

X2-SERIES INDUSTRIAL REVERSE OSMOSIS SYSTEMS



X2-6480
Industrial Reverse Osmosis System

AXEON® X2-Series Reverse Osmosis Systems are engineered to treat demanding feedwater conditions such as high content of dissolved solids. Designed for robust applications requiring high pressures, the **AXEON X2-Series Reverse Osmosis Systems** are ideally suited for brackish water.

X2-Series models range in capacity from 21 to 126 gallons per minute (30,240 to 181,440 gallons per day). Using high efficiency 8-inch reverse osmosis elements with 10% greater membrane surface area, **AXEON X2-Series Systems** are able to significantly reduce TDS in both municipal and well water sources while producing higher volumes of permeate water. Low energy brackish water membranes are available for cold temperature applications and high rejection brackish water membranes are available for high TDS applications.

The **AXEON X2-Series Systems** feature a pre-programmed computer controller, motorized feed valve, TDS probes and panel-mounted pressure and flow instrumentation. The larger models include digital flow indicators and VFD motor controls. Stainless steel components are used for the vertical multistage pump, cartridge filter housing, high pressure piping and valves, and the side ports on the FRP membrane housings.

AXEON Naming Matrix				
	X2	5	2	80
X-Series Model				
X2	Brackish Water Model			
Housing Quantity Designation				
2	2 Vessel			
3	3 Vessels			
4	4 Vessels			
5	5 Vessels			
6	6 Vessels			
Membrane Quantity Per Housing				
2	2 Membranes			
4	4 Membranes			
8.0 Inch Membrane Diameter				

FEATURES

- 8-inch Low Energy Membrane Elements
- 8-inch Fiberglass Membrane Housings with 316L Stainless Steel Side Ports (450 psi)
- 5-Micron Sediment Filters
 - Multi-Cartridge 316L Stainless Steel Cartridge Housing
 - Vertical 316L Stainless Steel Multi-Stage Pump
- Low and High Pressure Shut-Off Switches
- S-150 Pre-Programmed Computer Controller^A
- S-200 Pre-Programmed Computer Controller with VFD (Variable Frequency Drive)^B
- Permeate and Concentrate Rotameters^A
- Permeate and Concentrate Digital Paddlewheel Sensors^B
- Feed and Permeate TDS Monitoring
- Pre- and Post-Filter 316L Stainless Steel Pressure Gauges
- Pump Pressure and Concentrate 316L Stainless Steel Pressure Gauges
- Composite Feed Solenoid Valve^A
- PVC Feed Motorized Ball Valve^B
- 316L Stainless Steel Globe Throttling Valve
- 316L Stainless Steel Globe Concentrate Valve
- Powder Coated Carbon Steel Frame
- Sch80 Low Pressure PVC Piping
- Stainless Steel High Pressure 316L Piping
- Clean-In-Place (CIP) Ports with Valves
- Permeate Sample Valves
- Chemical Feed Ports
- Chemical Feed Power Outlet
- 460 VAC 3PH 60Hz

OPTIONS AND UPGRADES

- S-200 Computer Controller^C
- VFD^C
- Programmable Logic Controller (PLC) with Touch Screen
- Permeate and Concentrate Digital Paddlewheel Sensors^C
- PVC Feed Motorized Ball Valve^C
- PVC Permeate Divert Motorized Ball Valve
- Permeate Flush
- pH Sensor
- ORP Sensor
- Clean-In-Place (CIP) Skid Mounted System
- Chemical Feed System
- Voltage Options: 220VAC 3PH 60Hz, 220VAC 3PH 50Hz, 380VAC 3PH 50Hz

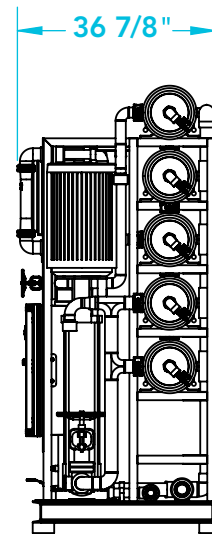
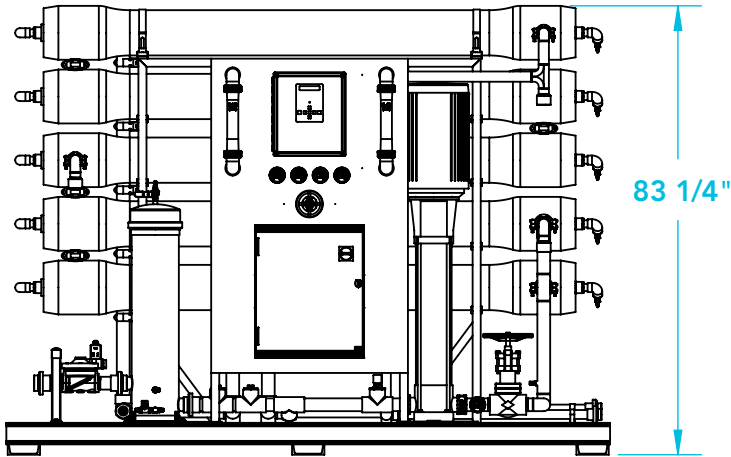
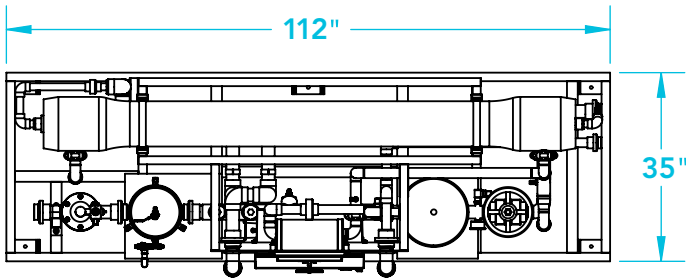


X2-5280
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A. Standard on Models X2-2280, X2-3280, X2-4280, X2-5280.

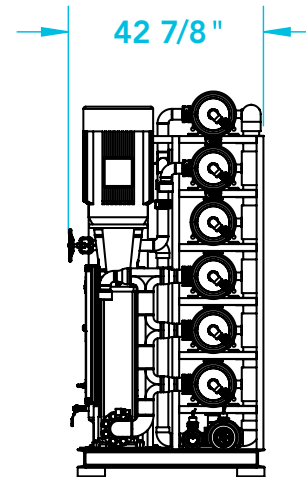
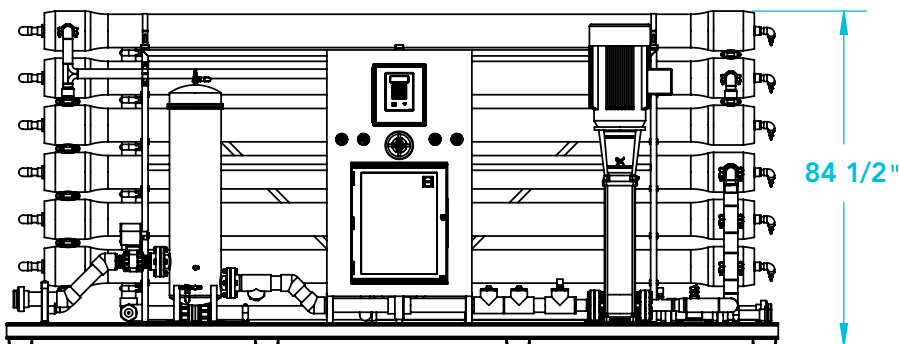
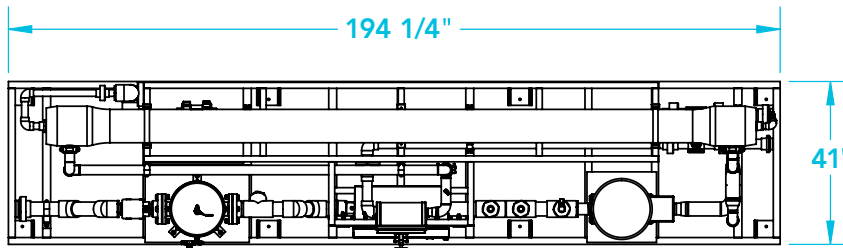
B. Standard on Models X2-3480, X2-4480, X2-5480, X2-6480.

C. Option available for Models X2-2280, X2-3280, X2-4280, X2-5280. Standard on larger models.



Notes:

1. All dimensions are given in inches.
2. Dimensions given for X2-2280 through X2-5280. (X2-5280 pictured)



Notes:

1. All dimensions are given in inches.
- Dimensions given for X2-3480 through X2-6480. (X2-6480 pictured)

SPECIFICATIONS

MODELS	X2-2280	X2-3280	X2-4280	X2-5280	X2-3480	X2-4480	X2-5480	X2-6480
Design								
Configuration	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass
Feedwater TDS max (ppm) ^D	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
Standard Recovery %	58	70	73	73	73	70	70	73
Rejection and Flow Rates^E								
Nominal Salt Rejection %	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
Permeate Flow Rate (gpm / lpm)	21.00 / 79.50	31.50 / 119.00	42.00 / 159.00	52.50 / 198.70	63.00 / 238.40	84.00 / 318.00	105.00 / 397.00	126.00 / 477.00
Minimum Concentrate Flow Rate (gpm / lpm)	15 / 57	13.5 / 51	15.3 / 58	19.42 / 73.51	23.3 / 88.20	36 / 136	45 / 170	46.6 / 176.40
Connections								
Feed Connection (in)	2 FNPT	2 FNPT	2 FNPT	2 FNPT	3 FNPT	3 FNPT	3 FNPT	3 FNPT
Permeate Connection (in)	1 1/2 FNPT	1 1/2 FNPT	2 FNPT	2 FNPT	2 1/2 FNPT	2 1/2 FNPT	3 FNPT	3 FNPT
Concentrate Connection (in)	1 1/4 FNPT	1 1/4 FNPT	1 1/4 FNPT	1 1/4 FNPT	1 1/2 FNPT	1 1/2 FNPT	2 FNPT	2 FNPT
Clean-in-Place Port (in)	1 1/2 FNPT	1 1/2 FNPT	1 1/2 FNPT	1 1/2 FNPT	2 FNPT	2 FNPT	2 FNPT	2 FNPT
Chemical Feed Port (in)	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT
Membranes								
Membranes Per Vessel	2	2	2	2	4	4	4	4
Membrane Quantity	4	6	8	10	12	16	20	24
Membrane Size	8040	8040	8040	8040	8040	8040	8040	8040
Vessels								
Vessel Array	1:1	1:1:1	2:1:1	2:1:1:1	2:1	2:1:1	3:1:1	3:2:1
Vessel Quantity	2	3	4	5	3	4	5	6
Pumps								
Pump Type	Vertical Multi-Stage Centrifugal Pump	Vertical Multi-Stage Centrifugal Pump	Vertical Multi-Stage Centrifugal Pump	Vertical Multi-Stage Centrifugal Pump	Vertical Multi-Stage Centrifugal Pump	Vertical Multi-Stage Centrifugal Pump	Vertical Multi-Stage Centrifugal Pump	Vertical Multi-Stage Centrifugal Pump
Motor HP / KW	15 / 11	15 / 11	25 / 19	25 / 19	25 / 19	40 / 30	40 / 30	50 / 37
System Electrical								
Standard Voltage + Amp Draw	460V, 60Hz, 3PH, 19A ^F	460V, 60Hz, 3PH, 19A ^F	460V, 60Hz, 3PH, 31A ^F	460V, 60Hz, 3PH, 31A ^F	460V, 60Hz, 3PH, 31A ^F	460V, 60Hz, 3PH, 48.5A ^F	460V, 60Hz, 3PH, 48.5A ^F	460V, 60Hz, 3PH, 58.5A ^F
System Dimensions								
Approximate Dimensions ^G L x W x H (in / cm)	112 x 35 x 74 / 284 x 89 x 188	112 x 35 x 74 / 284 x 89 x 188	112 x 35 x 74 / 284 x 89 x 188	112 x 35 x 84 / 284 x 89 x 213	194 x 41 x 78 / 493 x 104 x 198	194 x 41 x 78 / 493 x 104 x 198	194 x 41 x 78 / 493 x 104 x 198	194 x 41 x 84 / 493 x 104 x 213
Approximate Weight (lbs / kg)	2130 / 970	2450 / 1110	3040 / 1380	3340 / 1520	4100 / 1860	4490 / 2040	5280 / 2400	5640 / 2560

Test Parameters: 7,000 TDS Filtered (5-Micron), Dechlorinated, Municipal Feedwater, 65 psi / 4.50 bar Feed Pressure, 350 psi / 24 bar Operating Pressure, 77°F / 25°C, Recovery as stated, 7.0 pH. Data taken after 60 minutes of operation.

- D. Low temperatures and feedwater quality, such as high TDS levels will significantly affect the systems production capabilities and performance. Computer projections must be run for individual applications which do not meet or exceed minimum and maximum operating limits for such conditions.
- E. Product flow and maximum recovery rates are based on feedwater conditions as stated above. Do not exceed recommended permeate flow.
- F. Varies with motor manufacturer.
- G. Does not include operating space requirements.

OPERATING LIMITS^H

Design Temperature (°F / °C)	77 / 25	Maximum SDI Rating (SDI)	< 3
Maximum Feed Temperature (°F / °C)	85 / 29	Maximum Free Chlorine (ppm)	0
Minimum Feed Temperature (°F / °C)	40 / 4.4	Maximum Hardness (gpg)	0
Maximum Ambient Temperature (°F / °C)	120 / 49	Maximum pH (continuous)	11
Minimum Ambient Temperature (°F / °C)	40 / 4.4	Minimum pH (continuous)	2
Maximum Feed Pressure (psi / bar)	85 / 6	Maximum pH (cleaning 30 minutes)	13
Minimum Feed Pressure (psi / bar)	45 / 3	Minimum pH (cleaning 30 minutes)	1
Maximum Piping Pressure (psi / bar)	400 / 28	Maximum Turbidity (NTU)	< 1

H. System pressure is variable due to water conditions. Permeate flow will increase at a higher temperature and will decrease at a lower temperature.