

SeaTECH Series

SeaTECH-84: 1000m³/day (200gpm) SWRO Container

This specification defines the integrated design requirements for the SeaTECH line of containerized systems for the Industrial, Power and Municipal markets. All necessary equipment required for independent operation is provided given the necessary pretreatment precautions are taken. Design basis includes containerized system with centrifugal feed pump as well as a containerized media filter and cartridge filter system (SeaTECH-MMF-84x3V). Optional configurations available based on market needs.

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 1,000 m³/day (45 m³/hr, 200 gpm) of product water at 40% recovery.

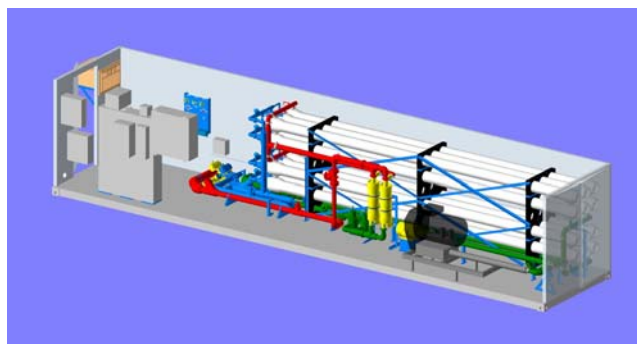
Operating Parameters

- TDS 37,000-45,000 mg/l (as NaCl)
- SDI₁₅ < 3.0
- Temperature 25 to 35°C (77 to 95°F)
- Recovery 40 to 36%
- Nominal Rejection >98%

Note: Required 3bar (45psi) minimum customer supplied pressure to high pressure RO Feed Pump. Temperatures and high salinities will reduce system productivity.

Standard Components

- Container designed for oversea transportation
- High Pressure Centrifugal RO Feed Pump w/ 400/460V 3 phase 50/60 Hz TEFC motor



- Energy Recovery Device and Booster Pump
- VFD for Booster Pump & RO Feed Pump
- Valves: Permeate diversion valves, diaphragm valve for ERI reject out, isolation butterfly valves

Control Features & Power Requirements

- GE Fanuc Versamax Micro PLC with 6-inch Quickpanel HMI
- Remote start/stop & alarm capabilities
- Zero recovery flush on shutdown
- Power: 400/460V, 3 phase, 50/60 Hz, UL listed components with CE marking

Instrumentation

- Conductivity Permeate, Final product
- Flow meters Energy recovery feed, Permeate, Booster pump discharge
- Pressure switch RO Feed pump
- Pressure gauges liquid filled for high and low pressures
- Gauge Panel four low and three high pressure readings available via 5 way valves for pressure monitoring

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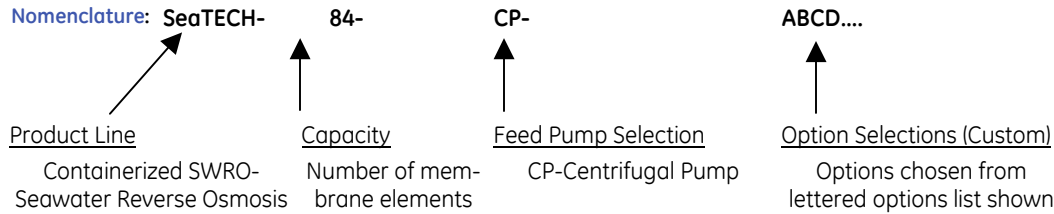
Membranes & Housings

- Multi Ported FRP pressure vessel design, 1000psi rated
- Spiral wound thin film composite membranes

Materials of Construction

- Power Distribution PanelsNEMA 12
- Control Enclosure NEMA 4X

- High pressure pipingZeron 100
- Low pressure pipingPVC Schedule 80
- Low Pressure Tubing Polyethylene
- High Pressure TubingParflex
- PVC Sample Valves on each vessel, feed, permeate and reject



Physical Data

Container Weight:

- SeaTECH-84: 16,500lbs (7,500 kg) dry membranes not included
- Membrane Weight: 3,360lbs (1,525 kg)

Dimensions

SeaTECH-84 Container:

- 480" L x 96" W x 96" H
- 12,192 mm L x 2438 mm W x 2438 mm H

SeaTECH-84 Overall:

- 480" L x 456" W x 96" H
- 12,192 mm L x 11,582 mm W x 2438 mm H

Power Consumption:

- ~3.0 kW hr/m³

Example

SeaTECH-84-CP-AG

200gpm standard SeaTECH container with centrifugal feed pump, pretreatment container, and SBS chemical feed

Option Package Codes:

- SeaTECH-MMF-84x3V, Pretreatment Container with multimedia and cartridge filters 480" L x 96" W x 96" H
- ASME Code stamped pressure vessels
- Post-treatment degasifier
- 400 V, 3 Ph, 50 Hz fuse, A/C, Lighting kit
- pH meter and H₂SO₄ chemical feed
- NaOCl pretreatment chemical feed
- SBS chemical feed
- Installation and commissioning supervision/services are available