

Reverse Osmosis Systems



Aqua-Chem provides a full range of reverse osmosis systems for offshore oil, gas and drilling customers. Our systems have provided potable water for more than 20 years and are in service around the world. Each reverse osmosis system affords low initial cost and economical life-cycle operating costs.

Design Features

Pumps – Our systems feature high-efficiency positive displacement high-pressure pumps.

Electrical System – A specially designed, watertight electrical system is composed of heavy duty, industrial-use components.

Pressure Gauges and Vessels – We use Monel glycerin-filled pressure gauges at all critical points and fiberglass noncorrosive pressure vessels.

Fittings – Only FDA-approved fittings are used on all product water lines.

Frame – For enhanced durability, the frame is made of powder-coated, noncorrosive aluminum.

Quality and Safety – We ensure product quality monitoring and safeguarding, as well as low and high-pressure shut-off protection and complete electrical circuit protection.

Hardware – Our systems include vibration isolation mounts and installation hardware.

Motors – All Aqua-Chem systems run on super efficiency TEFC motors.

Benefits

- Aqua-Chem delivers high-quality, competitively priced seawater and brackish water reverse osmosis systems that are designed and built for applications where space, economy and reliability are of utmost importance.
- We offer generous pre-filter sizing, which results in fewer filter changes and increased on-line production.
- Our high-efficiency, positive displacement, high-pressure pump helps reduce energy consumption.
- FRP Pressure Vessels are impervious to corrosion.
- Thin Film Composite polyamide membranes provide superior product quality and long life with minimal maintenance.
- Aqua-Chem technicians provide direct assistance during installation and throughout the life of the system.
- Our systems offer the lowest life-cycle costs for a greater return on investment.



Seawater Reverse Osmosis, SWRO

- Every system is backed by 20+ years of experience in design, manufacturing and service, with more than 1,200 systems operating on all seven continents.
- Our state-of-the-art energy recovery systems increase operating efficiencies.

Service

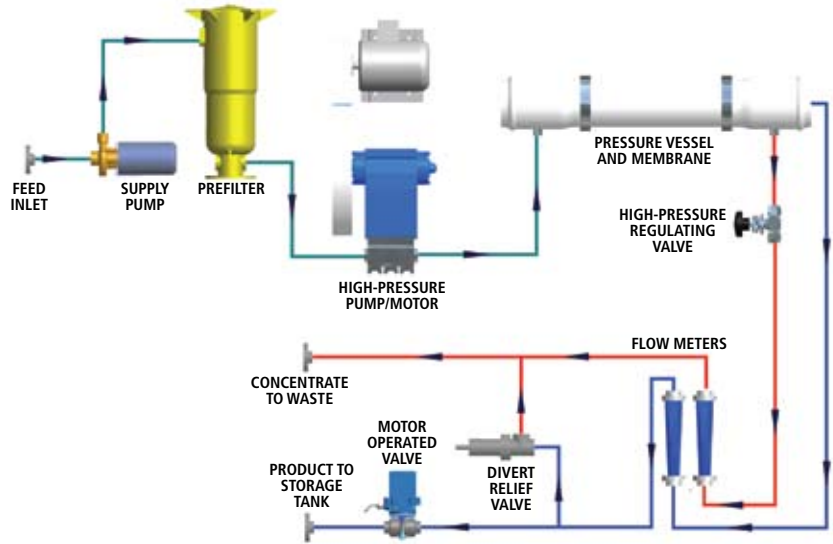
We pride ourselves on the ability to offer ongoing service and support for our equipment, even decades after installation. Our knowledgeable, factory-trained service technicians are ready to provide the support you need, either on a factory-direct basis or with the assistance of our distributors. We maintain inventories of key components and consumables – and ensure that our service advisors are readily available for technical support via phone or e-mail.

A Q U A  C H E M

Making Water Better.

How Aqua-Chem Reverse Osmosis Works

Desalination by Reverse Osmosis (RO) is a process whereby fresh water is extracted from seawater through the use of a semipermeable membrane. An RO watermaker consists of several key components. First, a supply pump withdraws the seawater from the source and supplies it to the plant. Prefiltration removes particulate matter from the seawater, and a scale inhibitor is added to the seawater to inhibit the precipitation of soluble salts within the RO unit. Then, a high-pressure pump pressurizes the seawater to approximately 800-1,000 psi. Pressure vessels house the RO membranes where the separation of fresh water from seawater occurs. Approximately 40 percent of the seawater feed is extracted as fresh product. The balance of the water, referred to as "concentrate," is discharged to drain. A real-time conductivity instrument measures the conductivity of the product water. If the maximum conductivity limit is exceeded, product water is automatically diverted to waste.



Equipment Characteristics

Ton/Day	US Gallons per Day	Design Op Temp (DegC)	Recovery Rate	Membranes	Pressure Vessels	Membrane Size	Feed Pump HP	H-P Pump HP	Length (Feet)*	Width (Feet)	Height (Feet)
15	3,961.80	20	23.5%	4	4	4" x 40"	1.5	7.5	5	3	3
40	10,564.80	20	40%	3	1	8" x 40"	2	15	12	5	5
50	13,206.00	20	40%	4	1	8" x 40"	2	20	15.5	5	5
60	15,847.20	20	40%	5	1	8" x 40"	2.5	20	18.5	5	5
70	18,488.40	20	40%	5	1	8" x 40"	2.5	25	18.5	5	5
80	21,129.60	20	40%	6	1	8" x 40"	3	30	22	5	5
100	26,412.00	20	40%	7	1	8" x 40"	5	40	25.5	5	5
300	79,236.00	20	40%	21	3	8" x 40"	10	125	25.5	5	5
500	132,060.00	20	40%	42	6	8" x 40"	20	200	25.5	5	5

*Add 50" each end for membrane installation and removal.