

## 'MRO-4V' & 'MRO-4H' Reverse Osmosis Systems



### 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.

Marlo Reverse Osmosis Systems provide exceptional performance in a wide variety of applications, including:

- Boiler feed
- Spot-free rinse
- Icemaking
- Greenhouses
- Research and medical labs
- Process make-up water
- Humidification
- Ion exchange pre-treatment

### Operating Parameters

- Operating Pressure: 200-250 psig
- Nominal Recovery: 65–75%
- Nominal Salt Rejection: 98–99%
- Operating Temperature: 45–85° F
- Design Temperature: 50° F
- Minimum Inlet Pressure: 30 psig
- Inlet Water Quality: Chlorine-Free/Softened
- Control Circuit: 120 VAC, 1-phase, 60 Hz.

### Materials of Construction

- Skid Frame: Epoxy-coated carbon steel
- Membrane Elements: Thin-film Composite (TFC)
- Membrane Housings: FRP
- Low pressure piping: Sch 80 PVC
- High pressure piping: 304SS

### Pump and Motor

- Pump: 304SS vertical multi-stage centrifugal
- Motor: TEFC, 460 VAC, 3-phase, 60 Hz.

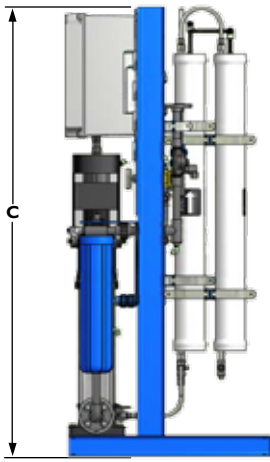
### Standard Features

- 4" x 40" High rejection membrane elements
- 5-micron sediment pre-filter housing
- Automatic inlet shut-off valve
- Solid-state digital controller (NEMA-4X)
- Product water conductivity monitor
- Operating pressure gauges
- Product and concentrate flow meters
- Concentrate and recycle flow control valves
- Low inlet pressure switch with shutdown alarm

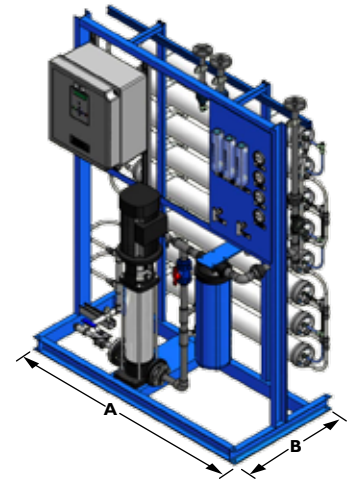
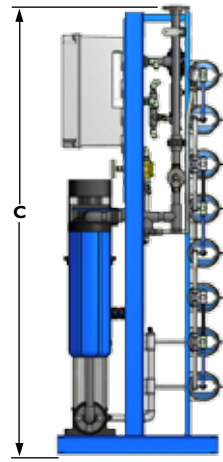
### Optional Equipment Available

- Atmospheric storage tanks with level control and repressurization pump
- Water softeners and carbon filter pretreatment
- Pressurized storage vessels
- Skid mounted packages with pre/post treatment equipment
- Membrane clean-in-place (CIP) systems
- Pretreatment chemical injection systems

## SPECIFICATIONS MRO-3600-4-V THROUGH MRO-16200-4-H SERIES



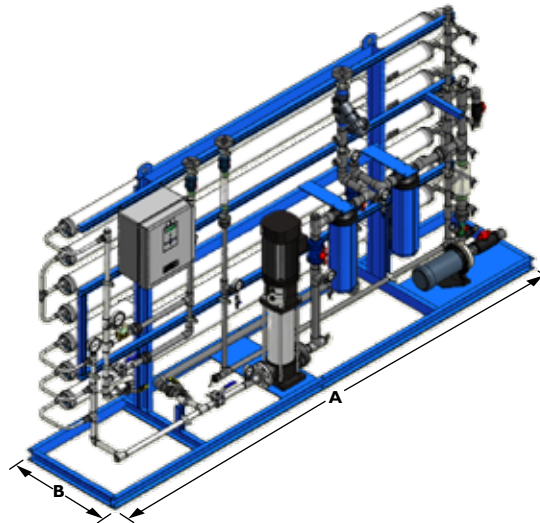
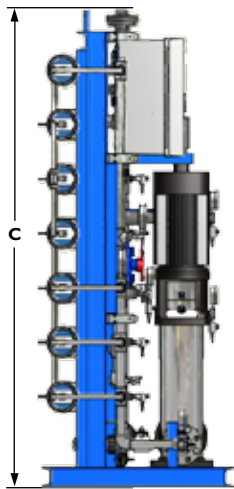
4V Design



4H Design

Model No.	Design (gpm)	Capacity (gpd)	Element Quantity	RO Feed (gpm)	RO Reject (gpm)	System Piping Connections			Nominal Operating Pressure	Pump Hp	Approx. Ship Wt.	Dimensions		
						Inlet Feed	Product	Reject				Length A	Width B	Height C
MRO-3600-4V	2.5	3,600	2	3.3-3.8	0.8-1.3	3/4" Flange	1/2" Flange	1/2" Flange	251 psi	3.0	425 lb.	36"	24"	68"
MRO-5400-4V	3.8	5,400	3	5.0-5.8	1.2-2.0	3/4" Flange	1/2" Flange	1/2" Flange	242 psi	3.0	475 lb.	36"	24"	68"
MRO-7200-4V	5.0	7,200	4	6.7-7.7	1.7-2.7	3/4" Flange	3/4" Flange	1/2" Flange	235 psi	5.0	525 lb.	36"	30"	68"
MRO-9000-4V	6.3	9,000	5	8.4-9.7	2.1-3.4	3/4" Flange	3/4" Flange	1/2" Flange	230 psi	5.0	575 lb.	36"	30"	68"
MRO-10800-4H	7.5	10,800	6	10.0-11.5	2.5-4.0	1" Flange	3/4" Flange	1/2" Flange	251 psi	5.0	650 lb.	54"	26"	76"
MRO-12600-4H	8.8	12,600	7	11.7-13.5	2.9-4.7	1" Flange	3/4" Flange	1/2" Flange	242 psi	5.0	700 lb.	54"	26"	76"
MRO-14400-4H	10.0	14,400	8	13.3-15.4	3.3-5.4	1" Flange	3/4" Flange	3/4" Flange	234 psi	5.0	750 lb.	54"	26"	76"
MRO-16200-4H	11.3	16,200	9	15.0-17.4	3.7-6.1	1" Flange	1" Flange	3/4" Flange	234 psi	5.0	800 lb.	54"	26"	76"

## SPECIFICATIONS MRO-18K-4H THROUGH MRO-29K-4H SERIES



Model No.	Design (gpm)	Capacity (gpd)	Element Quantity	RO Feed (gpm)	RO Reject (gpm)	System Piping Connections			Nominal Operating Pressure	Pump Hp	Approx. Ship Wt.	Dimensions		
						Inlet Feed	Product	Reject				Length A	Width B	Height C
MRO-18K-4H	12.5	18,000	12	16.7-19.2	4.2-6.7	1 1/4" Flange	1" Flange	3/4" Flange	280 psi	7.5	1050 lb.	144"	30"	76"
MRO-22K-4H	15.0	21,600	15	20.0-23.0	5.0-8.0	1 1/4" Flange	1" Flange	3/4" Flange	270 psi	7.5	1200 lb.	144"	30"	76"
MRO-25K-4H	17.5	25,200	18	23.2-26.8	5.7-9.3	1 1/2" Flange	1 1/4" Flange	3/4" Flange	260 psi	10	1350 lb.	144"	30"	76"
MRO-29K-4H	20.0	28,800	21	26.7-30.8	6.7-10.8	1 1/2" Flange	1 1/4" Flange	1" Flange	245 psi	10	1500 lb.	144"	30"	76"