

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.
Flow Rates:	<i>Flow rates at full speed at 10 feet (3.0 meter) diameter</i>
Direct Flow Rate	150 gallons per minute (570 liters per minute).
Induced Flow Rate	1,100 gallons per minute (4,170 liters per minute).
Combined Flow Rate	1,250 gallons per minute (4,740 liters per minute).
Assembled Machine Size/Weight:	10 feet (3 meter) in diameter and weighs 400 pounds (180 kg).
Shipping Information:	4 ft X 4 ft X 4 ft (1.2m X 1.2m X 1.2m) box, weighs approximately 600 pounds (270 kg).
Materials of Construction:	Machine is constructed of 316 stainless steel (SS). Floats are foam-filled high-density polyethylene (HDPE). Intake hose, when used, is thermoplastic rubber.
Drive System:	High torque, direct drive (no gearbox), low voltage brushless D.C. motor.
Power Supply/Control System:	Photovoltaic (PV) Solar Panel, Battery and Digital Controller are mounted on rack outside.
PV Module Mounting	80 watt PV module mounted on machine.
Electronic Controller	Digital solid-state controller, mounted in weather-tight (NEMA 4X) enclosure with internally 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, weather and watertight connectors that are indexed to prevent improper wiring.
Rotating Assembly:	Removable assembly with easy access to motor and digital controller. Impeller handles 3-inch (8cm) spherical solids. Oil-filled (food grade) teflon freeze sleeve with o-rings, shaft. Rotational indicator on shaft.
Flotation System:	Three floats in triangular pattern, each with an adjustable float arm for proper vertical positioning. Total float buoyancy is 600 pounds
Fluid Intake Assembly:	Downhose connected to bottom of dish with bell shaped strainer at the bottom.
Hose System	An 8-inch (20cm) diameter X 20 feet (6m) hose. Additional hose to 100 feet (25m) can be added in 40 feet (12m) sections.
Intake Type	Bell shaped strainer 12-inch (30cm) diameter with 2.5-inch (6.4cm) holes.
Intake Depth Adjustment	No depth adjustment necessary for fluctuations in water level. Weight and flotation in the 'J' bend of hose keeps intake above bottom of reservoir at all operating depths. Strainer can be chained up higher if desired.
Minimum Operating Depth:	28 inch (0.7 m) minimum operating depth. No damage to machine or bottom of reservoir when run dry in shallow water.
Anchoring:	Tethered to shore with 200 feet (60m) of SS cable. Secured by two duckbill anchors in two places on shore.
Accessories Available:	(1) Marker Light Kit, (2) Remote PV module mounting pipe stand.
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.