

REVERSE OSMOSIS by AQUA-CHEM

PERFORMANCE
RELIABILITY
SERVICEABILITY



Reverse Osmosis for the Beverage Industry

“Aqua-Chem Systems are long-lasting and reliable, featuring space-saving designs that seamlessly integrate with your existing equipment.”



Low Maintenance & High-Recovery
Aqua-Chem's Reverse Osmosis Systems

Aqua-Chem's range of Reverse Osmosis (RO) Systems are the result of decades of experience engineering complete water rooms to create the most efficient and sustainable systems to produce purified ingredient water for the beverage industry. Aqua-Chem Reverse Osmosis Systems are highly customizable utilizing a wide range of membranes from a variety of suppliers. This flexibility means that Aqua-Chem can balance all aspects of the purification process at your facility; feed water conditions, permeate quality requirements, energy consumption, and recovery goals to create the most efficient and sustainable system for your facility.

STANDARD FEATURES

- Pretreatment and Polishing processes integrated into one system
- VFDs on pump motor(s) to increase efficiency
- Vertical multistage pumps are longer-lasting and provide a higher level of reliability
- Convenient sample ports on each housing for easy quality monitoring
- Comprehensive Factory Acceptance Testing (FAT) performed in our ISO9001 certified facility
- Fully programmable alarm conditions customized to your system requirements (fixed or adjustable)
- Hot water sanitizable units are available
- Allen Bradley PLC and Touchscreen HMI for easy monitoring and seamless integration with existing equipment
- Aqua-Chem's field service team supports you during and after commissioning
- We offer operator training, preventative maintenance programs, and more
- Clean in Place (CIP)- Full machine or bank-by-bank capability

OPTIONS

- Integrated Concentrate Recovery to increase efficiency
- Stainless Steel Membrane Pressure Vessels



MODEL	Beverage RO-100	Beverage RO-200	Beverage RO-300	Beverage RO-400	Beverage RO-75	Beverage RO-150	Beverage RO-250	Beverage RO-350
Design Capacity	Single Pass	Single Pass	Single Pass	Single Pass	Double Pass	Double Pass	Double Pass	Double Pass
Nominal Product Flow (gpm)	100	200	300	400	75	150	250	350
RO Design Recovery (%)	80	80	80	80	80	80	80	80
w/ Concentrate Recovery Option (%)	up to 90	up to 90	up to 90	up to 90	up to 90	up to 90	up to 90	up to 90
Nominal Salt Rejection (%)	up to 99	up to 99	up to 99	up to 99	up to 99	up to 99	up to 99	up to 99
Design Feed Water Temperature (*F)	77	77	77	77	77	77	77	77
Operating Parameters**								
Operating Temperature (*F)	50 to 77	50 to 77	50 to 77	50 to 77	50 to 77	50 to 77	50 to 77	50 to 77
Maximum Operating Pressure (psi)	300	300	300	300	300	300	300	300
Operating pH Range (pH units)	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7
Nominal Feed Water Flow (gpm)	125	250	375	500	113	167	375	500
Membrane Elements	Energy Savings							
Membrane Surface Area (ft ²)	400	400	400	400	400	400	400	400
Vessel Length (membranes per Vessel)	6	6	6	6	6	6	6	6
Vessel Array (Pass 1)	2:1:1	4:2:1	6:3:2	8:4:2	2:1:1	4:2:1	6:3:2	8:4:2
Membrane Quantity (Pass 1)	24	42	66	84	24	42	66	84
Vessel Array (Pass 2)	N/A	N/A	N/A	N/A	2:1	3:1	5:2	6:3
Membrane Quantity (Pass 2)	N/A	N/A	N/A	N/A	18	24	42	54
Pumps	Vertical Multistage Centrifugal Pumps							
Motor (HP) (Pass 1)	25 HP	50 HP	75 HP	100 HP	25 HP	50 HP	75 HP	100 HP
Motor (HP) (Pass 2)	N/A	N/A	N/A	N/A	25 HP	50 HP	75 HP	100 HP
Terminal Point Connections								
Feed	3" Tri-Clamp	4" Tri-Clamp	6" Tri-Clamp	6" Tri-Clamp	3" Tri-Clamp	3" Tri-Clamp	6" Tri-Clamp	6" Tri-Clamp
Concentrate	1.5" Tri-Clamp	2" Tri-Clamp	2" Tri-Clamp	3" Tri-Clamp	1.5" Tri-Clamp	2" Tri-Clamp	2" Tri-Clamp	3" Tri-Clamp
Permeate	3" Tri-Clamp	3" Tri-Clamp	4" Tri-Clamp	6" Tri-Clamp	2" Tri-Clamp	3" Tri-Clamp	4" Tri-Clamp	6" Tri-Clamp
Electrical								
High Voltage (Pumps and Motors)***	480V, 60Hz, 3Ph	480V, 60Hz, 3Ph	480V, 60Hz, 3Ph	480V, 60Hz, 3Ph	480V, 60Hz, 3Ph	480V, 60Hz, 3Ph	480V, 60Hz, 3Ph	480V, 60Hz, 3Ph
Low Voltage (Control Panel)***	120V, 60Hz, 1Ph	120V, 60Hz, 1Ph	120V, 60Hz, 1Ph	120V, 60Hz, 1Ph	120V, 60Hz, 1Ph	120V, 60Hz, 1Ph	120V, 60Hz, 1Ph	120V, 60Hz, 1Ph
System Dimensions								
L x W x H (in)	268 x 53 x 72	268 x 53 x 74	268 x 84 x 72	268 x 90 x 87	288 x 75 x 72	268 x 80 x 74	288 x 96 x 74	288 x 108 x 87
Estimated Dry Shipping Weight (lb)	3,860	5,000	7,900	8,350	4,350	5,120	9,000	9,815
Estimated Wet Operating Weight (lb)	6,800	12,400	15,000	18,000	9,200	12,400	21,000	25,000

Additional Flow Rates and Customizations are Available.

*Treatment ability of the RO system is dependent on feed water quality.

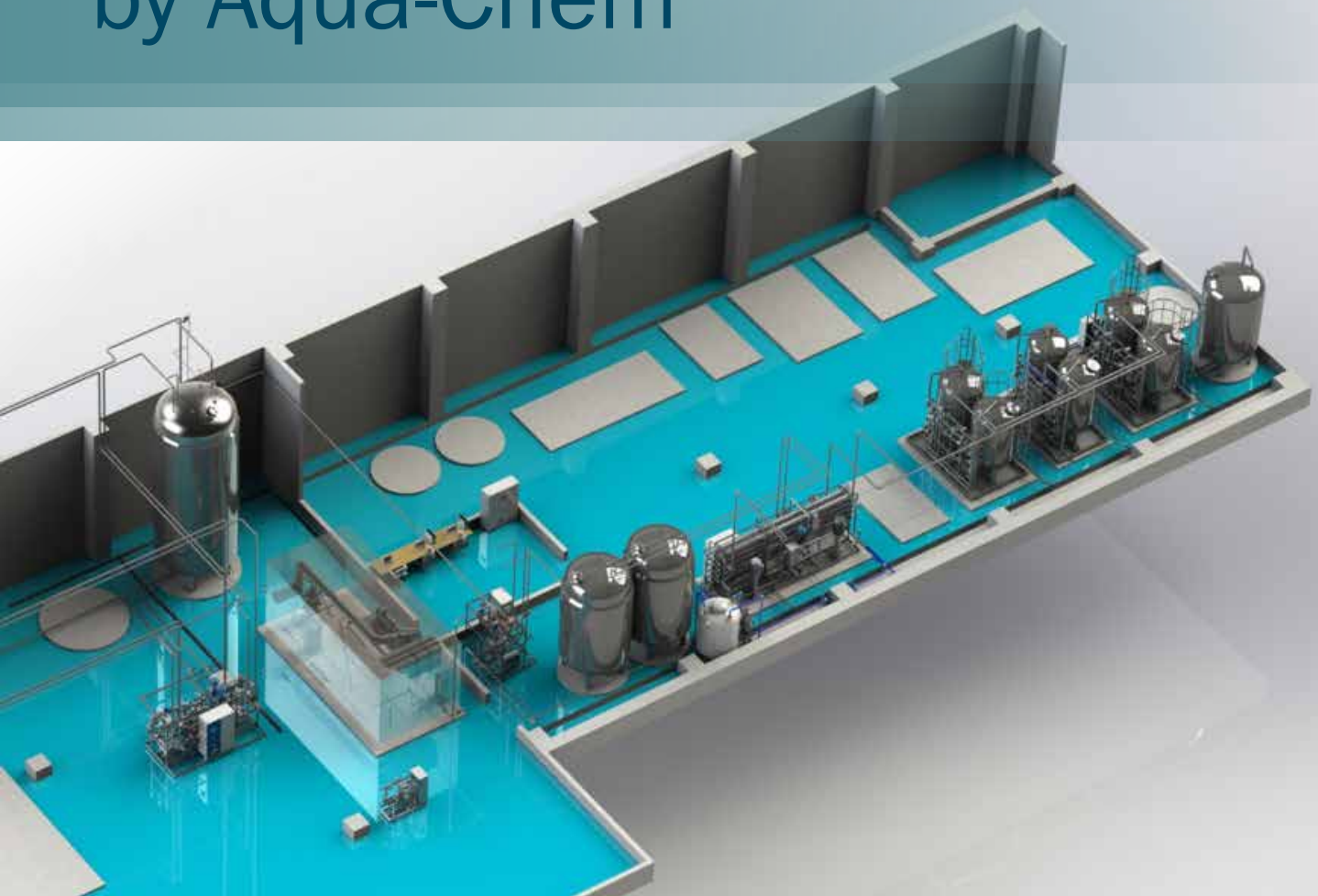
**Feed Water Source Requirements:

- System is based on municipal feed water
- Temperature: 50 to 77 °F
- Pressure: 30 to 80 psig
- NTU <1
- SDI <3
- TOC <3 ppm
- Free Chlorine <0.1 ppm
- Iron/ Manganese <0.1 ppm
- TDS <500 ppm
- Oil & Grease <0.1 ppm
- Silica <10 ppm
- Aluminum <0.5 ppm
- CO2 <12 PPM

Higher TDS and/or lower temperatures will reduce product flow. An Aqua-Chem Applications Engineer can rate the units for other feed water conditions.

***Consult Aqua-Chem Inc. for other voltage options.

Complete Water Rooms by Aqua-Chem



Reverse Osmosis Systems are a part of Aqua-Chem's full water room design, which is based on decades of experience in the manufacture of water for beverage production and includes:

- Multi-media filters
- Vapor Compression Distillation (VC)
- Reverse Osmosis (RO)
- Activated Carbon Towers
- UV disinfection systems (UV)
- Cartridge filters
- Ultrafiltration (UF)
- Distribution pump skids
- Storage tanks
- Feed Pump Skids
- Clean-in-Place Systems (CIP)

Aqua-Chem, Inc.
3001 E. Governor John Sevier Hwy.
Knoxville, TN 37914
+1-800-964-7035
+1-865-544-2065
sales@aqua-chem.com
www.aqua-chem.com

**AQUA CHEM**
GLOBAL • WATER • SOLUTIONS