

PWS–SERIES PACKAGED WATER SYSTEMS



PWS–Series
Packaged Water Systems

AXEON® PWS–Series Packaged Water Systems are integrated water purification solutions, utilizing **AXEON R1–Series Reverse Osmosis Systems** and prefabricated and assembled skids. These include pre-treatment for the reverse osmosis system. These plug-and-play skids come pre-assembled, pre-wired and pre-plumbed, making installation turnkey. **AXEON PWS–Series Packaged Water Systems** are an ideal solution for applications such as horticulture, car wash, water stores, water jet cutting, manufacturing, and other industrial related uses.

AXEON features a total of four (4) skids that match up to our nine (9) different models of reverse osmosis systems featured below:

Model	RO Flow Rates		System Dimensions (in/cm)			Pre-Treatment			Post Treatment	Approx. Shipping Weight (Lb/Kg)
	GPD	m ³ /day	Length	Depth	Height	Zeolite	GAC	Chemical Injection	Ultraviolet GPM	
R1-1140	1,800	6.8	96/244	29/73.6	81/206	1252	1252	4	12	920/420
R1-2140	3,600	13.6	96/244	29/73.6	81/206	1252	1252	4	12	1275/580
R1-3140	5,400	18.9	96/244	29/73.6	81/206	1252	1252	4	12	1375/625
R1-4140	7,200	24.6	96/244	34/86	81/206	1665	1665	15	12	1500/680
R1-5140	9,000	30.2	96/244	34/86	81/206	1665	1665	15	12	1550/703
R1-6140	10,800	35.9	96/244	34/86	81/206	1665	1665	15	12	1650/748
R1-8140	14,400	54.5	120/304	34/86	81/206	1665	1665	15	30	1700/771
R1-10140	18,000	68	120/304	34/86	81/206	2162	2162	15	30	1895/860
R1-12140	21,600	81.8	120/304	34/86	81/206	2162	2162	15	30	1945/882

Part Number	Item Description
211837	SYSTEM, SKID, W/PRETREATMENT, 1252 ZEOLITE, 1252 GAC, 4GPD CHEM INJ, 12 GPM UV, AXEON
211838	SYSTEM, SKID, W/PRETREATMENT, 1465 ZEOLITE, 1465 GAC, 15GPD CHEM INJ, 12 GPM UV, AXEON
211839	SYSTEM, SKID, W/PRETREATMENT, 1665 ZEOLITE, 1665 GAC, 15GPD CHEM INJ, 30 GPM UV, AXEON
211840	SYSTEM, SKID, W/PRETREATMENT, 2162 ZEOLITE, 2162 GAC, 15GPD CHEM INJ, 30 GPM UV, AXEON

AXEON PWS-Series feature a proven and reliable design with many top brand name components and accessories. All **AXEON** water systems are rigorously tested and qualified prior to shipment for trouble-free operation. With over 30 years of experience in manufacturing membrane systems and products, we strive to design systems for long-term performance and minimization of membrane fouling.



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SPECIFICATIONS

MODELS	R1-1140	R1-2140	R1-3140	R1-4140	R1-5140	R1-6140	R1-8140	R1-10140	R1-12140
Design									
Configuration	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass
Feedwater TDS max (ppm) ^A	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Standard Recovery %	29	45	56	63	68	56	63	68	71
Rejection and Flow Rates^B									
Permeate Flow Rate (gpd / lpd)	1,800 / 6,813	3,600 / 13,627	5,400 / 20,441	7,200 / 27,254	9,000 / 34,068	10,800 / 40,882	14,400 / 54,509	18,000 / 68,137	21,600 / 81,764
Permeate Flow (gpm / lpm)	1.25 / 4.73	2.50 / 9.46	3.75 / 14.19	5.00 / 18.93	6.25 / 23.66	7.50 / 28.39	10.00 / 37.85	12.50 / 47.32	15.00 / 56.78
Minimum Concentrate Flow (gpm / lpm)	3 / 11.35	3 / 11.35	3 / 11.35	3 / 11.35	3 / 11.35	6 / 22.71	6 / 22.71	6 / 22.71	6 / 22.71
Concentrate Recycle Flow Rate (gpm / lpm)	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93
Connections									
Feed Connection (in)	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Permeate Connection (in)	3/4 FNPT	3/4 FNPT	3/4 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Concentrate Connection (in)	3/4 FNPT	3/4 FNPT	3/4 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Membranes									
Membranes Per Vessel	1	1	1	1	1	1	1	1	1
Membrane Quantity	1	2	3	4	5	6	8	10	12
Membrane Size	4040	4040	4040	4040	4040	4040	4040	4040	4040
Nominal TDS Rejection %	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
Vessels									
Vessel Array	1	1:1	1:1:1	1:1:1:1	1:1:1:1:1	2:2:2	2:2:2:2	2:2:2:2:2	2:2:2:2:2:2
Vessel Quantity	1	2	3	4	5	6	8	10	12
Pumps									
Pump Type	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage
Motor HP	1.5	1.5	1.5	1.5	3	3	3	3	3
RPM @ 60Hz	3450	3450	3450	3450	3450	3450	3450	3450	3450
System Electrical									
Standard Voltage + Amp Draw	220V, 60Hz, 1PH, 8.8A ^C	220V, 60Hz, 1PH, 8.8A ^C	220V, 60Hz, 1PH, 8.8A ^C	220V, 60Hz, 1PH, 8.8A ^C	220V, 60Hz, 1PH, 16A ^C	220V, 60Hz, 1PH, 16A ^C	220V, 60Hz, 1PH, 16A ^C	220V, 60Hz, 1PH, 16A ^C	220V, 60Hz, 1PH, 16A ^C
System Dimensions									
Approximate Dimensions ^D L x W x H (in / cm)	26 x 26 x 60 / 73.66 x 66.04 x 154.94	26 x 26 x 60 / 73.66 x 66.04 x 154.94	26 x 26 x 60 / 73.66 x 66.04 x 154.94	32 x 26 x 60 / 78.74 x 66.04 x 154.94	32 x 26 x 60 / 78.74 x 66.04 x 154.94	32 x 26 x 60 / 78.74 x 66.04 x 154.94	32 x 50 x 60 / 83.82 x 127 x 154.94	32 x 50 x 60 / 83.82 x 127 x 154.94	32 x 50 x 60 / 83.82 x 127 x 154.94
Approximate Weight (lbs / kg)	250 / 113.40	290 / 131.54	330 / 149.68	370 / 167.83	430 / 195.05	470 / 213.19	510 / 231.33	550 / 249.48	590 / 267.62

Test Parameters: 550 TDS Filtered (5-Micron), Dechlorinated, Municipal Feedwater, 65 psi / 4.50 bar Feed Pressure, 80 psi / 5.5 bar Operating Pressure, 77°F / 25°C, Recovery as stated, 7.0 pH. Data taken after 60 minutes of operation.

- A. 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.
 B. Product flow and maximum recovery rates are based on feedwater conditions as stated above. Do not exceed recommended permeate flow.
 C. Varies with motor manufacturer.
 D. Does not include operating space requirements.

OPERATING LIMITS^E

Maximum Feed Temperature (°F / °C)	85 / 29	Maximum Free Chlorine (ppm)	0
Minimum Feed Temperature (°F / °C)	40 / 4	Maximum TDS (ppm)	2,000
Maximum Ambient Temperature (°F / °C)	120 / 49	Maximum Hardness (gpg)	0
Minimum Ambient Temperature (°F / °C)	40 / 4	Maximum pH (continuous)	11
Maximum Feed Pressure (psi / bar)	85 / 6	Minimum pH (continuous)	2
Minimum Feed Pressure (psi / bar)	45 / 3	Maximum pH (cleaning 30 minutes)	13
Maximum Pressure (psi / bar)	200 / 14	Minimum pH (cleaning 30 minutes)	1
Maximum Feed Silt Density Index (SDI)	< 3	Maximum Turbidity NTU	1

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



- 1 Frame / Skid**
 Heavy-duty reinforced aluminum with epoxy powder coating for corrosion resistance; fiberglass slotted grating inset; caster wheels for ease of movement.
- 2 Integrated Instrumentation**
 Allows for easier monitoring of the system's pressures and performance.
- 3 Zeolite Filter**
 Automatic backwashing zeolite system for the reduction of sediments down to 5 microns.
- 4 Granulated Activated Carbon (GAC) Filter**
 Automatic backwashing carbon system for the effective reduction of chlorine, VOC's, THM and other contaminants.
- 5 Chemical Injection System**
 Automatic dosing of anti-scalant for maximum membrane protection from Calcium, Magnesium Carbonate (hardness), Iron, Manganese and Silica (Sio2).
- 6 Ultraviolet (UV) System** (not pictured above)
 Automatic ultraviolet disinfection system for the reduction of bacteria and viruses.
- 7 Electrical**
 Integrated power outlets and all wiring to code for one electrical connection for 220 volts.
- 8 Plumbing**
 Aligned piping and conveniently located utility connections for the feed, permeate and concentrate water inlets/outlets.