AXEON

X2 – Series Industrial Reverse Osmosis Systems

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 – 6480 Industrial Reverse Osmosis System

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.



Know Higher Standards

Standard Features

- 8 inch Low Energy Membrane
 Elements (440 SF)
- 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*
- S 200 Pre–Programmed Computer Controller with VFD (Variable Frequency Drive)**
- Permeate and Concentrate Rotameters*
- Permeate and Concentrate Digital
 Paddlewheel Sensors**

Options and Upgrades

- S 200 Computer Controller***
- VFD***
- Programmable Logic Controller (PLC) with Touch Screen
- Permeate and Concentrate Digital
 Paddlewheel Sensors***
- PVC Feed Motorized Ball Valve***
- PVC Permeate Divert Motorized
 Ball Valve
- Permeate Flush
- * Standard on Models X2 2280, X2 3280, X2 4280, X2 5280.
- ** Standard on Models X2 3480, X2 4480, X2 5480, X2 6480.
- *** Option available for Models X2 2280, X2 3280, X2 4280, X2 5280. Standard on larger models.



- ORP Sensor
- Clean–In–Place (CIP) Skid Mounted System
- Chemical Feed System
- Voltage Options: 220VAC 3PH 60Hz, 220VAC 3PH 50Hz, 380VAC 3PH 50Hz

	X2	5	2	8
<u>X-SI</u>	ERIES MODEL			
X2	Brackish Water Model			
HO	JSING QUANTITY DESIGNAT	ON		
2	2 Vessels			
3	3 Vessels			
4	4 Vessels			
5	5 Vessels			
6	6 Vessels			
ME/	MBRANE QUANTITY PER HO	USING		
2	2 Membranes			
Λ	4 Membranes			



Industrial Reverse Osmosis System

- 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*
- PVC Feed Motorized Ball Valve**
- 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

PH Sonsor





Notes:

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



AXEON X2 – Series Reverse Osmosis Systems

Product Specifications								
Models	X2 – 2280	X2 – 3280	X2 – 4280	X2 – 5280	X2 – 3480	X2 – 4480	X2 – 5480	X2 – 6480
Design								
Configuration	Single Pass							
Feedwater TDS max (ppm) [†]	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 Rate	s ^{†††}							
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							
Membranes								
Membrane(s) 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								
Ритр Туре	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**	460V, 60Hz, 3PH, 19A**	460V, 60Hz, 3PH, 31A**	460V, 60Hz, 3PH, 31A**	460V, 60Hz, 3PH, 31A**	460V, 60Hz, 3PH, 48.5A**	460V, 60Hz, 3PH, 48.5A**	460V, 60Hz, 3PH, 58.5A**
Systems Dimensions								
Approximate Dimensions* 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

 [lbs / kg]
 Ibs / kg]
 Ibs / kg]
 Ibs / kg]
 Ibs / kg]

 Test Parameters: 7000 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.
 Ibs / kg/
 Ibs / kg/

* Does not include operating space requirements.

** Varies with motor manufacturer.

Operating Limits^{††}

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

† 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.

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

ttt Product flow and maximum recovery rates are based on feedwater conditions as stated above. Do not exceed recommended permeate flow.



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