

# Spectra LB 4000F Datasheet

The **LB-4000** is an extremely energy efficient reverse osmosis desalination plant designed for stationary or industrial applications. The unit can treat high salinity brackish water using just a fraction of the energy of conventional small plants. In fact, the Spectra LB machines are so efficient they are often powered from renewable energy. This unit is built using Spectra's revolutionary and proprietary new **Spectra Pearson pump**. The plants are supplied with a rugged stainless steel frame, **Spectra Pearson Pump** coupled to Spectra's proprietary Spectraflux™ membrane assembly, microprocessor control system with Burkert product water diversion valve, pre-filtration system, automated freshwater flushing system and a motor speed control for total system command. Touchpad display and controls are mounted in sealed enclosure. Service ports with three way valves are included to ease maintenance procedures.



Micro based controller with keypad display

Service ports and three way valves

## Technical Specs:

**LB-4000 GPD**  
**180 GPH (685 LPH)**  
**Treats Brackish**  
**1000-24,000 TDS**  
**Available in**  
**24V DC, 48VDC,**  
**120VAC, 240AC**  
**50/60 hz**

**Dimensions**  
**57" L x 24" D x 45" H**  
**Approx 400 Lb**

**145cm L x 115cm**  
**W x 45cm H**  
**Approx 182 kg**

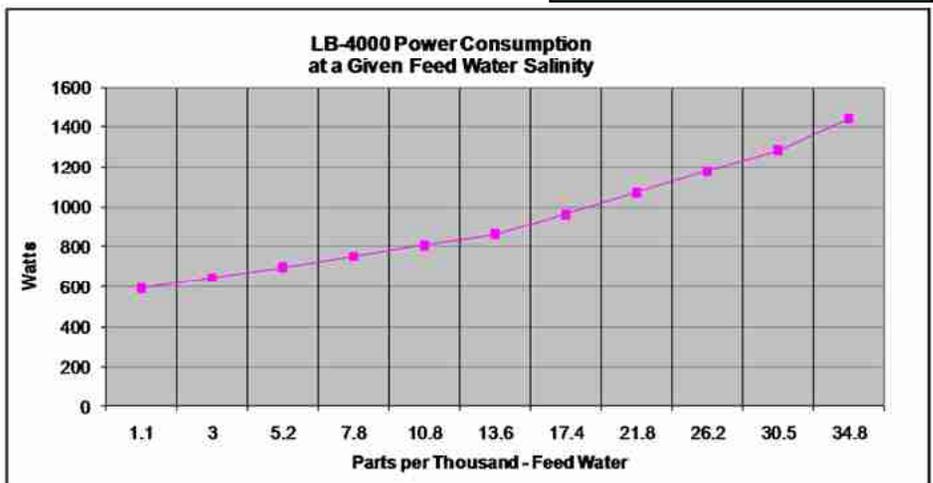


**Pearson Pump with Spectraflux™ Membrane assembly**

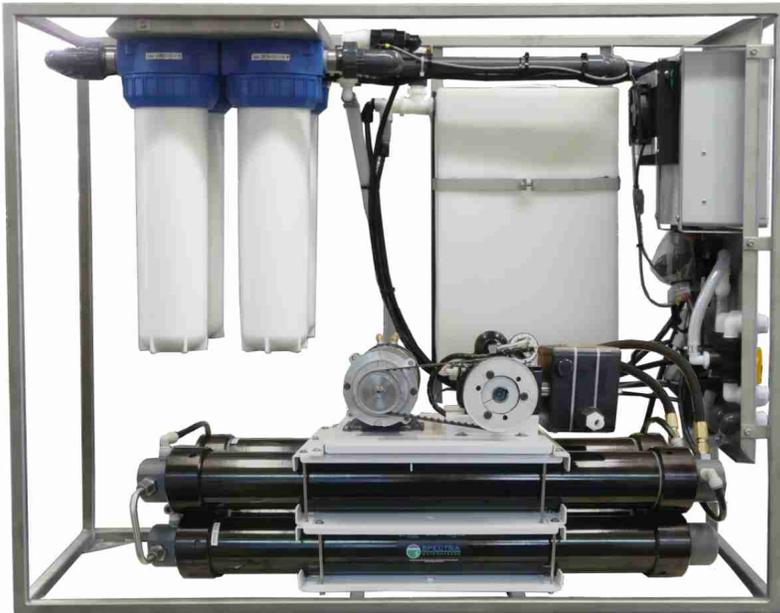
The **Spectra Pearson Pump** is a breakthrough pump design. This unique high pressure pump combines feed stream pumping and energy recovery into a single unit. The "Energy Recovery" feature of the **Pearson Pump** takes the energy entrained in the brine reject stream from the RO membranes and recaptures it, dramatically increasing the overall efficiency. The system does not require continuous

monitoring and pressure adjustment as it stays inherently in balance at all times, providing a constant product flow and recovery ratio. The product flow can be controlled via the variable speed drive to the motor. Having a fixed recovery ratio is critical for brackish water applications as it prevents operators from tampering with the recovery ratios and damaging the membranes.

The **Spectra Pearson Pump** is manufactured from engineered composites and super duplex stainless steel for extreme corrosion resistance.



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## Features

- **SpectraPearson Pump**-the most energy efficient desalination pump on the planet!
- **The Spectra Pearson Pump** integrated with Spectra's exclusive oil filtration system for extended service periods.
- Microprocessor based controller with keypad display to monitor and control all functions. Readouts include digital based flow and pressure as well as filter condition and operational hours. A conductivity controller monitors product water quality and automatically rejects poor product water on startup. A high quality Burkert diversion valve with manual bypass is standard. Tank switches can be integrated to automatically start and stop the system.
- Motor speed control with external heat sink capable of operating in extreme environments.
- Fixed recovery ratio prevents operator from tampering with recovery.
- Three way valves and service ports integrated into the system for ease of maintenance.
- 20 and 5 micron Spinning™ Industrial prefilter set protects the membranes. Water delivery and pretreatment is site specific and will be engineered for your particular application. Multimedia filters and Ultra filtration options are available from Spectra.
- Spectra engineered pressure vessels with Spectraflux™ membranes.
- Rugged 304 Stainless steel welded frame.
- Integral tank and pump for automatic freshwater flushing of the membranes is included.

Spectra Watermakers engineers and builds a full line of marine, mobile and land based desalination systems for sea and brackish water. Many of our systems are custom built to meet our customers applications.

Please contact the factory with your requirements.

LB-4000

Feed water recovery 50%

Salt rejection 99.4% minimum

Feed flow 6 GPM (23 LPM)

Required inlet pressure 20 PSI

(1.4 bar).

Membranes 4 ea. HRLE

4X40" Seawater RO.

Pearson pump constructed of glass epoxy composites and super duplex SS.

Filters 2ea. 20" 20 micron, 2ea. 20" 5 micron.



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