# Industrial Brackish RO Systems

## Capacity: 200,000 to 900,000 GPD

**RO-500 SERIES**

Pure Aqua's reverse osmosis systems are capable of removing salts as well as other impurities such as bacteria, sugars, proteins, dyes and constituents having a molecular weight greater than 150-250 Daltons.


TW-270K-6680

Pure Aqua supplies a full line of standard and fully customizable reverse osmosis systems, all of which are engineered using advanced 3D computer modeling and process design software for accurate and customized solutions.

### Standard Features

- Powder coated carbon steel frame
- 8" TFC spiral wound membranes
- Stainless steel multi-stage pump with TEFC motor
- FRP membrane housings
- 5 micron cartridge prefilter
- 460V/3ph/60Hz power requirement
- PLC based control panel
- Programmable time delay and set points
- HMI screen
- Motor starter
- NEMA 12 enclosure
- Low pressure switch
- High pressure switch
- Liquid filled pressure gauges
- Permeate conductivity monitor
- Permeate & concentrate flow meters

### Available Options

- Remote monitoring
- Feed water conductivity monitor
- Membrane cleaning skid
- Automatic hourly flush
- Feed/Permeate blending
- Export crating
- 220V or 380-415V/3ph/50 or 60Hz
- Product tank level switch
- Feed pH controller with sensor
- Feed ORP controller with sensor
- Water and hour meters
- Chemical dosing systems
- Media prefiltration systems
- Ozonation and UV sterilization systems
- Water softeners
- Post deionization polishers
- Containerized RO systems

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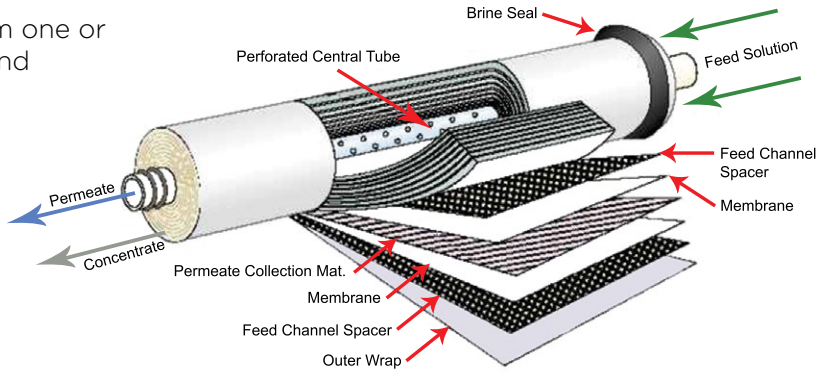
The spiral membrane is constructed from one or more membrane envelopes wound around a perforated central tube. The permeate passes through the membrane into the envelope and spirals inward to the central tube for collection. The layers of the membrane envelope are detailed in the diagram to the right.




## Operation Specifications

- Max. feed water temperature: 42°C
- Feed water pressure: 20 to 80 psi
- Operating pressure: 150 to 250 psi
- Hydrogen Sulfide must be removed
- Turbidity should be removed
- Max. iron content: 0.05 ppm
- Feed water TDS: 0 to (1,000 or 3,000 or 5,000 ppm)
- Equipment upgrade for TDS over 5,000 ppm
- Hardness over 1 GPG requires antiscalant dosing
- pH tolerance range: 3-11
- Max. Silica Tolerance: 60 ppm @ 60% recovery
- Operate at higher TDS by lowering recovery

| Model # | Permeate Flow Rate | | Quantity of 8" Membranes | Motor Rating at 1,000 ppm | | Approx. Weight (lbs) | Dimensions L"xW"xH" |
|---|---|---|---|---|---|---|---|
| | GPD | $M^3/D$ | | 60 Hz (hp) | 50 Hz (kw) | | |
| TW-200K-4780 | 200,000 | 758 | 28 | 30 | 22 | 4,700 | 350x72x80 |
| TW-225K-5680 | 225,000 | 852 | 30 | 30 | 22 | 4,850 | 300x72x80 |
| TW-270K-6680 | 270,000 | 1,023 | 36 | 40 | 30 | 5,050 | 300x72x80 |
| TW-320K-7680 | 320,000 | 1,212 | 42 | 40 | 30 | 5,200 | 300x72x90 |
| TW-360K-8680 | 360,000 | 1,364 | 48 | 50 | 37 | 5,750 | 300x72x90 |
| TW-410K-9680 | 410,000 | 1,553 | 54 | 60 | 37 | 6,250 | 300x72x90 |
| TW-450K-10680 | 450,000 | 1,705 | 60 | 60 | 45 | 7,500 | 300x72x90 |
| TW-500K-11680 | 500,000 | 1,894 | 66 | 60 | 45 | 8,500 | 300x72x80 |
| TW-550K-11780 | 550,000 | 2,083 | 77 | 75 | 45 | 8,750 | 350x72x90 |
| TW-600K-13780 | 600,000 | 2,273 | 91 | 75 | 55 | 9,250 | 350x84x92 |
| TW-700K-14780 | 700,000 | 2,652 | 98 | 100 | 75 | 9,650 | 350x84x94 |
| TW-800K-16780 | 800,000 | 3,030 | 112 | 2X60 | 2x37 | 10,200 | 350x84x96 |
| TW-900K-18780 | 900,000 | 3,409 | 126 | 2X60 | 2x37 | 10,650 | 350x84x98 |

Note: If the feed water TDS exceeds 1,000 ppm, the system model number changes to BW-XXXK-XXXX, and a suffix is added to the end of the model number: "-3" is added if the TDS is 3,000 ppm or less, and "-5" is added if the TDS is 5,000 ppm or less.
Example: Required system to produce 320,000 GPD with a feed water TDS of 5,000 ppm, the corresponding model number is: "BW-320K-7680-5".

Pure Aqua also supplies: Custom Engineered Solutions, Multimedia Pretreatment, Activated Carbon Pretreatment, Water Conditioning, Chemical Dosing Systems, Ultraviolet (UV) Sterilizers and Ozonation Systems.



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