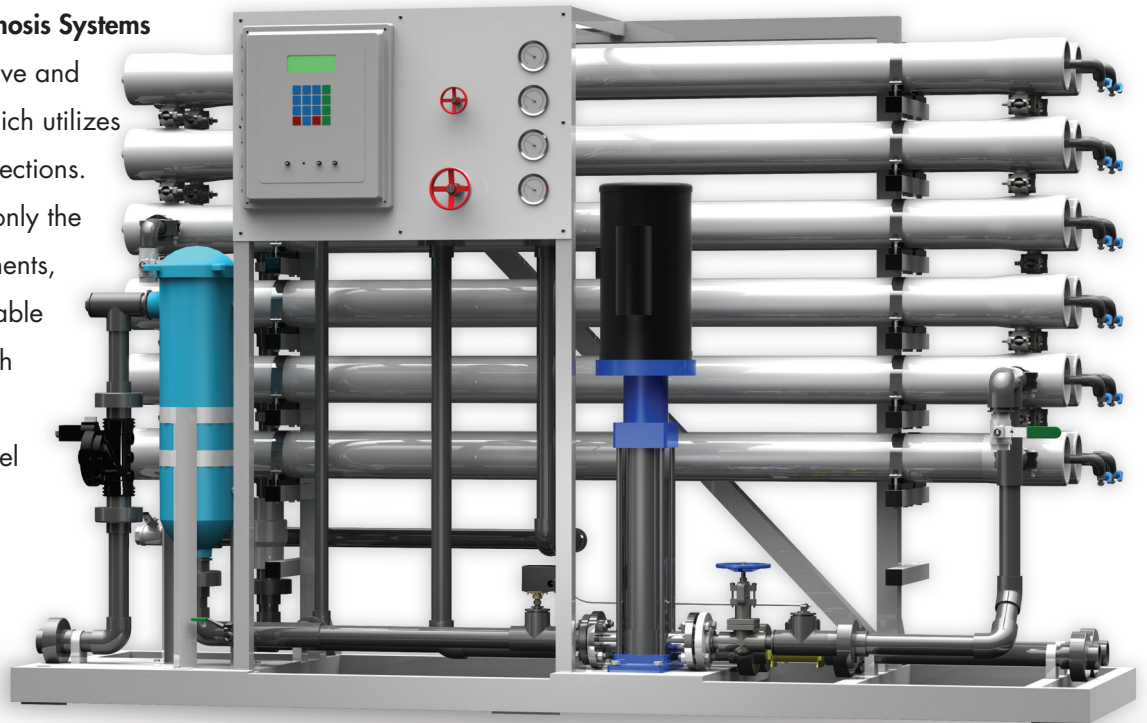


## M1-Series Reverse Osmosis Systems

**M1-Series Reverse Osmosis Systems** are designed for overall superior performance, high recovery rates, minimal energy consumption and offer great savings with low maintenance and operation costs.

### M1-Series Reverse Osmosis Systems

feature a new, innovative and expandable design which utilizes fewer fittings and connections. These systems feature only the highest quality components, including a programmable computer controller with many built-in standard features, a stainless steel booster pump for high performance and corrosion resistance, extra low energy membranes and fiberglass membrane housings for enhanced performance and durability.



**M1-12240**  
Reverse Osmosis System

**M1-Series Reverse Osmosis Systems** have been engineered for capacities ranging from 12000 – 36000 gallons per day.

## Benefits

- Fully Equipped and Customizable
- Individually Tested and Preserved
- CE Compliant †
- Expandable and Skid Mounted
- Low Operation and Maintenance Costs
- 1-Year Limited Warranty
- Components Easily Accessible
- Easy Maintenance and Servicing
- Made in the U.S.A.
- Pre-Plumbed, Wired and Assembled

Engineered Membrane Solutions

# AXEON M1-Series Reverse Osmosis Systems

## Standard Features

### Models – M1-4240, M1-6240, M1-8240

- S150 Computer Controller
  - ◆ LCD Backlit Display
  - ◆ Pre-Treatment Lockout
  - ◆ Tank Level Input
  - ◆ Low Pressure Monitoring and Alarm
  - ◆ Dual TDS Monitoring
  - ◆ Expander Board
  - ◆ Hour Meter
  - ◆ Feed Flush

### Models – M1-10240, M1-12240

- Rotrol II Computer Controller
  - ◆ LCD Backlit Display
  - ◆ Pre-Treatment Lockout
  - ◆ Tank Level Input
  - ◆ LED Low Pressure Monitoring and Alarm
  - ◆ Hour Meter
  - ◆ Dual TDS Monitoring
  - ◆ Expander Board
  - ◆ Feed Flush
  - ◆ Digital Flow Meters
  - ◆ Concentrate Recycle with Digital Flow Meter



**M1-12240**  
**Reverse Osmosis System**

- AXEON Permeate and Concentrate Flow Meters
- AXEON Concentrate Recycle Flow Meter
- Stainless Steel Concentrate Globe Valve
- AXEON Pre-Filter 0-100 psi Panel Mounted Glycerin Filled Gauges
- AXEON Pump Discharge and Concentrate 0-300 psi Panel Mounted Glycerin Filled Gauges
- FS1® Bag Filter Housing with Stainless Steel Stand
- FS1 5 Micron Filter Bag
- AXEON HF4 Extra Low Energy Membrane Elements
- Fiberglass Membrane Housings – 450 psi
- Goulds® Vertical Multi-Stage Stainless Steel Booster Pump
- Feed Solenoid Valve with Manual Bypass
- Feed Low Pressure Switch
- Clean-In-Place (CIP) Ports
- Victaulic® Style Fittings
- Permeate Sample Ports
- White Powder Coated Aluminum Frame
- Caster Wheels
- Wooden Crate

## Options and Upgrades

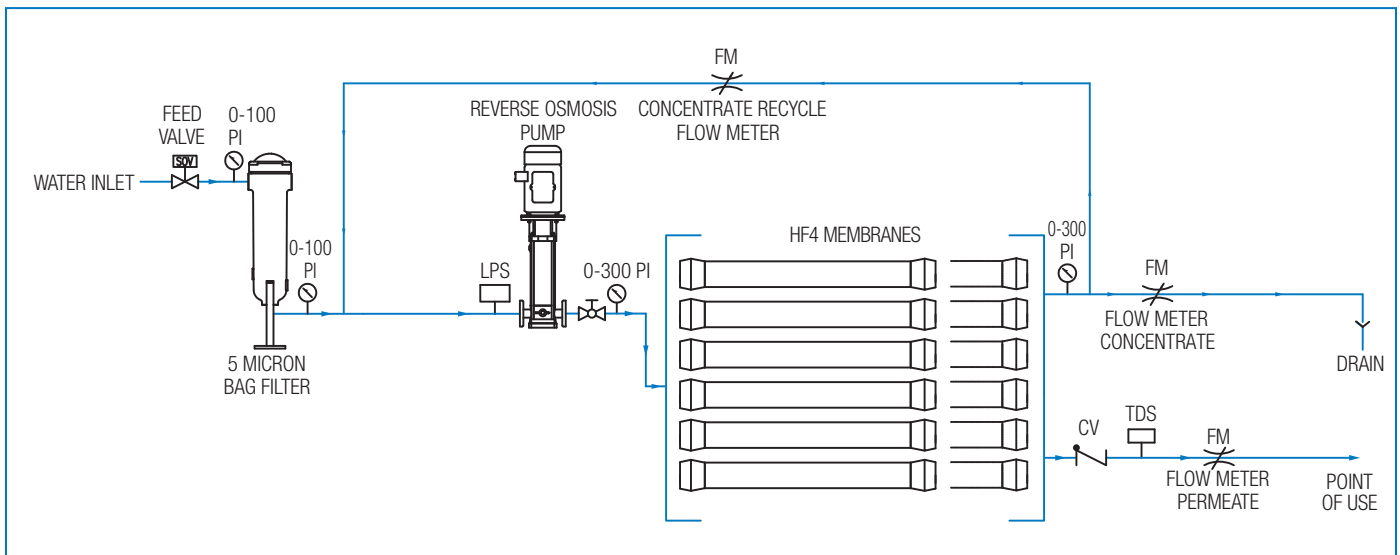
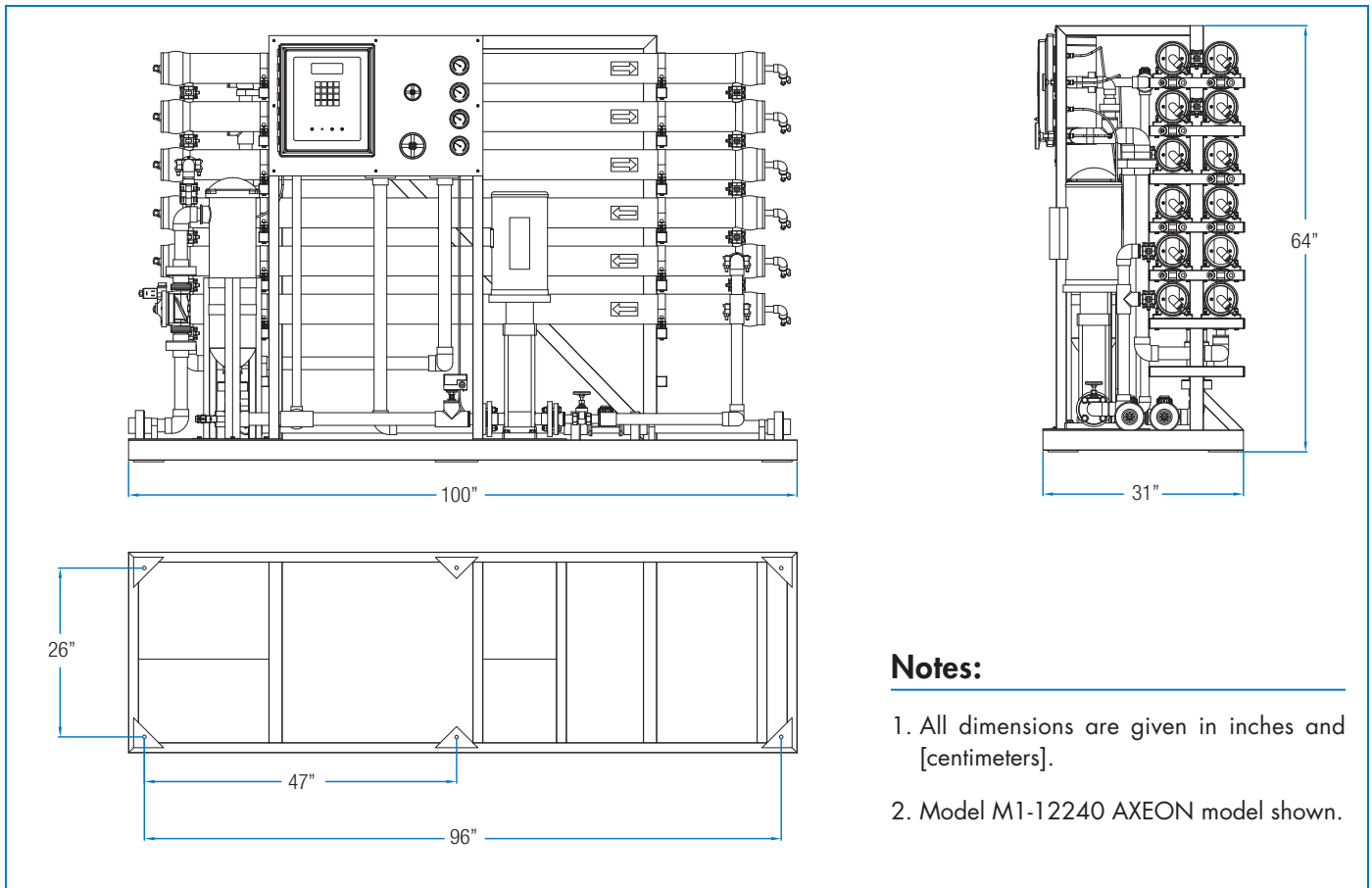
- S150 Expander Board\*\*\*
- S150 Dual TDS Board\*\*\*
- Rotrol II Controller Feed TDS Sensor
- Variable Frequency Drive††
- AXEON HF5 Ultra Low Energy Membrane Elements
- AXEON NF3 Nanofiltration Membrane Elements
- AXEON NF4 Nanofiltration Membrane Elements
- Filmtec® LCLE Membrane Elements
- Filmtec LCHR Membrane Elements
- Hanna® BL 981411 pH Meter\*\*\*
- Hanna BL 982411 ORP Meter\*\*\*
- Rotrol II pH Monitoring
- Rotrol II ORP Monitoring
- Chemical Pump Outlet
- Blending Valve
- High Pressure Tank Switch
- Pump Pressure Relief Valve†
- Permeate Divert Valve

### AXEON Naming Matrix

	M1	12	2	40
<b>M-SERIES MODEL</b>				
M1 Tap Water Model				
<b>HOUSING QUANTITY DESIGNATION</b>				
4 4 Vessel				
6 6 Vessel				
8 8 Vessel				
10 10 Vessel				
12 12 Vessel				
<b>MEMBRANE QUANTITY PER HOUSING ♂</b>				
2 2 Membranes				
<b>4.0 INCH MEMBRANE DIAMETER</b>				

†† Standard for all 50Hz Systems

\*\*\* Only available on the following models: M1-4240, M1-6240, M1-8240



## Array Specifications

Model	Vessel Array	Vessel Size	Vessel Quantity	Membrane Size	Membrane Quantity
M1-4240	1:1:1:1	4080	4	4040	8
M1-6240	2:2:1:1	4080	6	4040	12
M1-8240	3:3:2	4080	8	4040	16
M1-10240	3:3:2:2	4080	10	4040	20
M1-12240	3:3:2:2:2	4080	12	4040	24

# AXEON M1-Series Reverse Osmosis Systems

## Specifications

Models	M1-4240	M1-6240	M1-8240	M1-10240	M1-12240
<b>Design</b>					
Configuration	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass
Feed Water Source***	TDS<2,000 ppm	TDS<2,000 ppm	TDS<2,000 ppm	TDS<2,000 ppm	TDS<2,000 ppm
Standard Recovery Rate	50-75%	50-75%	50-75%	50-75%	60-75%
<b>Rejection and Flow Rates</b>					
Nominal Salt Rejection %	99	99	99	99	99
Permeate Flow* gpm (lpm)	8.3 (31.6)	12.5 (47.3)	16.7 (63.1)	20.8 (78.9)	25.0 (94.6)
Minimum Feed Flow gpm (lpm)	11.3 (42.9)	15.5 (58.7)	22.7 (85.8)	26.8 (101.6)	31.0 (117.4)
Maximum Feed Flow gpm (lpm)	48 (181.7)	48 (181.7)	48 (181.7)	48 (181.7)	48 (181.7)
Minimum Concentrate Flow gpm (lpm) with Recycle Based on 75% Recovery	3.00 (11.36)	4.17 (15.79)	5.56 (21.04)	6.95 (26.31)	8.33 (31.53)
<b>Connections</b>					
Feed inch	1.5" FNPT	1.5" FNPT	1.5" FNPT	1.5" FNPT	1.5" FNPT
Permeate inch	1" FNPT	1" FNPT	1" FNPT	1.5" FNPT	1.5" FNPT
Concentrate inch	1" FNPT	1" FNPT	1" FNPT	1.5" FNPT	1.5" FNPT
CPI inch	1" FNPT	1" FNPT	1" FNPT	1" FNPT	1" FNPT
<b>Membranes</b>					
Membrane(s) Per Vessel	2	2	2	2	2
Membrane Quantity	8	12	16	20	24
Membrane Size	4040	4040	4040	4040	4040
<b>Vessels</b>					
Vessel Array	1:1:1:1	2:2:1:1	3:3:2	3:3:2:2	3:3:2:2:2
Vessel Quantity	4	6	8	10	12
<b>Pumps</b>					
Pump Type	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage
Motor HP (kw)	3	3	5	7.5	7.5
RPM @ 60 Hz	3450	3450	3450	3450	3450
RPM @ 50 Hz	VFD at 60Hz	VFD at 60Hz	VFD at 60Hz	VFD at 60Hz	VFD at 60Hz
<b>Electrical</b>					
Standard Voltage	220V, 60Hz, 1Ph, 14.6A	220V, 60Hz, 1Ph, 14.6A	220V, 60Hz, 3Ph, 13.6A	220V, 60Hz, 3Ph, 19.2A	220V, 60Hz, 3Ph, 19.2A
Voltage Options	220V, 50Hz, 1Ph, 17.4A 220V, 50Hz, 3Ph, 10.6A 220V, 60Hz, 3 Ph, 9A 460V, 60Hz, 3 Ph, 5A	220V, 50Hz, 1Ph, 17.4A 220V, 50Hz, 3Ph, 10.6A 220V, 60Hz, 3 Ph, 9A 460V, 60Hz, 3 Ph, 5A	220V, 50Hz, 3Ph, 16.1A 460V, 60Hz, 3 Ph, 7A	220V, 50Hz, 3Ph, 22.9A 460V, 60Hz, 3 Ph, 9.7A	220V, 50Hz, 3Ph, 22.9A 460V, 60Hz, 3 Ph, 9.7A
<b>Systems Dimensions **</b>					
L x W x H inch (cm)	31 x 100 x 64 (78 x 254 x 162)	31 x 100 x 64 (78 x 254 x 162)	31 x 100 x 64 (78 x 254 x 162)	31 x 100 x 64 (78 x 254 x 162)	31 x 100 x 64 (78 x 254 x 162)
Weight lb. (kg)	1060 (481)	1150 (520)	1260 (572)	1350 (612)	1450 (658)

\* Product flow and recovery rates are based on equipment test parameters.

†† Standard for all 50Hz Systems

\*\* Does not include operating space requirements.

\*\*\* Treatment ability of the RO system is dependent on feed water quality. Performance projections must be run for each installation.

## Operating Limits

Maximum Feed Temperature °F (°C)	85 (29)	Maximum Free Chlorine ppm	0
Minimum Feed Temperature °F (°C)	40 (4.4)	Maximum TDS ppm	2,000
Maximum Ambient Temperature °F (°C)	120 (48.9)	Maximum Hardness gpg	0
Minimum Ambient Temperature °F (°C)	40 (4.4)	Maximum pH (Continuous)	11
Maximum Feed Pressure psi (bar)	85 (5.9)	Minimum pH (Continuous)	5
Minimum Feed Pressure psi (bar)	45 (3.1)	Maximum pH (Cleaning 30 Min.)	12
Maximum Operating Pressure psi (bar)	200 (13.8)	Minimum pH (Cleaning 30 Min.)	2
Maximum SDI Rating SDI	<3	Maximum Turbidity NTU	1

**Test Parameters:** 550 TDS Filtered (5 Micron), De-Chlorinated, Municipal Feed Water, 65 psi (4.5 bar) Feed Pressure, 100 psi (6.89 bar) Operating Pressure, 77 Degrees F (25 Degrees C), Recovery as stated, 7.0 pH. Data taken after 60 minutes of operation.

Low temperatures and high feed water TDS levels will significantly affect the system's production capabilities. Computer projections should be run for individual applications which do not meet or exceed minimum and maximum operating limits.

Scale prevention measures must be taken to prolong membrane life.