

# SB2500

**Technology Description-** Floating, solar powered, circulation equipment for wastewater treatment and freshwater applications. Day/night operation on solar only by utilizing a battery to store excess daytime power for nighttime operation.

**Materials of Construction** - T316 stainless steel construction. Foam-filled high-density polyethylene (HDPE) floats. Thermoplastic rubber intake hose. HDPE strainer. Concrete mooring blocks are encapsulated in HDPE.

**Minimum Access Opening / Machine Size / Weight** - Machine can be assembled through 3 feet by 3 feet (92 cm by 92 cm) clear opening. Assembled machine is 16 feet (5 m) in diameter and weighs 850 pounds (380 kg).

**Drive System** - High torque, direct drive (no gearbox), low voltage brushless D.C. motor.

**Minimum Operating Depth** - 31 inches (0.8 m) with fixed horizontal plate. No damage to machine or bottom of reservoir when run dry in shallow water.

**Flotation System** - Three floats in triangular pattern each with an adjustable float arm for proper vertical positioning, total float buoyancy of 1,400 lbs (660 kg).

**Flow Rates** - *Flow rates at full speed at 10 feet (3.0 meter) diameter*  
**Direct Flow Rate:** 350 gallons per minute (1,320 liter per minute).  
**Induced Flow Rate:** 2,150 gallons per minute (8,150 liter per minute).  
**Combined Flow Rate:** 2,500 gallons per minute (9,470 liter per minute).

**Rotating Assembly** - Removable assembly with easy access to motor and electronic controller. Impeller handles 4-inch (10cm) spherical solids. Oil-filled (food grade) teflon freeze sleeve with o-rings, shaft. Rotational indicator on shaft.

**Power Supply/Control System** - *Photovoltaic (PV) Solar Panels are protected from bird fouling with bird deterrent kit.*  
**PV Solar Panels:** 3 X 80-watt photovoltaic solar panels orientated in triangular pattern. On-board battery storage for day/night operation.

**Electronic Controller:** Digital solid-state controller, mounted in weather-tight (NEMA 4X) enclosure with externally fused disconnect. SCADA output through RS-232 serial communication (Modbus RTU), DB9 male connection point inside enclosure. Wireless options available, not included.

**Wiring:** Corrosion-resistant industrial cord with molded watertight connectors that are indexed to prevent improper wiring.

**Fluid Intake Assembly - Option 1:** *Hose system bolted to bottom of structural assembly.*

**Intake Hose :** 20 to 60 feet (6 to 18 m) available in 12-inch (30 cm) diameter X 20 feet (6 m) sections.

**Intake Type:** Inverted bell shape strainer with 3 inch (7.6 cm) holes.

**Intake Depth Adjustment:** Can vary from 0 to 60 feet (0 to 18m). No depth adjustment necessary for fluctuations in water level. Weight and flotation of the 'J' bend of hose keeps intake above sludge or bottom of pond at all operating depths. Strainer can be chained up higher if desired.

**Fluid Intake Assembly - Option 2:** *Fixed horizontal plate bolted to bottom of structural assembly.*

**Intake Type:** Fixed horizontal plate with 12 inch (30 cm) openings.

**Intake Depth Adjustment:** No adjustment necessary. Horizontal inflow from 25 inch (64 cm) below distribution dish.

**Ice Protection** - Freeze sleeve allows shaft to rotate while ice is formed around freeze sleeve.

**Anchoring** - (1) Two mooring blocks tethered together with SS chain and attached to structural member on unit or  
 (2) Tethered to shore with SS cable.

**Accessories Available** - (1) Supplemental Shore Power Kit, (2) Chemical Injection Kit, (3) Marker Light Kit.

**Shipping Size / Weight** -

- **Crate** - 87 inch W X 87 inch L X 65 inch H (2.2 m x 2.2 m x 1.7 m) / 1,500 pounds (680 kg)

*Exact weight and dimensions varies dependent on machine configuration.*

**Life / Maintenance / Warranty** - Expect 25-year life, minimal maintenance. Limited 2-year parts and labor warranty. Limited 25-year photovoltaic module manufacturer performance warranty and 10-year motor warranty.

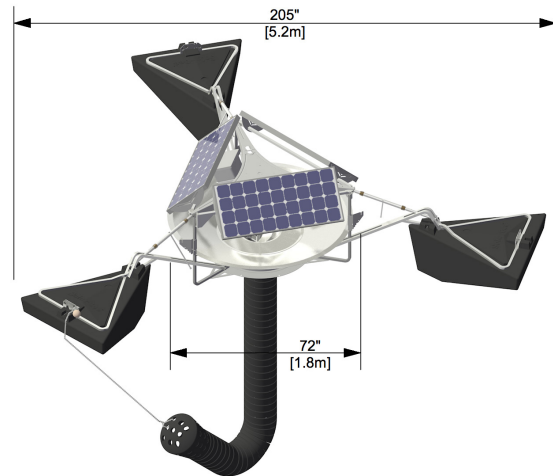


Figure 1: SB2500