

R1-Series Reverse Osmosis Systems

R1-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.

R1-Series Reverse Osmosis Systems feature a new, innovative and expandable design. 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.

R1-Series Reverse Osmosis Systems have been engineered for capacities ranging from 1500 – 9000 gallons per day.

R1-6140
Reverse Osmosis System



Benefits

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

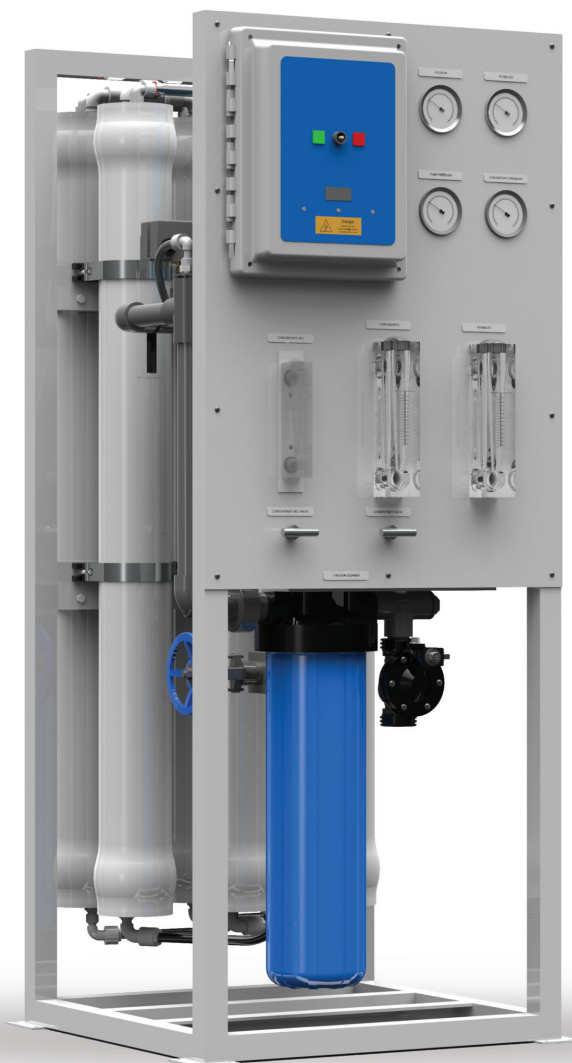
Engineered Membrane Solutions

AXEON R1-Series Reverse Osmosis Systems

Standard Features

- C22 Computer Controller
 - ◆ LED Display
 - ◆ Pre-Treatment Lockout
 - ◆ Tank Level Input
 - ◆ Low Pressure Monitoring and Alarm
 - ◆ TDS Monitoring
 - ◆ Feed Flush
- AXEON Permeate and Concentrate Flow Meters
- AXEON Concentrate Recycle Flow Meter
- AXEON Pre-Filter 0 – 100 psi Panel Mounted Glycerin Filled Gauges
- AXEON Pump Discharge and Concentrate 0 – 300 psi Panel Mounted Glycerin Filled Gauges
- 5 Micron Sediment Pre-Filter
- Pentek® Single O-Ring Heavy-Duty Filter Housing
- AXEON HF4 Extra Low Energy Membrane Elements
- Fiberglass Membrane Housings – 300 psi
- Permeate Sample Ports
- Goulds® Multi-Stage Stainless Steel Booster Pump
- Feed Solenoid Valve with Manual Bypass
- Feed Low Pressure Switch
- John Guest® and Sea-Tech® Push and Pull Fittings with Locking Safety Clips
- White Powder Coated Aluminum Frame

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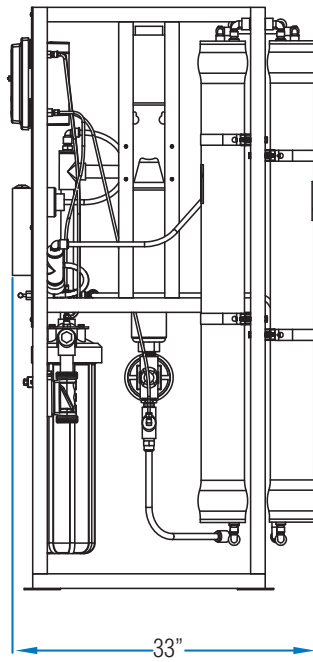
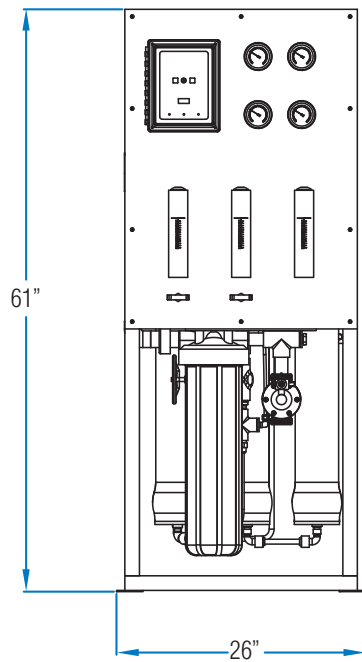


Options and Upgrades

- S150 Computer Controller
- S150 Expander Board
- S150 Dual TDS Board and Sensor
- 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
- Stainless Steel Membrane Housings
- Hanna® BL 982411 ORP Controller
- Hanna BL 981411 pH Controller
- Chemical Pump Outlet
- Pump Pressure Relief Valve†
- Blending Valve
- Permeate Divert Valve
- High Pressure Tank Switch
- Caster Wheels
- Wooden Crate

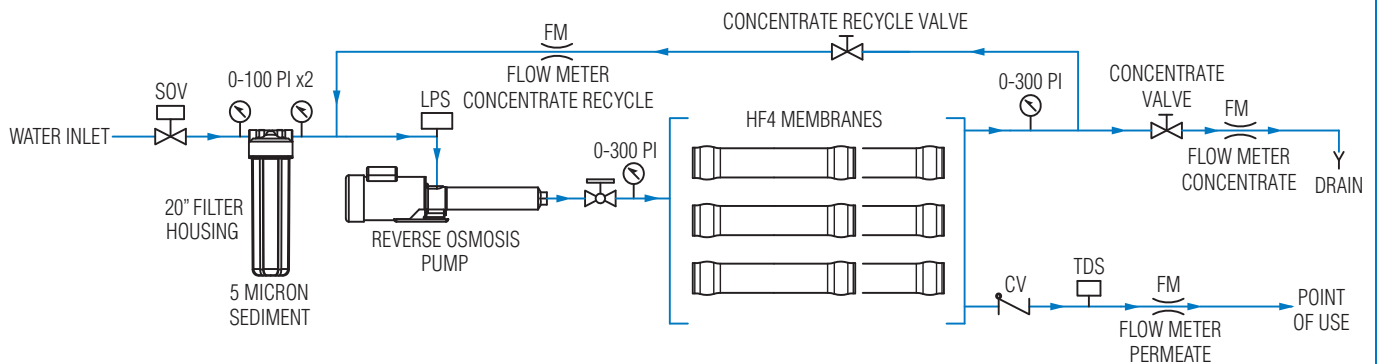
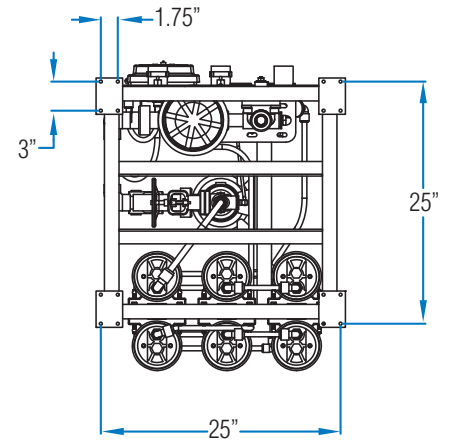
AXEON® Naming Matrix

	R1	6	1	40
R-SERIES MODEL				
R1 Tap Water Model				
HOUSING QUANTITY DESIGNATION				
1 1 Vessel				
2 2 Vessel				
3 3 Vessel				
4 4 Vessel				
5 5 Vessel				
6 6 Vessel				
MEMBRANE QUANTITY PER HOUSING				
1 1 Membrane				
4.0 INCH MEMBRANE DIAMETER				



Notes:

1. All dimensions are given in inches and [centimeters].
2. R1-6140 AXEON model shown.



Array Specifications

Model	Vessel Array	Vessel Size	Vessel Quantity	Membrane Size	Membrane Quantity
R1-1140	1	4040	1	4040	1
R1-2140	1:1	4040	2	4040	2
R1-3140	1:1:1	4040	3	4040	3
R1-4140	1:1:1:1	4040	4	4040	4
R1-5140	1:1:1:1:1	4040	5	4040	5
R1-6140	1:1:1:1:1:1	4040	6	4040	6

AXEON R1-Series Reverse Osmosis Systems

Specifications

Models	R1-1140	R1-2140	R1-3140	R1-4140	R1-5140	R1-6140
Design						
Configuration	Single Pass	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	TDS<2,000 ppm
Standard Recovery Rate	50-75%	50-75%	50-75%	50-75%	50-75%	50-75%
Rejection and Flow Rates						
Nominal Salt Rejection %	99	99	99	99	99	99
Permeate Flow* gpm (lpm)	1.0 (3.9)	2.1 (7.9)	3.1 (11.8)	4.2 (15.8)	5.2 (19.7)	6.3 (23.7)
Minimum Feed Flow gpm (lpm)	4.0 (15)	5.1 (19)	6.1 (32)	7.2 (27)	8.2 (31)	9.3 (35)
Maximum Feed Flow gpm (lpm)	16 (61)	16 (61)	16 (61)	16 (61)	16 (61)	16 (61)
Minimum Concentrate Flow gpm (lpm) with Recycle Based on 75% Recovery	3 (11)	3 (11)	3 (11)	3 (11)	3 (11)	3 (11)
Connections						
Feed inch	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Permeate inch	¾ FNPT	¾ FNPT	¾ FNPT	1 FNPT	1 FNPT	1 FNPT
Concentrate inch	¾ FNPT	¾ FNPT	¾ FNPT	1 FNPT	1 FNPT	1 FNPT
Membranes						
Membranes Per Vessel	1	1	1	1	1	1
Membrane Quantity	1	2	3	4	5	6
Membrane Size	4040	4040	4040	4040	4040	4040
Vessels						
Vessel Array	1	1:1	1:1:1	1:1:1:1	1:1:1:1:1	1:1:1:1:1:1
Vessel Quantity	1	2	3	4	5	6
Pumps						
Pump Type	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage
Motor HP (kw)	1.5 (2)	1.5 (2)	1.5 (2)	1.5 (2)	1.5 (2)	2 (2)
RPM @ 60 (50 Hz)	3450 (2875)	3450 (2875)	3450 (2875)	3450 (2875)	3450 (2875)	3450 (2875)
Electrical						
Standard Voltage	220V, 60Hz, 1Ph, 8.7A	220V, 60Hz, 1Ph, 8.7A	220V, 60Hz, 1Ph, 8.7A	220V, 60Hz, 1Ph, 8.7A	220V, 60Hz, 1Ph, 8.7A	220V, 60Hz, 1Ph, 14.1A
Voltage Options	220V, 50Hz, 1Ph, 14.1A	220V, 50Hz, 1Ph, 14.1A	220V, 50Hz, 1Ph, 14.1A	220V, 50Hz, 1Ph, 14.1A	220V, 50Hz, 1Ph, 14.1A	220V, 50Hz, 1Ph, 14.1A
	220V, 50Hz, 3Ph, 7.9A	220V, 50Hz, 3Ph, 7.9A	220V, 50Hz, 3Ph, 7.9A	220V, 50Hz, 3Ph, 7.9A	220V, 50Hz, 3Ph, 7.9A	220V, 50Hz, 3Ph, 7.9A
	220V, 60Hz, 3Ph, 6.7A	220V, 60Hz, 3Ph, 6.7A	220V, 60Hz, 3Ph, 6.7A	220V, 60Hz, 3Ph, 6.7A	220V, 60Hz, 3Ph, 6.7A	220V, 60Hz, 3Ph, 7.9A
	460V, 60Hz, 3Ph, 3.9A	460V, 60Hz, 3Ph, 3.9A	460V, 60Hz, 3Ph, 3.9A	460V, 60Hz, 3Ph, 3.9A	460V, 60Hz, 3Ph, 3.9A	460V, 60Hz, 3Ph, 4.3A
Systems Dimensions **						
L x W x H inch (cm)	29 x 26 x 61 (73 x 66 x 155)	29 x 26 x 61 (73 x 66 x 155)	29 x 26 x 61 (73 x 66 x 155)	33 x 26 x 61 (84 x 66 x 155)	33 x 26 x 61 (84 x 66 x 155)	33 x 26 x 61 (84 x 66 x 155)
Weight lb. (kg)	250 (110)	290 (130)	360 (160)	460 (210)	590 (270)	750 (340)

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

** 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 Piping 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.