Biwater

Seawater Reverse Osmosis (RO) Containerised

SWRO-1090C

1090 m^3/day (200 gpm)

'flexible modular membrane treatment solution'

Functional Description

Single pass, single stage, twelve pressure vessels total. Each pressure vessel contains 7 thin film composite elements in series for a total of 84.

System produces 1,091 m^3/day (45 m^3/hr, 200 gpm) of product water at 40% recovery.

Basic Features (BAS)

- Container designed for overseas transportation
- High Pressure Centrifugal RO Feed Pump w/380/460V 3 phase 50/60 Hz TEFC motor
- VFD for Booster Pump & Feed Pump
- Valves: Permeate diversion valves, diaphragm valve for ERI reject out, isolation butterfly valves

Operating Parameters

TDS	37,000-45,000 mg/l (as NaCL)
Recovery	36-40%
Nominal Rejection	>98%
Operating Temperature	25 to 35°C (77 to 95°F)
Minimum Inlet Pressure	3 Bar (45 psig)
SDI_{15}	< 3
Membrane Rejection	99.6%

Note: Temperature and high salinities will reduce system productivity

Instrumentation

Flow Meters	Energy recovery feed, Permeate, Booster pump discharge
Conductivity	Permeate, Final product
Gauge Panel	Four low and three high pressure readings available via 5 way
Pressure Gauges.	Liquid filled for high and low pressures
Pressure Switch	RO pump

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Materials of Construction

Power Distribution Panels	NEMA 12
Control Enclosure	NEMA 4X
Sample Valves on vessels, feed, permeate and reject	PVC
Membrane Elements	Spiral wound thin film composite
Membrane Housing	Multi ported FRP 1000 psi rated
Low Pressure Piping	Schedule 80 PVC
High Pressure Piping	Zeron 100
Low Pressure Tubing	Polyethylene
High Pressure Tubing	Parflex

Options Available

- A: Pretreatment Container with multimedia & cartridge filters (SWRO PT-2725C) 480″ L x 96″ W x 6″ H
- B: ASME Code stamped pressure vessels
- C: Post-treatment degasifier
- D: 380 V, 3 Ph, 50 Hz fuse, A/C, lighting kit
- E: pH meter and H_2SO4 chemical feed
- F: NaOCl pretreatment chemical feed
- G: SBS chemical feed
- H: Installation and commissioning supervision/services are available

Physical Data and Dimensions

- 480″ L x 96″ W x 96″ H (12,192 mm L x 2,438 mm W x 2,438 mm H)
- SWRO-1090C: 7,500 kg (16,500lbs) ….membrane weight not included
- Membrane weight: 1,525 kg (3,360lbs)
- Power Consumption: Approx 3.0 kW hr/m^3

Summary

Biwater AEWT's SWRO Containerised Series allow for immediate fast and easy site installation. They lend themselves to remote sites for the construction industry, industrial, oil and gas industry and for emergency supply.

All necessary equipment required for independent operation is provided given the necessary pretreatment precautions are taken.

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