

# COMMERCIAL RO SYSTEMS



## VERY HIGH TDS, BRACKISH WATER, RIVER INTAKE AND SEAWATER INTRUSION SYSTEMS (NOMINAL <20,000 TDS DESIGN)

### Standard Features

- Energy efficient, high flow membranes
- 5 micron sediment pre-filter
- Allen-Bradley programmable controller
- Liquid level float with auto shut-off
- Auto-flush system
- Pre- and post-filter, feed, concentrate, and product water pressure gauges
- Visual inline flow meters
- Low pressure feed water switch
- Victaulic style 304 stainless steel housing connections
- Low pressure alarm capable
- Motor starter with safety disconnect



### Optional Features

- 2 m<sup>3</sup>/d field portable system with gas or diesel powered generator
- Digital permeate TDS meter
- Automatic antiscalant dosing system
- Automatic or manual pH control dosing system
- Ethernet communication upgrade for the controller
- Digital permeate and concentrate flow meters with low level alarms
- Digital supply and concentrate pressure gauges with high level alarms
- Clean-in-place membrane maintenance station
- System shutdown during permeate flush
- Stainless steel wetted parts for liquid end of pump
- Step-down transformer from 3 phase to single phase
- Available in all international voltages



### Operating Parameters

Operating Pressure .....	750 to 1000 psi
Min. Supply Pressure .....	15 psi
Max. Temperature .....	113°F (45°C)
Nominal TDS .....	< 20,000 ppm
Max. Inlet Free Chlorine .....	< 0.1 ppm

### Specifications

Membrane Housings .....	High pressure, fiberglass reinforced plastic membrane housings
Frame .....	Structural fiberglass and aluminum
Controller Power Requirements ....	120V/60Hz/1Ph
Motor Power Requirements .....	230-460V/60Hz/3Ph
Pumps .....	Neutating disc design with positive displacement, brass pump head, Buna diaphragm, and stainless steel valve and seat

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	HTS-2-VHB	HTS-4-VHB	HTS-8-VHB	HTS-12-VHB	HTS-20-VHB	HTS-28-VHB	HTS-38-VHB	HTS-57-VHB	HTS-82-VHB
Actual Permeate (m <sup>3</sup> /d / gpd)	2 / 528	4 / 1056	8 / 2114	12 / 3170	20 / 5284	28.4 / 7503	38 / 10,040	57 / 15,060	82 / 21,664
Nominal Size (m <sup>2</sup> /d / gpd)	4.5 / 1200	4.5 / 1200	9.1 / 2400	18.2 / 4800	27.3 / 7200	36.3 / 9600	40.9 / 10800	67 / 17,700	89.3 / 23,600
Recovery	10 - 50%	10 - 50%	10 - 50%	10 - 50%	45 - 60%	45 - 60%	45 - 60%	45 - 60%	50 - 60%
Concentration Rate (gpm)	3.1	3.2	3.1	2.0	3.0	3.1	8.5	12.3	12.1
Recycle Rate (gpm)	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Supply Rate (gpm)	3.5	4.0	4.6	4.2	6.7	8.3	15.5	22.7	27.1
RO Pump Design Flow (gpm)	3.5	4.0	4.6	5.2	6.7	8.3	15.5	22.7	27.1
RO Pump Design Pressure (psi)	450.0	679.0	800.0	850.0	880.0	980.0	865.0	930.0	1000.0
RO Motor HP (60 Hz)	2.0	2.0	5.0	5.0	5.0	7.5	15.0	20.0	25.0
RO Motor kWh @ Flow	1.20	2.07	2.80	3.36	4.49	6.19	10.20	20.00	24.80
CIP Pump Design Flow (gpm)	10	10	10	10	20	20	20	30	30
CIP Pump Design Pressure (psi)	60	60	60	60	60	60	60	60	60
CIP Motor HP (60 Hz)	1	1	1	1	2	2	2	3	3
CIP Motor kWh @ Flow	0.91	0.91	0.91	0.91	1.83	1.83	1.83	2.74	2.74
Chemical Pretreatment	Optional	Optional	Required	Required	Required	Required	Required	Required	Required
<b>Membrane Elements</b>									
Diameter (in / cm)	4 / 10.16	4 / 10.16	4 / 10.16	4 / 10.16	4 / 10.16	4 / 10.16	4 / 10.16	8 / 20.32	8 / 20.32
Number	1	1	2	2	2	2	3	1	1
Array (Pressure Vessels)	1-0	1-0	1-1	1-1	1-1	1-1	2-1	1-0	1-0
<b>Connections NPS &amp; DN</b>									
Inlet (in / mm)	1/2 - 15	1/2 - 15	1/2 - 15	1/2 - 15	3/4 - 20	3/4 - 20	1 - 25	1 - 25	1 - 25
Permeate (in / mm)	1/2 - 15	1/2 - 15	1/2 - 15	1/2 - 15	1/2 - 15	1/2 - 15	3/4 - 20	1 - 25	1 - 25
Concentration (in / mm)	1/2 - 15	1/2 - 15	1/2 - 15	1/2 - 15	1/2 - 15	1/2 - 15	1/2 - 15	3/4 - 20	3/4 - 20
<b>Estimated Footprint</b>									
Height (in / cm)	30 / 76	30 / 76	30 / 76	30 / 76	36 / 91	36 / 91	60 / 152	60 / 152	60 / 152
Width (in / cm)	48 / 122	48 / 122	48 / 122	92 / 233.7	132 / 335.3	172 / 436.9	132 / 335.3	132 / 335.3	172 / 436.9
Depth (in / cm)	24 / 61	24 / 61	24 / 61	24 / 61	24 / 61	24 / 61	30 / 76	30 / 76	30 / 76
<b>Estimated Weight</b>									
Shipping (lb / kg)	195 / 88.45	195 / 88.45	220 / 99.8	285 / 130	330 / 150	420 / 191	455 / 206.4	498 / 226	624 / 284
Installed (lb / kg)	204 / 92.5	204 / 92.5	239 / 108.4	239 / 108.4	297 / 134.7	321 / 145.6	455 / 206.4	526 / 238.6	601 / 272.6

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MEMBER  
 FORM 1286  
 EFFECTIVE  
 NOVEMBER 2004