PACKAGED REVERSE OSMOSIS SYSTEMS

20 GPM Reverse Osmosis System

Quality Products for Quality Water
PRODUCT OVERVIEW

The Marlo MRO Series Commercial and Industrial Reverse Osmosis Systems are engineered to economically produce high purity water by removal of dissolved minerals, bacteria, particles, and organic impurities. Each MRO machine is constructed using the highest quality components and materials for reliable operation and exceptional performance. Standard machines in the MRO-4 Series are available with product water capacities from 2.5–20 GPM (3,600–28,800 GPD). Contact Marlo for larger flow requirements with the MRO-8 Series equipment.

SYSTEM OPTIONS

Marlo Reverse Osmosis Systems MRO-3600-4V through MRO-16200-4H models are available skid-mounted, pre-piped, and pre-wired with the following pre-treatment and post-treatment equipment for a complete water treatment package. Skid-mounted units provide maximum efficiency of floor space and reduced installation costs.

- Multi-Media and Activated Carbon Pre-Filtration Systems
- RO Water Atmospheric Storage Tanks
- Inlet Feed Water Chemical Injection Systems
- Membrane Clean-in-Place (CIP) Systems
- UV Sterilization Post-Treatment Systems
- Water Softener Pre-Treatment Systems
- RO Water Pressurized Storage Tanks
- Repressurization Pumps and Controls
- Deionization (DI) Polisher Systems
- Sub-Micron Final Filter Housings
The MRO-4V series RO systems are available with nominal capacities from 3,600 to 9,000 gallons/day. These units are designed for commercial and industrial applications and feature the following as standard equipment:

- High rejection 4"×40" RO membranes in stainless steel pressure vessels.
- Microprocessor controller package with NEMA-4X enclosures.
- Stainless steel multistage centrifugal high pressure pumps.
- TEFC high efficiency motor, 208-230/460 VAC, 3 phase.
- Polypropylene pre-filter housing material.
- Fully-panel mounted system flow meters and pressure gauges.
- Digital RO product water conductivity meter.
- Actuated automatic RO system inlet feed valve.
- RO reject and recycle flow control valves.
- Automatic system flush on shutdown.
- Epoxy coated carbon steel skid/frame of welded construction.
- Optional motor starter disconnect switch.
- Optional skid mounted pre/post treatment equipment.

**SPECIFICATIONS–MRO-3600-4V THROUGH MRO-9000-4V SERIES**

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<tr>
<td>MRO-3600-4V</td>
<td>2.5</td>
<td>3,600</td>
<td>2</td>
<td>3.3–3.8</td>
<td>1/2&quot; Flange</td>
<td>1/2&quot; Flange</td>
<td>1/2&quot; Flange</td>
<td>251 psi</td>
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<tr>
<td>MRO-5400-4V</td>
<td>3.8</td>
<td>5,400</td>
<td>3</td>
<td>5.0–5.8</td>
<td>1/2&quot; Flange</td>
<td>1/2&quot; Flange</td>
<td>1/2&quot; Flange</td>
<td>242 psi</td>
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<tr>
<td>MRO-7200-4V</td>
<td>5.0</td>
<td>7,200</td>
<td>4</td>
<td>6.7–7.7</td>
<td>3/4&quot; Flange</td>
<td>3/4&quot; Flange</td>
<td>1/2&quot; Flange</td>
<td>235 psi</td>
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<tr>
<td>MRO-9000-4V</td>
<td>6.3</td>
<td>9,000</td>
<td>5</td>
<td>8.4–9.7</td>
<td>1/2&quot; Flange</td>
<td>1/2&quot; Flange</td>
<td>1/2&quot; Flange</td>
<td>230 psi</td>
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**SPECIFICATIONS–MRO-10800-4H THROUGH MRO-16200-4H SERIES**

The MRO-10800 through 16200-4H series RO systems are available with nominal capacities from 10,800 to 16,200 gallons/day. These units are designed for commercial and industrial applications and feature the following as standard equipment:

- High rejection 4" x 40" RO membranes in FRP pressure vessels.
- Microprocessor controller package with NEMA-4X enclosures.
- Stainless steel multistage centrifugal high pressure pumps.
- TEFC high efficiency motor, 208-230/460 VAC, 3 phase.
- Polypropylene pre-filter housing material.
- Fully-panel mounted system flow meters and pressure gauges.
- Digital RO product water conductivity meter.
- Actuated automatic RO system inlet feed valve.
- RO reject and recycle flow control valves.
- Automatic system flush on shutdown.
- Epoxy coated carbon steel skid/frame of welded construction.
- Optional motor starter disconnect switch.
- Optional skid mounted pre/post treatment equipment.

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<tr>
<td>MRO-10800-4H</td>
<td>7.5</td>
<td>10,800</td>
<td>6</td>
<td>10.0–11.5</td>
<td>1&quot; Flange</td>
<td>1&quot; Flange</td>
<td>1/2&quot; Flange</td>
<td>251 psi</td>
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<tr>
<td>MRO-12600-4H</td>
<td>8.8</td>
<td>12,600</td>
<td>7</td>
<td>11.7-13.5</td>
<td>1&quot; Flange</td>
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<td>1/2&quot; Flange</td>
<td>242 psi</td>
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<tr>
<td>MRO-14400-4H</td>
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<td>14,400</td>
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<td>13.3–15.4</td>
<td>1&quot; Flange</td>
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<td>1&quot; Flange</td>
<td>234 psi</td>
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<tr>
<td>MRO-16200-4H</td>
<td>11.3</td>
<td>16,200</td>
<td>9</td>
<td>15.0–17.4</td>
<td>1&quot; Flange</td>
<td>1&quot; Flange</td>
<td>1&quot; Flange</td>
<td>234 psi</td>
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The MRO-18K-4H through MRO-29K-4H series Reverse Osmosis membrane systems are available with nominal product capacities from 12.5 GPM to 20 GPM (18,000 GPD to 28,800 GPD). The units are designed for commercial and industrial applications and feature the following as standard equipment:

- High rejection 4”×40” RO membranes in FRP pressure vessels.
- Microprocessor controller package with NEMA-4X enclosure.
- Stainless steel multistage centrifugal high pressure pump.
- TEFC high efficiency motor, 208-230/460 VAC, 3-Phase.
- Polypropylene pre-filter housing material.
- Panel mounted instrumentation including digital RO product water conductivity and system pressure gauges.
- In-line flowmeters for RO product, RO reject to drain, and RO recirculation flows.
- Actuated automatic RO system inlet feed valve.
- Stainless steel RO reject and recycle flow control valves.
- Automatic system flush on shutdown or timed intervals.
- Epoxy coated carbon steel skid/frame of welded construction.
- RO membrane clean-in-place (CIP) isolation valving and quick-connect cleaning ports.
- Optional motor starter disconnect switch.

### OVERALL SYSTEM DIMENSIONS MRO-18K-4H THROUGH MRO-29K-4H

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<th>Model No.</th>
<th>Length</th>
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<td>MRO-18K-4H</td>
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<td>30&quot;</td>
<td>76&quot;</td>
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<tr>
<td>MRO-22K-4H</td>
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<td>30&quot;</td>
<td>76&quot;</td>
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<tr>
<td>MRO-25K-4H</td>
<td>144&quot;</td>
<td>30&quot;</td>
<td>76&quot;</td>
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<tr>
<td>MRO-29K-4H</td>
<td>144&quot;</td>
<td>30&quot;</td>
<td>76&quot;</td>
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### SYSTEM OPERATING PARAMETERS

- Operating Pressures: 230–280 PSIG
- Minimum Inlet Pressure: 30 PSIG
- Operating Temperature Range: 35–85°F.
- Maximum Inlet Free Chlorine: <0.1 PPM
- Maximum Inlet Silt Density Index (SDI): 3.0

- Nominal System Recovery Rate: 65–75%
- Nominal System TDS Rejection: 95–99%
- RO Pump Electrical Requirements: 460 VAC, 3-Phase, 60 Hz.
- Control Panel Electrical Requirements: 120 VAC, 1-Phase, 60 Hz.

Operations and performance based on inlet feed of softened water of 2,000 PPM at 77°F.