

SPECTRA MONTEREY 1000

1000 Gallons per Day Using One 3/4 Horsepower Motor



MONTEREY 1000 SYSTEM

After 20 years of high powered high-pressure pumps used in reverse osmosis watermakers, Spectra has developed a new high capacity high-pressure pump module and electronic controller that revolutionizes the way watermakers will work in the future.

Using the patented Clark high-pressure pump technology, Spectra Watermakers has developed a high-pressure pump module that is ultra quiet, vibration free, and can produce 1000 gallons (3500 liters) of water per day using one ¾ horsepower motor. Conventional systems require 3 to 5 horsepower and two motors.

No need to go to the engine room to adjust the watermaker. In fact, there are no gauges or adjustments to be made on the watermaker unit. With the MPC-3000 Electronic Controller, you just set the run time you need and forget it. The MPC-3000 controller will do everything else.

Simplified Operation, No Adjustments Necessary

The Monterey 1000's two pump, one motor design high-pressure pump module has eliminated the need for multiple flow gauges, multiple pressure gauges, flow control valves and multiple motors found on conventional systems.

No more adjusting the pressures for the environment you are in. No need to change pressures for fresh or brackish water conditions or warm water conditions to colder water conditions. Because the Clark high-pressure pump proportions the proper amount of water through the membrane, there is no need for a flow control valve. This eliminates the possibility of improper flows and pressures that could damage the membrane.

MPC-3000 Controller One Button Operation

All functions are in one small 5.25" x 3.75" control display panel located in a convenient space away from the watermaker. Multiple control display panels can be added for even more convenience.

The MPC-3000 display monitors the pre-filter condition, feed water pressure, water tank full status (with optional tank switch), product water quality, product water flow rate to your tanks and total system hours.

One touch to the MPC-3000 touch pad sets the watermaker in motion. The controller produces the desired amount of water or fills the tanks full, then flushes itself clean and shuts off. You can also set the controller to keep your watermaker in a fresh water storage state for as long as you like. Just set it and forget it!



The electrical control box has a built-in manual override system so the watermaker can work without the MPC-3000 electronic control. The electrical control box can also be remotely mounted to reduce the size of the watermaker.

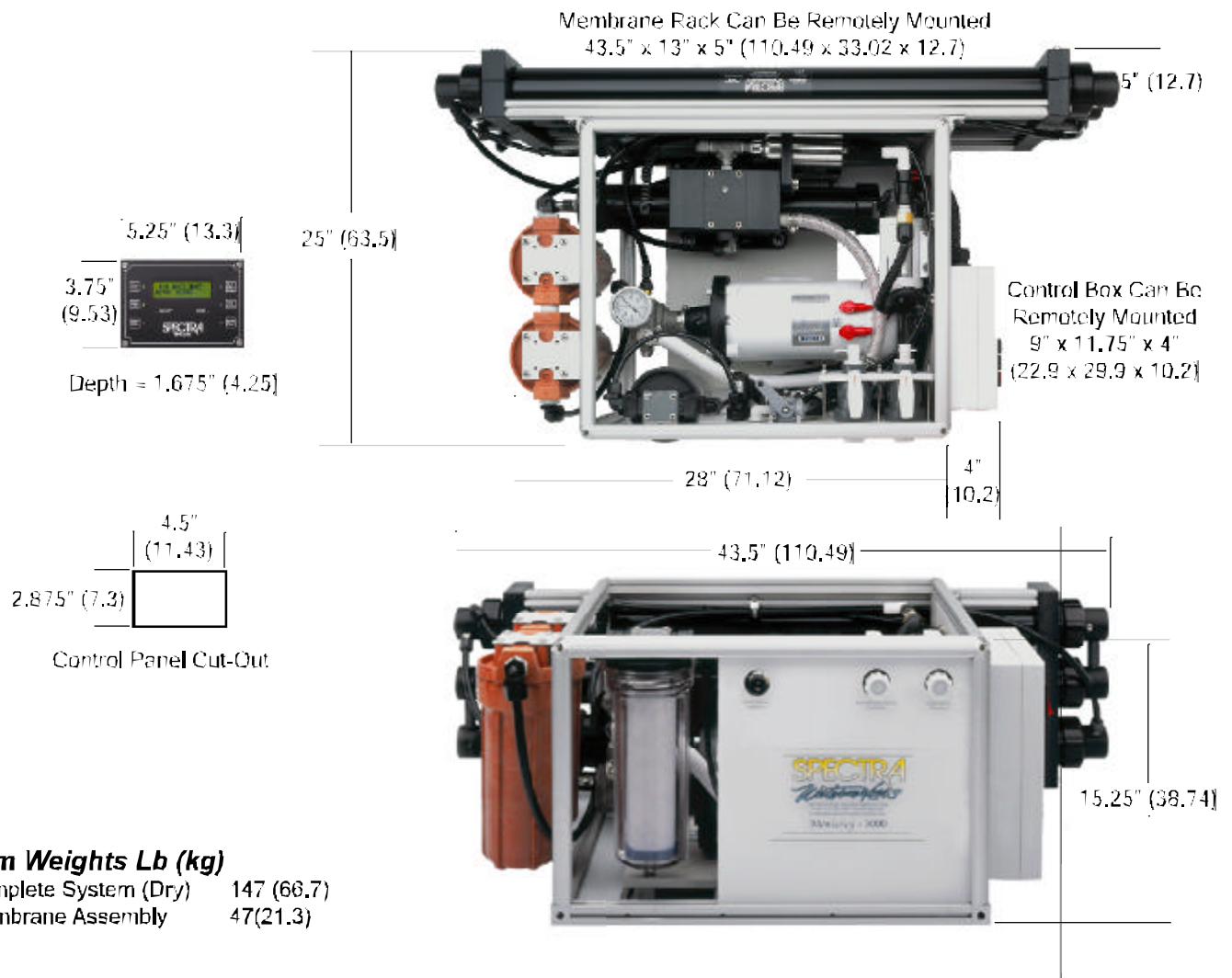
Ultra Quiet, Vibration Free High Pressure Pump Technology

Water temperature and the amount of salt in the water are the determining factor for what pressures are required in the membrane. With conventional watermakers, you need to manually readjust the pressures and or flows if any of the water conditions change.

Spectra's pump module design, with the combination of a positive displacement feed water pump and Clark high pressure pump, can maintain the proper pressures in the membrane throughout a wide range of temperatures and water conditions without any adjustments. Unlike conventional systems which are rated at 77° F water, the Spectra watermaker will produce full rated output in a wide range of water conditions.

With the elimination of a control needle valve and high speed piston type pump found on conventional systems, the Spectra watermaker noise level has dropped dramatically. The one low power motor design has a noise level of a household refrigerator.

Component Dimensions inches (centimeters)



Options for Monterey 1000

Additional Display Panel with 50 Foot Control Cable (up to a total of 3 per system)

Additional 50 Foot Control Cable

Additional Alarm Annunciator (each control display panel and the control box will accept an annunciator)

Water Tank Sensor Switch, Side Mount (the MPC-3000 controller can accept up to two tank sensors)

Water Tank Sensor Switch, Top Mount (the MPC-3000 controller can accept up to two tank sensors)

U.V. Sterilizer

Media Filter System (requires booster pump)

Plankton Filter

Monterey 1000 Specifications

WATER PRODUCTION (See Note 1)

Output with 77°F/25°C seawater
Output with 60°F/16°C seawater
Output with 55°F/13°C seawater

Gallons per day/Hr (LPD / LPH)

1000 / 41.5 (3684 / 153)
1000 / 41.5 (3684 / 153)
950 / 39.5 (3500 / 146)

POWER REQUIREMENTS (See Note 2)

Pump Horsepower	¾
Watts (Single Phase 120 VAC)	1000
Watt/Hr per Gallon (DC System)	15
Amp/Hr per Gallon (24 VDC)	0.55
Start-up Power (watts)	1500
Current Draw (24 VDC)	23 Amps
Current Draw (120 VAC)	8.5 Amps
Current Draw (240 VAC)	4.5 Amps
Inverter Requirements	1500 Watts or Better

HIGH PRESSURE PUMP

Type / Model	Pressure Intensifier / Spectra Clark High Pressure Pump
Power Requirements	Hydraulic from Feed Water Pump
Construction Material	Space Age Composite Materials
Strokes per Minute	22 to 24
Crank Case Oil	None Required
Pump Warranty	Lifetime on Complete Pump
Noise Level of High Pressure Pump only	5 db
Pump Weight	18 lbs (8.16 kg)

FEED WATER PUMP

Type / Model	Vane Type Positive Displacement / 3.8 GPM
Mounting Requirement	Can be mounted up to 6 feet above waterline
Power Requirements	¾ Horsepower AC or DC
Construction Material	316 Stainless Steel / Composite
Feed Water Thru-Hull Requirement	1"

CONTROLS AND GAUGES

Type	Spectra MPC-3000 Electronic Controller & Display
Pressure Regulating Valve	Not Required with Clark High Pressure Pump
Feed Water Pressure Gauge	Glycerin Filled SS Gauge and Integrated into MPC-3000 Display
Product Flow Meter	Integrated into MPC-3000 Display
Fresh Water Flush	Manual, Automatic after each use, Auto Re-Flush every 5 Days
Pre-Filter Monitor	Status Displayed, Alarm for Service, Shut-Off for Clogged Filter
Water Tank Full Monitor (up to 2 tanks)	Auto Shut-Off and System Flush When Tank is Full
Hour Meter	Integrated into MPC-3000 Display
Service Valves	2 Valves for Cleaning & Storage, 1 Valve for Product Sampling

MEMBRANE

Number of Elements	3
Type	Premium High Rejection High Yield Spiral Wound
Size	Industry Standard 2 ½" x 40"
Replacement Membrane	Non-Proprietary, available world-wide
Rejection Rate (Chloride Ion)	99.6% Average
Membrane Pressure Vessel	Spectra Free Flow Ultra Efficient Pressure Vessel

NOTES

- 1 - Product Output is based on Sea Water at 35,000 ppm TDS; Power at 24 VDC or 120/240 VAC 60 Hz.
- 2 - Total system requirements under full load with seawater temperature at 50°F/13°C



MPC-3000 Controller Operation and Displays

Auto Run

RUN AUTO MODE
6.0 HOURS

Want your watermaker to run for three hours and then turn itself off? Just push the Auto Run button three times, that's it! The machine will start, run for three hours, do an automatic fresh water flush, and then turn itself off. Or, with a single push of the Start Stop button, the watermaker will simply run until the water tanks are full, automatically shut down and display "TANKS FULL".

Start Stop

GPH PRODUCT
20 ██████████ 50

By pushing the Alarm Displ button, you will toggle through five status displays. Product water going to your tanks, pre-filter condition, feed water pressure, salinity of the product water and total hours the system has run.

SALINITY
LOW ██████████ HI

The quality of the product water is continuously monitored and displayed in an easy to read bar graph, as well as status LED's on the control panel. Reject water is automatically diverted back to the ocean by the MPC-3000 controller.

FEED WATER PSI
100 ██████████ 250

System operating pressure is continuously monitored. The MPC-3000 controller will automatically re-start the system up to 3 times after an air lock is detected, or will shut down and alarm in cases of over/under pressure. You can turn the system on and forget it!

PREFILTER
Good ██████ Replace

Condition of the dual pre-filters is displayed, and an alarm will remind the operator when it is time to clean or change filter cartridges. All guesswork about pre-filter servicing is eliminated. In cases of extreme filter clogging, the MPC-3000 will turn the system off, sound an alarm and display "SERVICE PREFILTER".

HOURS TOTAL
000470

The system run time can be displayed, as an aid to planning service or logging system usage patterns.

FLUSH
INTERVAL 5 DAYS

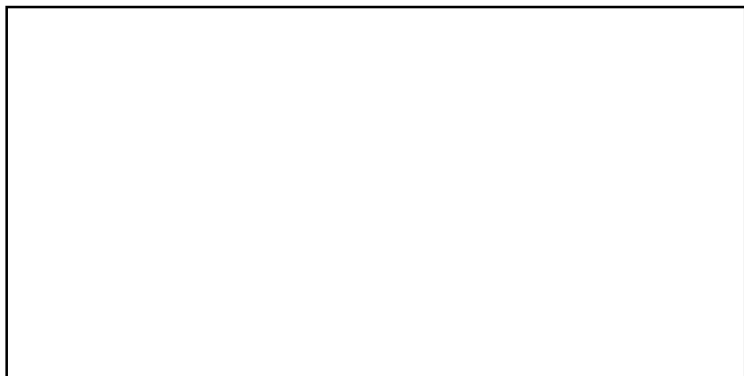
By holding the Alarm Displ button, the displays will change from English to Metric readings.

Alarm Displ

Leaving the vessel for a while? Just press the Auto Store button, and the MPC-3000 controller will do an automatic flush every 5 days for you! No more worries about messy storage chemicals. And when you return to your cruise, your system is ready to just start and go!

Auto Store

Authorized Dealer



Other Products

200-C and 380-C Modular Watermaker

Santa Cruz Watermaker System

Zetaguard Protection System

Newport 400 Watermaker System