

SOLARMAAX 200 TROPIC SPECIFICATIONS

Production Rate:

7.5-13 Gallons per hour, 28-50 liter per hour

The production rate is set by the displacement of the Enhanced Clark Pump energy recovery device and the feed flow rate. The SolarMaax 200 tropic uses a 10% displacement Enhanced Clark Pump so 10% of the feed water flow is turned into product water. Water temperature and salinity affect operating pressure but have little effect on production rate. Changes in feed flow do have an effect, the more feed flow the more product. Supplying good voltage to the feed pump gives the best production rate. Running the system while the batteries are bulk charging gives the highest production rates.

RO Membrane:

One standard seawater RO 2521 Membrane element

Membrane Type: Polyamide Thin-Film Composite

Range of Operating Pressures: 650 to 1000 psi (45 to 69 bar)

Normal Operating Pressure: Set by feed water conditions and feed flow rate.

Salt Rejection rate: 99.4%

Maximum Operating Temperature: 113°F (45°C)

Minimum Storage/Operating Temp: 32°F (0°C)

Maximum Operating Pressure: 1,000 psi, (69 bar)

Maximum Pressure Drop: 15 psi (1 bar)

pH Range, Continuous Operation: 2-11

pH Range, short-term cleaning: 1-12

Free Chlorine Tolerance: <0.1ppm

Electrical Power Requirements:

8-10 amps @ 12.5-14.4 VDC, 15 amp fuse/breaker

4-5 amps @ 25.0-28.8 VDC, 7.5 amp fuse/breaker

The Enhanced Clark Pump Hydraulic Pressure Intensifier:

Manufactured by Electromaax for marine and military use. The Clark Pump uses the Feed/Boost pump flow pressure to intensify the pressure of the flow through the RO membranes high enough for reverse osmosis to occur. There are no electrical components.

Displacement: 10 %

Pressure Intensification Ratio: 10:1

Feed Flow range: 1.0 gpm (3.78 lpm) to 4.0 gpm (15.14 lpm)

Maximum Inlet pressure: up to 125 psi (8.6 bar)

Maximum Working Pressure: 1000 psi (68.9 bar)

Maximum operating temperature: 113°F (45°C)

Maximum storage temperature: 140°F (60.0°C)

Dimensions: 26.38" (67cm) W, 5.75" (14.6cm) D, 8.0" (20.32cm) H

Pressure Relief Valve: Manually open 1/2 turn for priming and servicing.

Feed Pump:

Motor: Permanent magnet type, fully enclosed with heat sink, 1/8 hp

Pump Body: Thermoplastic

Pump Type: 3 chamber diaphragm

Typical Amp Draw: 8 to 10 amps @ 12VDC, 4-5 amps @ 24VDC

Recommended fuse size: 15 amps @ 12VDC, 4.5 amps @ 24VDC

Average Flow Rate: 1.4 gpm (5.3 lpm) each

Pressure Vessel:

Filament wound fiberglass/epoxy composite vessel using non-metallic easily removeable endcaps for membrane replacement and larger than standard internal porting and fittings for increased energy efficiency.

The most compact complete assembly available

Max pressure 1000 psi (69 Bar)

Burst pressure 3000 psi (207 Bar)

Prefilter and Auto Fresh Water Flush Filter housings:

Industry standard, 10-inch, plastic, filter housings. Accepting 9.75" by 2.5" high flow carbon filter elements and pleated 5-micron pre-filter elements.

Controls:

Level 1 electronics in an enclosure for remote control, Auto-Flush, status LEDs and manual over-ride switch for emergency operation

Remote Control panel with Pump and Auto-Flush control switches, Flow Meter and Product Diversion Valve for testing and servicing.

Clark Pump and Pressure Vessel Assembly:

Clark Pump and Membrane mounted on a frame and pre-plumbed with HP hoses

Dimensions: 12.1" (307 mm) W, 24.7" (630 mm) L, 8.4" (213 mm) H

Weight: 30.0 lbs. (14 kg)

Feed Pump Assembly:

The Feed Pump, Prefilter and Electronic Control Module mounted, wired and pre-plumbed on a frame with isolation dampeners

Dimensions: 9.7" (247 mm) W, 6.7" (170 mm) D, 13.6" (345 mm) H

Weight: 14.6 lbs. (6.6 kg)

Shipping:

3 boxes:

30" x 12" x 12" - 36lbs

18" x 18" x 16" - 30lbs

12" x 12" x 14" - 10lbs