Membrane Solutions ROSL1812-150G

Membrane Solutions 150 GPD RO Membrane User Manual

Model: ROSL1812-150G | Brand: Membrane Solutions

1. Product Overview

The Membrane Solutions 150 GPD RO Membrane and Housing kit is designed to provide high-quality purified water for various home and specialized applications. It utilizes advanced membrane technology to effectively reduce total dissolved solids (TDS) and a wide range of contaminants from your water supply.

1.1. Product Components

Your kit includes the following essential components:

- 150 GPD RO Membrane (1)
- 12" x 2.0" Membrane Housing (1)
- Wrench (1)
- 1/4" Quick-Connect Fittings (3)

Figure 1: Included components of the Membrane Solutions 150 GPD RO Membrane kit.

1.2. Key Features

- **150 Gallons Per Day (GPD) Production:** Capable of producing 150 gallons of purified water daily, approximately 6.3 gallons per hour.
- **High Contaminant Rejection:** Removes up to 97% of total dissolved solids (TDS) and other harmful substances like heavy metals, arsenic, lead, and radium.
- **Advanced Membrane Technology:** Features Polyamide Thin-Film Composite (TFC) for superior filtration and surface area coverage.
- **Quality Tested:** 100% performance and quality tested, verified by independent laboratory testing.

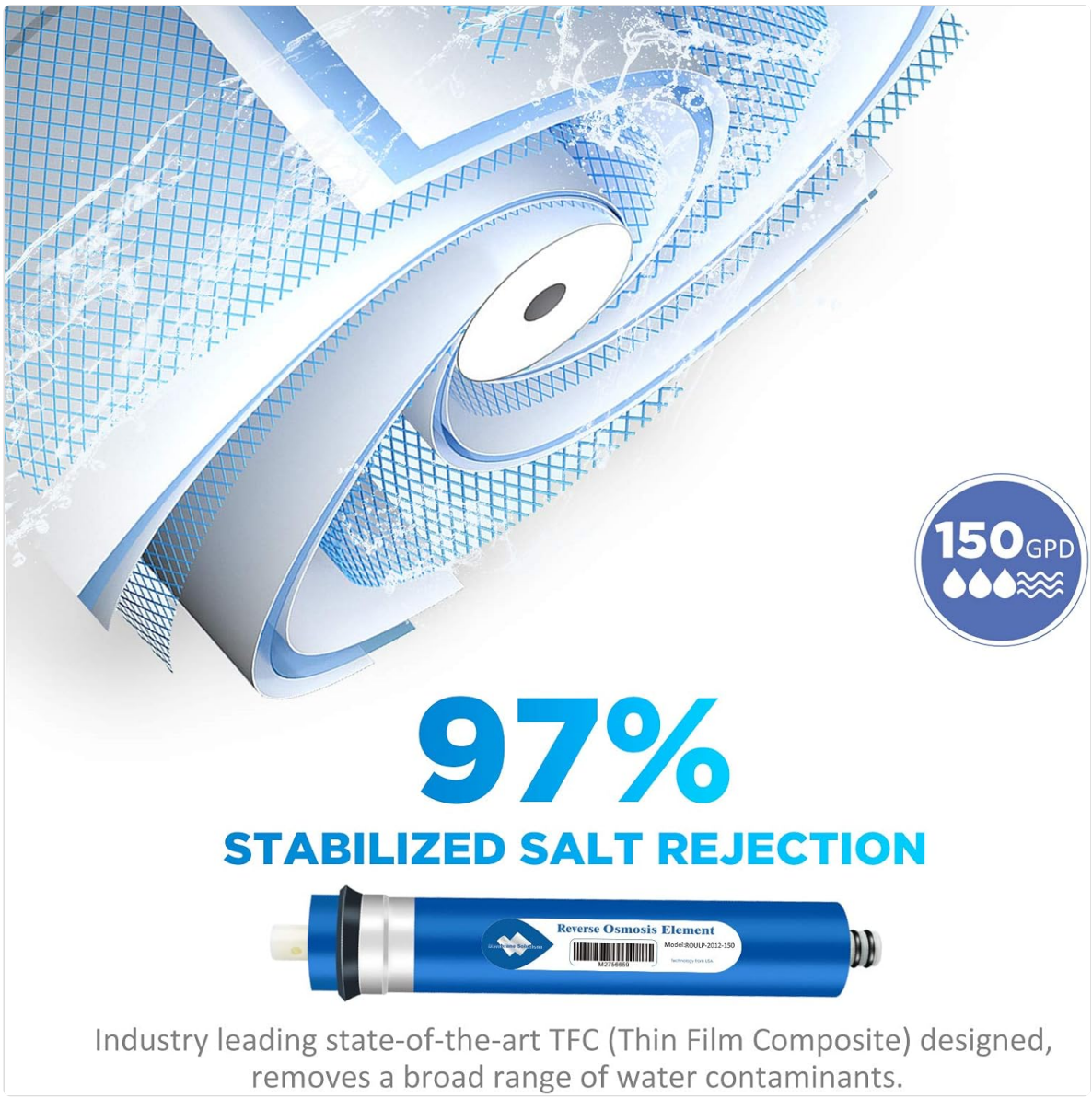

Figure 2: The RO membrane achieves 97% stabilized salt rejection, ensuring high purity water.

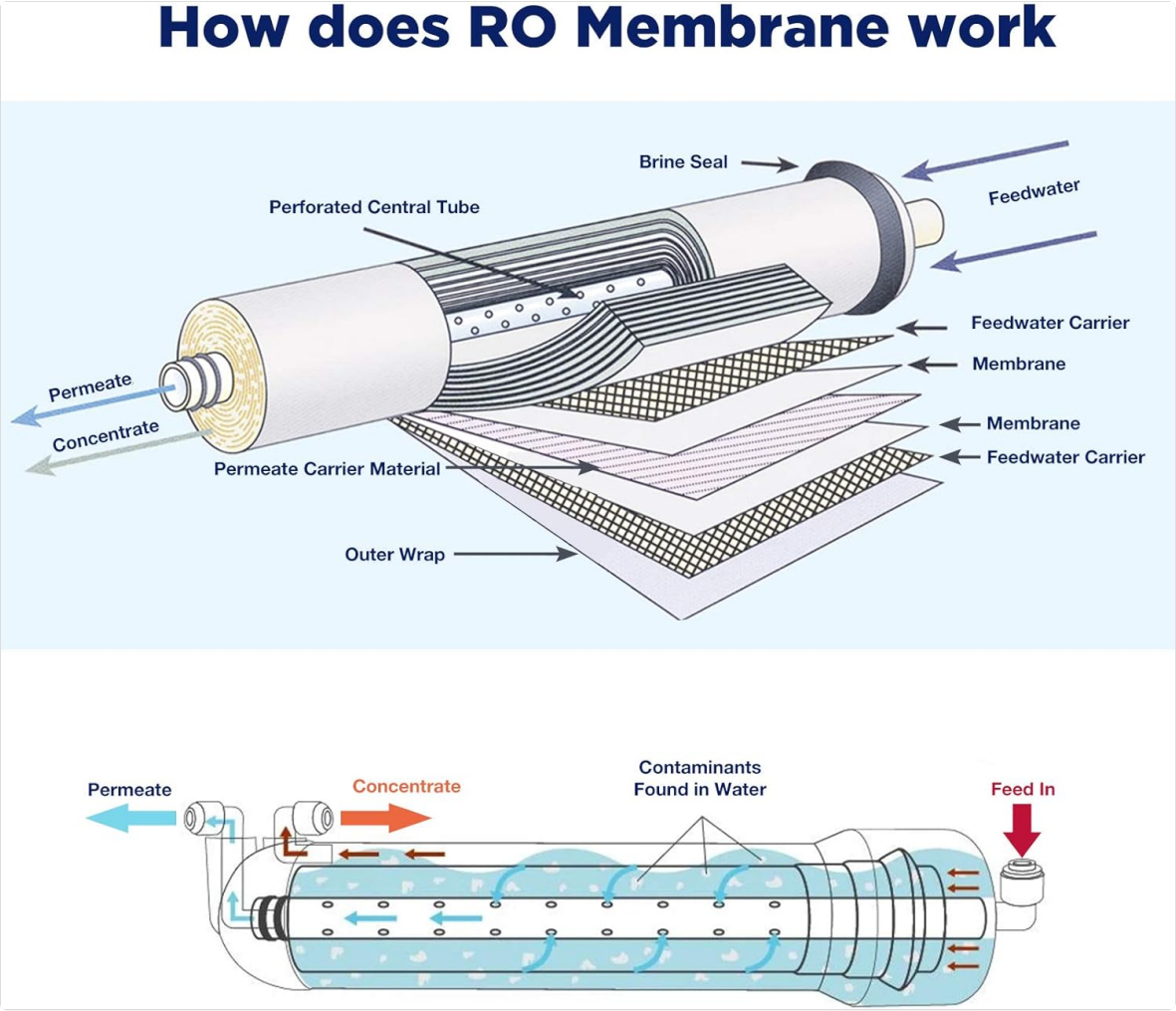

Figure 3: This RO membrane is tested and certified by NSF International against NSF/ANSI Standard 58 for material requirements, ensuring quality and safety.

2. Specifications

Specification	Value
Material	Polyamide Thin-Film Composite
Product Dimensions	2"D x 2"W x 12"H
Item Weight	0.9 Pounds (14.4 ounces)
External Testing Certification	ANSI, NSF
Product Benefits	Reduces TDS, ideal for drinking, saltwater aquariums and maple sap processing before boiling.
UPC	767421663398
Unit Count	1.0 Count
Manufacturer	Membrane Solutions
Model Number	ROSL1812-150G

3. Setup and Installation

Proper installation is crucial for the optimal performance and longevity of your RO membrane system. Please follow these general guidelines. For specific system configurations, refer to your overall RO system's manual.

3.1. Unpacking and Inspection

1. Carefully unpack all components from the packaging.
2. Inspect all parts for any signs of damage during transit. If any components are damaged, do not proceed with installation and contact customer support.
3. Ensure all listed components in Section 1.1 are present.

3.2. Installation Steps

1. **Prepare the Membrane Housing:** Ensure the membrane housing is clean and free of debris.
2. **Install the RO Membrane:** Carefully insert the RO membrane into the housing. Ensure the end with the two O-rings goes in first, and push firmly until it is fully seated.
3. **Secure the Housing Cap:** Screw the housing cap onto the membrane housing. Use the provided wrench to tighten it securely, but do not overtighten.
4. **Connect Fittings:** Attach the quick-connect fittings to the appropriate ports on the membrane housing. Ensure a snug fit to prevent leaks. It is recommended to use PTFE (Teflon) tape on threaded connections for a secure, leak-free seal.
5. **Integrate into RO System:** Connect the membrane housing into your existing or new RO system's water lines. Ensure the feed water inlet, permeate water outlet, and concentrated water outlet are correctly plumbed.
6. **Consider a Flow Restrictor:** For optimal performance and to prevent excessive wastewater, ensure your RO system includes an appropriately sized flow restrictor for a 150 GPD membrane. This is a critical component for proper operation.

Figure 4: The easy installation kit includes standard screwed fittings for simple setup. Ensure correct connections for feed water, permeate, and concentrated water.

Figure 5: The membrane housing features a dual O-ring design to provide enhanced leakage protection.

4. Operating Instructions

4.1. Initial Flush

After installation, it is essential to flush the new RO membrane to remove any manufacturing residues and ensure optimal performance. Follow your RO system's specific flushing procedure, which typically involves running water through the system for a period (e.g., 30 minutes to an hour) before consuming the purified water.

4.2. Daily Operation

Once flushed, your RO system with the Membrane Solutions 150 GPD RO Membrane is ready for daily use. Simply open the RO faucet to dispense purified water. The membrane will continuously filter water as needed.

Understanding GPD Ratings: The 150 GPD rating is based on specific test conditions (Urban tap water, 25°C / 77°F, 100 PSI). Actual water production may vary based on your specific conditions:

- **Temperature:** For every 1°C (33.8°F) drop in water temperature, the GPD rating drops by approximately 3-4%.
- **Pressure:** For every 1 PSI drop in water pressure, the GPD rating drops by approximately 1-1.5%.

Figure 6: Illustration of how the RO membrane works, showing feedwater entering, and permeate (purified water) and concentrate (waste water) exiting.

Figure 7: DIY RO systems, like those using this membrane, can be used for concentrating maple sap, significantly reducing boil time.

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Video 1: This video demonstrates the process of using a Reverse Osmosis (RO) membrane and housing for maple syrup concentration, highlighting how it helps reduce boil time.

5. Maintenance

Regular maintenance ensures the continued efficiency and lifespan of your RO membrane and system.

5.1. Membrane Replacement

The lifespan of an RO membrane varies depending on water quality and usage. Typically, RO membranes last 2-3 years. You may notice a decrease in water production or an increase in TDS levels in your purified water when it's time for replacement. Refer to your overall RO system's manual for specific replacement intervals for pre-filters and post-filters, which also impact membrane life.

1. Turn off the water supply to your RO system and depressurize it.
2. Use the provided wrench to unscrew the membrane housing cap.

3. Carefully pull out the old membrane.
4. Insert the new membrane, ensuring it is fully seated.
5. Replace the housing cap and tighten it with the wrench.
6. Turn on the water supply and flush the new membrane as described in Section 4.1.

5.2. Cleaning the Housing

Periodically, when replacing the membrane or other filters, it is a good practice to clean the inside of the membrane housing with mild soap and water. Rinse thoroughly to remove any soap residue before reassembling.

6. Troubleshooting

This section addresses common issues you might encounter with your RO membrane and housing.

6.1. Low Water Production

- **Low Water Pressure:** Ensure your incoming water pressure meets the system's requirements (typically 40-100 PSI).
- **Low Water Temperature:** Colder water reduces membrane efficiency.
- **Clogged Pre-filters:** Sediment or carbon filters before the RO membrane may be clogged, reducing flow to the membrane. Replace them as recommended.
- **Clogged RO Membrane:** The membrane itself may be fouled or scaled. Consider replacement if other solutions fail.
- **Defective Flow Restrictor:** An incorrect or clogged flow restrictor can significantly impact water production and waste ratio.
- **Defective Check Valve:** A faulty check valve on the permeate line can lead to low or no water flow.

6.2. High TDS in Purified Water

- **New Membrane Flush:** Ensure the new membrane has been adequately flushed (see Section 4.1).
- **Membrane Failure:** The RO membrane may be damaged or at the end of its lifespan. Replace the membrane.
- **Improper Installation:** Check that the membrane is correctly seated in the housing and all seals are intact.
- **System Bypass:** Ensure no bypass valves are open, allowing unfiltered water to mix with purified water.

6.3. Leaks

- **Loose Fittings:** Check all quick-connect fittings and threaded connections. Tighten as necessary.
- **Damaged O-rings:** Inspect the O-rings on the membrane and inside the housing cap for cracks or displacement. Replace if damaged.
- **Insufficient PTFE Tape:** For threaded connections, ensure enough PTFE tape (6-10 wraps) is applied.

7. Warranty and Support

7.1. Warranty Information

This product is typically covered by a standard return policy, allowing for refunds or replacements within 30 days of purchase. For detailed warranty terms and conditions, please refer to the product listing or contact Membrane Solutions directly.

7.2. Customer Support

If you have any questions, require technical assistance, or need to report an issue, please contact Membrane Solutions customer support. You can often find contact information on the product packaging or by visiting the official Membrane Solutions store on Amazon:

Visit the Membrane Solutions Store