

SeaPRO* series 60 Hz

seawater desalination machines 35,000 ppm NaCl
20-60 gpm (4.5-13.6 m³/hr)

features

- GE Fanuc¹ QuickPanel 12", 12-inch color display, Text and pictorial operating screens, Touchscreen controls
- GE Fanuc VersaMax, Communication: RS232/DH485/Ethernet, Analog output: 4 points
- 4-20 mA instruments on PanelView
- Primary and final pressure transmitters
- Variable frequency drive (VFD) for high pressure pump
- Automated valves and control for full permeate flush upon shut down
- Stand alone master control enclosure, skid mounted local control enclosure with remote I/O

instrumentation

Flow Meters	Permeate, concentrate
Conductivity.....	Permeate
pH.....	Feed
Pressure	Pre-filter, post-filter, Primary, final, permeate concentrate, pump discharge
Pressure Switch.....	Feed, permeate, concentrate
Instrument center.....	Thornton 770 MAX

options available

- Allen Bradley control system
- Multi-Media filters
- Clean-in-Place (CIP) units
- Chemical feed systems

¹ GE Fanuc is a trademark of General Electric Company.



documentation included

- Operation and maintenance manual
- Control narrative
- Drawings: piping and instrumentation, electrical and general dimensional

operating parameters

Recovery	40 - 45%
Design temp.....	77°F (25°C)
Design Feed TDS.....	35,000 ppm NaCl
Operating range.....	35 to 85°F (1.6 to 29.4°C)
Minimal inlet pressure	30 psi (2 Bar)

materials of construction

High-pressure piping.....	Sch. 10, Duplex 2205
Low-pressure piping	Sch. 80, PVC
Frame.....	Painted carbon steel
Local Enclosure	FRP, NEMA 4X
Main Enclosure	Painted carbon steel, NEMA 4
VFD Enclosure	Painted carbon steel, NEMA 4
Clamps/fittings	Zinc-plated

cartridge filtration

Housing material	GRP (glass reinforced plastic)
Cartridge filter	5-micron nominal, ROsave.Z*s

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membrane elements and housings

StyleSpiral-wound elements
 Membrane type TFC HR (Polyamide)
 Element Area 400 ft²

Average membrane flux8-10 GFD
 Housing material FRP, 80 Bar (1200 psi)
 Housing closure typeRing and plate style closure

SeaPRO models

MODEL	SeaPRO-8	SeaPRO-16	SeaPRO-28
Permeate rate:	28.8k gpd 20 gpm (4.5 m ³ /hr)	57.6k gpd 40 gpm (9.0 m ³ /hr)	86.4k gpd 60 gpm (13.6 m ³ /hr)
Concentrate Rate:	30 gpm (6.8m ³ /hr)	49 gpm (11.1 m ³ /hr)	74 gpm (16.8 m ³ /hr)
Feed Rate:	50 gpm (11.4 m ³ /hr)	89 gpm (20.2 m ³ /hr)	134 gpm (30.4 m ³ /hr)
Pumps and Motors			
Model:	MSS 1540	MSS 2026	MSS 3029
Manufacturer:	SUEZ/FEDCO SM	SUEZ/FEDCO SM	SUEZ/FEDCO SM
Quantity:	1	1	1
Motor HP and type:	40Hp (29.9 kW) TEFC	60Hp (44.7 kW) TEFC	100Hp (74.5 kW) TEFC
Design Flow Rate:	50 gpm (11.4 m ³ /hr)	90 gpm (20.4 m ³ /hr)	135 gpm (30.7 m ³ /hr)
Design boost pressure:	665 psig (45.9 Bar)	670 psig (46.2 Bar)	660 psig (45.5 Bar)
Energy Recovery Booster			
Model:	HPB 20	HPB 20	HPB 30
Manufacturer:	SUEZ/FEDCO SM	SUEZ/FEDCO SM	SUEZ/FEDCO SM
Quantity:	1	1	1
Design boost pressure:	260 psig (17.9 Bar)	255 psig (17.6 Bar)	270 psig (18.6 Bar)
Membrane Elements and Housings			
Membranes quantity:	8	16	28
Memb. housing style:	4 element long, 4 port	4 element long, 4 port	4 element long, 4 port
Banking Arrangement:	1→1	2→2	4→3
Cartridge Filtration			
Cartridge Filter:	RO.Zs05-40XK	RO.Zs05-40XK	RO.Zs05-30XK
Filter Length:	40" (102 cm)	40" (102 cm)	40" (102 cm)
Filter Quantity:	6 per change out	10 per change out	22 per change out
Installation and Utility Requirements			
Inlet:	1.5" flange	2.0" flange	3.0" flange
Permeate:	1.0" flange	1.5" flange	2.0" flange
Concentrate:	1.5" flange	1.5" flange	2.0" flange
Inlet Water Pressure:	30 psig, minimum	30 psig, minimum	30 psig, minimum
Air Pressure:	100 psig, oil-free	100 psig, oil-free	100 psig, oil-free
Drain to be Sized for:	50 gpm (11.4 m ³ /hr)	89 gpm (20.2 m ³ /hr)	134 gpm (30.4 m ³ /hr)
Power:	230/460 VAC, 3-phase, 60Hz	230/460 VAC, 3-phase, 60Hz	230/460 VAC, 3-phase, 60Hz
Control Circuit:	120 VAC, 1-phase, 60Hz	120 VAC, 1-phase, 60Hz	120 VAC, 1-phase, 60Hz
SeaPRO Skid			
Height:	88" (224 cm)	88" (224cm)	88" (224 cm)
Width:	52" (132 cm)	52" (132 cm)	52" (132 cm)
Depth:	199" (506 cm)	199" (506 cm)	199" (506 cm)
Weight Estimate for Shipping Purposes:	3400 lb (1542 kg)	4000 lb (1814 kg)	4500 lb (2041 kg)

