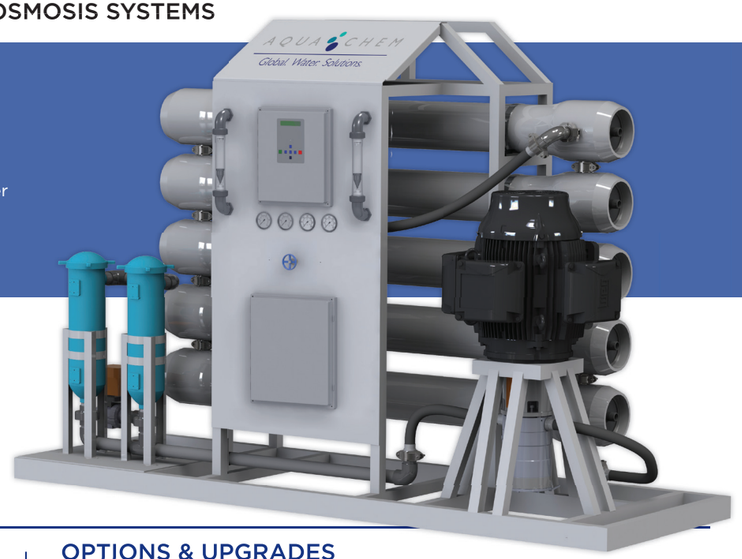
ACX3-SERIES

INDUSTRIAL SEAWATER REVERSE OSMOSIS SYSTEMS

ACX3-Series Industrial Seawater Reverse Osmosis Systems are engineered for seawater desalination and other high total dissolved solids (TDS) applications requiring high pressure pumps. The ACX3-Series systems are rated to handle total dissolved solids as high as 38,000 ppm (with higher levels of TDS achievable by adjusting the recovery and /or flux rate).



STANDARD FEATURES

- S-150 Computer Controller with soft start[1]
- S-200 Computer Controller with VFD[2]
- 8-inch Low Energy Seawater Elements
- Fiberglass Membrane Housings w/ Duplex Steel Side Ports
- 5 Micron Sediment Pre-Filter
- Multi-Cartridge PVDF/Polypro Cartridge Housing
- Permeate and Concentrate Rotameters[1]
- Permeate and Concentrate Digital Paddle Wheels[2]
- Pre- and Post-Filter Pressure Gauges
- Pump Pressure and Concentrate Pressure Gauges
- Permeate TDS
- Flow Control
- Motorized Feed Valve
- Low and High Pressure Shut-Off
- Permeate Flush
- Permeate Divert
- Plunger-Type Duplex Steel Pump
- Powder-Coated Carbon Steel Frame
- Nitrile High Pressure Hose/Stainless Steel Pipe
- Sch80 PVC Piping (Low Pressure Side)
- Chemical Feed Port
- Chemical Feed Power Outlet
- Permeate Sample Ports

OPTIONS & UPGRADES

- S-200 Computer Controller[3]
- VFD[3]
- Programmable Logic Controller w/ Touch Screen
- Permeate and Concentrate Digital Paddle Wheels[3]
- 8-inch Low Energy Seawater 440 SF Elements
- Clean-In-Place Skid-Mounted System
- Clean-In-Place Ports
- pH and/or ORP Sensor
- Chemical Feed System
- Energy Recovery Device (ERD)

[1]Standard on Models ACX3-8000, ACX3-16000, ACX3-24000, ACX3-32000, ACX3-40000
[2]Standard on Models ACX3-48000, ACX3-64000, ACX3-80000, ACX3-96000
[3]Option available for Models ACX3-8000, ACX3-16000, ACX3-16000, ACX3-24000, ACX3-32000, ACX3-32000, ACX3-40000. Standard on larger models.

MODELS	ACX3-8000	ACX3-16000	ACX3-24000	ACX3-32000	ACX3-40000	ACX3-48000	ACX3-64000	ACX3-80000	ACX3-96000
DESIGN									
System Capacity gpd (m^3/day)	8000 (30)	16000 (61)	24000 (91)	32000 (121)	40000 (151)	48000 (182)	64000 (242)	80000	96000 (363)
Configuration	Single Pass								
Feed Water Source (ppm)	TDS < 4,000								
Nominal Recovery Rate	30%	45%	50%						
REJECTION & FLOW RATES									
Nominal Salt Rejection	99.5%								
Permeate Flow[1] gpm (Lpm)	5.6 (21)	11.1 (42)	16.7 (63)	22.2 (84)	27.8 (105)	33.3 (126)	44.4 (168)	55.5 (210)	66.6 (252)
Min Concentrate Flow (gpm/Lpm)	14 (53)								
CONNECTIONS									
Feed (in)	2 FNPT								
Permeate (in)	1.25 FNPT			1.5 FNPT		2 FNPT		2.5 FNPT	
Concentrate (in)	1.25 FNPT			1.5 FNPT		2 FNPT			
Clean-In-Place Port (in)	1.5 FNPT					2 FNPT			
Chemical Feed Port (in)	0.5 NPT								
MEMBRANES									
Membranes Per Vessel	2				4				
Membrane Qty	2	4	6	8	10	12	16	20	24
Membrane Size	8040								
VESSELS									
Vessel Array	1	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	1	2	3	4	5	3	4	5	6
PUMPS									
Pump Type	Plunger								
Motor HP (kW)	20 (15)		25 (19)	40 (30)		50 (37)	75 (56)	100 (75)	
ELECTRICAL									
Standard Voltage[3]	460V 60Hz 3Ph								
SYSTEM DIMENSIONS									
L x W x H (in/cm)	132 x 45 x 90 (335x114x229)					267 x 41 x 90 (667x104x229)			
Weight (lb/kg)	2,230 (1,060)	2,260 (1,060)	3,090 (1,400)	3,860 (1,750)	4,220 (1,920)	5,390 (2,450)	5,870 (2,260)	7,150 (3,250)	7,570 (3,440)

OPERATING LIMITS			
Design Temperature (°F/°C)[2]	77 (25)	Maximum Turbidity (NTU)[2]	0
Maximum Feed Temperature (°F/°C)[2]	85 (29)	Maximum Free Chlorine (ppm)	0
Minimum Feed Temperature (°F/°C)[2]	41 (5)	Maximum TDS (ppm)[3]	40,000
Maximum Ambient Temperature (°F/°C)	120 (49)	Maximum Hardness (gpg)[3]	< 1
Minimum Ambient Temperature (°F/°C)	40 (4)	Maximum pH (Continuous)	11
Maximum Feed Pressure (psi/bar)	85 (6)	Minimum pH (Continuous)	3
Minimum Feed Pressure (psi/bar)	45 (3)	Maximum pH (Cleaning 30 Min.)	12
Maximum Piping Pressure (psi/bar)	1000 (69)	Minimum pH (Cleaning 30 Min.)	2
Maximum SDI Rating (SDI)	< 3	Maximum Turbidity (NTU)[3]	< 1

[1]Product flow and recovery rates are based on feedwater conditions of 38000ppm TDS at 77°F. Treatment ability of the RO system is dependent on feed water quality. Higher TDS and/or lower temperatures will reduce product flow. An Aqua-Chem Applications Engineer can rate the units for these other feed water conditions. [2]Appropriate Itration must be installed in order to prevent premature membrane fouling. [3]Scale prevention measures must be taken to prolong membrane life.