications

Feature	Specification
Model Name	RO1000AQ203STX
Brand	Premier Water Systems
Product Dimensions	34 x 24 x 14 inches
Item Weight	44 Pounds
Production Capacity	Up to 1000 Gallons per Day (GPD) at 100 PSI
Supported Water TDS Level Maximum	50 PPM (Parts Per Million)
Pre-filters Included	Sediment, Carbon Block, GAC/KDF 85 (2.5" x 20")
Membrane Housing	Stainless Steel
Filter Housing	UV Protected
Inlet Size	3/8"
Waste Ratio	1:1 (Fully Adjustable)
Installation Type	Under Sink
Special Feature	Chlorine Reduction, Multi Stage Filtration
UPC	818368015792

9. Warranty and Support

For specific warranty details, please refer to the documentation provided with your purchase or contact Premier Water Systems directly. Warranty coverage typically includes defects in materials and workmanship for a specified period from the date of purchase.

For technical support, troubleshooting assistance beyond this manual, or to order replacement parts, please contact Premier Water Systems customer service. Contact information can usually be found on the manufacturer's website or your purchase invoice.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question