Pentek GRO-50EN

Pentair Pentek GRO-50EN High Efficiency Reverse Osmosis Membrane

Model: GRO-50EN | Brand: Pentek

Introduction

The Pentair Pentek GRO-50EN High Efficiency Reverse Osmosis Membrane is an encapsulated TLC replacement membrane designed to produce high-quality, great-tasting water with less wastewater. It includes drain line flow control and a permeate check valve. This membrane doubles recovery compared to standard reverse osmosis elements while maintaining comparable rejection performance. It is tested and certified by NSF International for peace of mind. It boasts a flow rate of 50 gallons per day (189 LPD) with a nominal rejection rate of 96%.



Image: The Pentair Pentek GRO-50EN High Efficiency Reverse Osmosis Membrane, showing its compact, encapsulated design.

Features and Benefits

- High-efficiency encapsulated reverse osmosis membrane that produces great-tasting, high-quality water with less wastewater.
- Drain line flow control and permeate check valve included.
- Doubles recovery compared to standard reverse osmosis elements with comparable rejection performance.
- Tested and certified by NSF International for your peace of mind.
- Flow rate of 50 gallons per day (189 LPD) with 96% nominal rejection.



FEATURES • BENEFITS

- Double the recovery over standard reverse osmosis elements
- Rejection performance comparable to standard reverse osmosis elements
- High rejection stability at high input TDS
- TLC thin layer composite membrane 100% dry membrane maximizing shelf life
- Available with or without drain line flow control
- Available with and without permeate check valve
- Capillary style drain line flow control kits available and sized for each GRO model



OPERATIONAL LIMITS

Maximum Pressure:
125 PSI (6.90 bar)

pH:
4-11

Maximum Temperature:
120°F (49°C)

Free Chlorine:
0.1 ppm

Filters and membrane elements are not to be installed on microbiologically unsafe water supplies. TLC Membranes are not certified to sanitize water, remove cysts, bacteria, or viruses. Filter and membrane element performance can be affected by fluctuations in water quality.

Image: A visual representation highlighting the key features and operational limits of the GRO-50EN membrane, including its high rejection stability and TLC thin layer composite membrane.

Setup and Installation

The Pentair Pentek GRO-50EN membrane is designed for easy replacement in compatible reverse osmosis systems. Always refer to your specific RO system's manual for detailed installation instructions.

1. **Safety First:** Turn off the water supply to your RO system and depressurize the system by opening the RO faucet.
2. **Locate Membrane Housing:** Identify the membrane housing, typically a larger cylindrical housing.
3. **Remove Old Membrane:** Unscrew the housing cap and carefully pull out the old membrane. Dispose of it according to local regulations.
4. **Install New Membrane:** Unpack the new GRO-50EN membrane. Ensure the O-rings are properly seated. Insert the new membrane into the housing, pushing firmly until it is fully seated.
5. **Secure Housing:** Screw the housing cap back on, ensuring a tight seal.
6. **Restore Water Supply:** Slowly turn on the water supply to the RO system. Check for any leaks.
7. **Flush System:** Allow the system to flush for a recommended period (e.g., 24-48 hours of operation) to remove any carbon fines or air from the new membrane. Refer to your RO system's manual for specific flushing instructions.

Operating Principles

Reverse osmosis (RO) is a water purification process that uses a partially permeable membrane to remove ions, unwanted molecules, and larger particles from drinking water. The GRO-50EN membrane works by applying pressure to the contaminated water on one side of the membrane, forcing pure water molecules through while leaving impurities behind. The rejected impurities are then flushed away with the wastewater.
This high-efficiency membrane is designed to optimize water recovery, meaning it produces more purified water and less wastewater compared to conventional RO membranes, contributing to water conservation.

Maintenance

Proper maintenance ensures the longevity and optimal performance of your GRO-50EN membrane.

- **Replacement Schedule:** The typical lifespan of an RO membrane can vary depending on water quality and usage, but it is generally recommended to replace the GRO-50EN membrane every 2-5 years. Monitor your water quality and flow rate for signs of degradation.
- **Pre-filter Maintenance:** Ensure pre-filters (sediment and carbon filters) are replaced regularly as per your RO system's recommendations. Clogged pre-filters can reduce the lifespan and efficiency of the RO membrane.
- **System Flushing:** Periodically flush your RO system as recommended by the system manufacturer to prevent scale buildup on the membrane surface.
- **Storage:** If storing a new membrane, keep it in its original sealed packaging in a cool, dry place away from direct sunlight.

Troubleshooting

Problem	Possible Cause	Solution
Low Water Production	Clogged pre-filters Low incoming water pressure Membrane fouling or scaling Air in the system	Replace pre-filters. Check household water pressure. Replace RO membrane. Flush system to remove air.
Poor Water Taste/Odor	Expired carbon filters Damaged RO membrane	Replace carbon filters. Replace RO membrane.
Excessive Wastewater	Clogged flow restrictor Low water temperature	Check/replace flow restrictor. Ensure water temperature is within operational limits.
Leaks	Loose fittings Damaged O-rings	Tighten fittings. Inspect and replace O-rings.

If problems persist after attempting these solutions, please contact a qualified technician or Pentair customer support.

Specifications

Attribute	Value
Brand	Pentek
Model Number	GRO-50EN (4004424)
Product Dimensions (L x W x H)	12.7 x 12.7 x 30.48 cm (5 x 5 x 12 inches)
Item Weight	572 grams (1.26 lbs)
Material	Polypropylene (PP)
Flow Rate	50 Gallons Per Day (189 LPD)
Nominal Rejection	96%

Attribute	Value
External Test Certification	NSF International
UPC	051678023488

Operational Limits (from image)

- **Maximum Pressure:** 125 PSI (6.90 bar)
- **Maximum Temperature:** 120°F (49°C)
- **pH:** 4-11
- **Free Chlorine:** 0.1 ppm

Note: Filters and membrane elements are not to be installed on microbiologically unsafe water supplies. TLC Membranes are not certified to sanitize water, remove cysts, bacteria, or viruses. Filter and membrane element performance can be affected by fluctuations in water quality.

Warranty and Support

This Pentair Pentek GRO-50EN membrane is tested and certified by NSF International, ensuring it meets rigorous standards for performance and safety. While specific warranty details are not provided in this manual, Pentair products are known for their quality and reliability.
For technical support, warranty claims, or further assistance, please contact Pentair customer service or visit their official website. Always provide your product model number (GRO-50EN) and any relevant purchase information when seeking support.
Contact Information: Please refer to the official Pentair website or your product packaging for the most current contact details.

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