

# *Solar*Bee<sup>®</sup>

*Circulating the World's Water*



## **Long-Distance Circulation and Mixing**

An ecological approach to  
water quality management



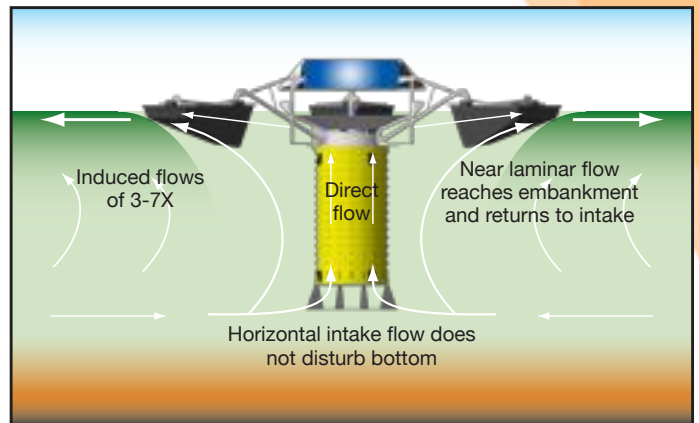
# A major design breakthrough

Our multi-patented hydraulic system utilizes a very low static lift to induce large, near-laminar flows. Circulation is achieved with minimal turbulence and friction losses.

High-efficiency circulation and mixing of water is SolarBee's strength. Our products are engineered for low power consumption, making it possible to power them with solar energy or with a few watts from the grid.

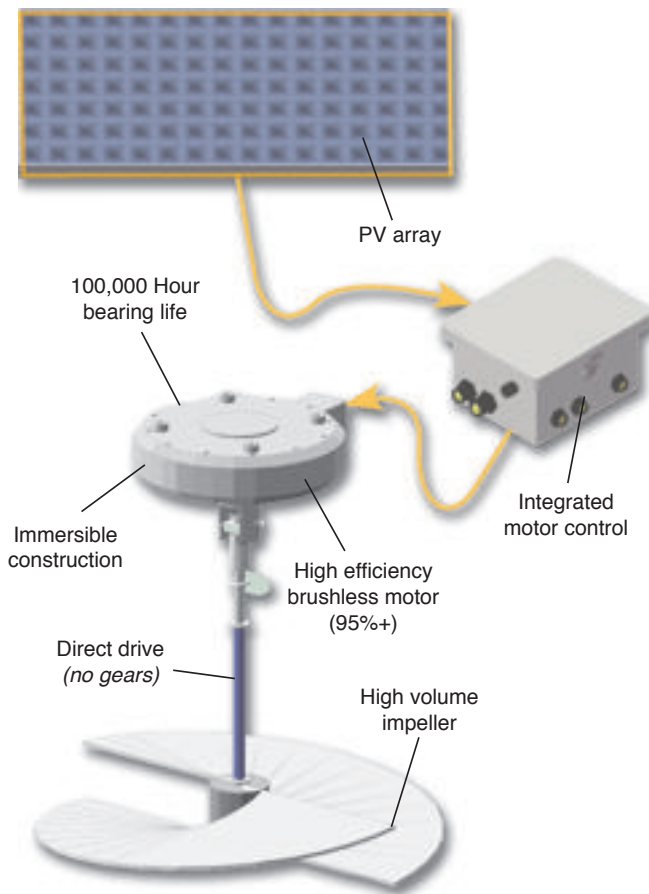
Our solar models utilize an extremely high-efficiency brushless motor, allowing renewable solar energy to provide all the power necessary for long-distance circulation water treatment without chemicals. Storing solar energy in a large capacity support battery allows the SolarBee to operate 24 hrs/day.

# Long-distance circulation for a healthy environment



Long-distance circulation (LDC) is a method that yields varying benefits depending on implementation:

- In lakes and raw water reservoirs LDC can be deployed to treat the epilimnion, where it prevents and controls harmful blue-green algae blooms. LDC can also be deployed to treat the hypolimnion, where it can prevent the accumulation of Mn, Fe, H<sub>2</sub>S and methyl-Hg.
- In wastewater lagoons and activated sludge reactor basins, LDC improves dissolved oxygen distribution and mixing. Run time and operational costs of large hp aerators, often used as mixers ineffectively, can be reduced.
- In potable water storage tanks LDC provides continuous and thorough mixing. This eliminates stagnation and provides a uniform water age, consuming less disinfectant and producing fewer DBPs.



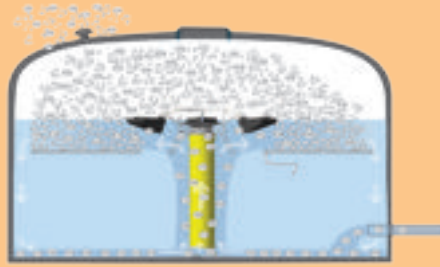
*Collapsible float models easily installed through small tank hatch openings.*



*The SolarBee GS-12 is a high-volume, grid-powered submersible mixer that thoroughly mixes potable water storage tanks of a wide size range. Economical to purchase and operate, the low-voltage GS-12 mixer is easily installed by lowering through any 12-inch or larger tank hatch without entering or draining the tank.*

# THM removal system for potable water storage tanks

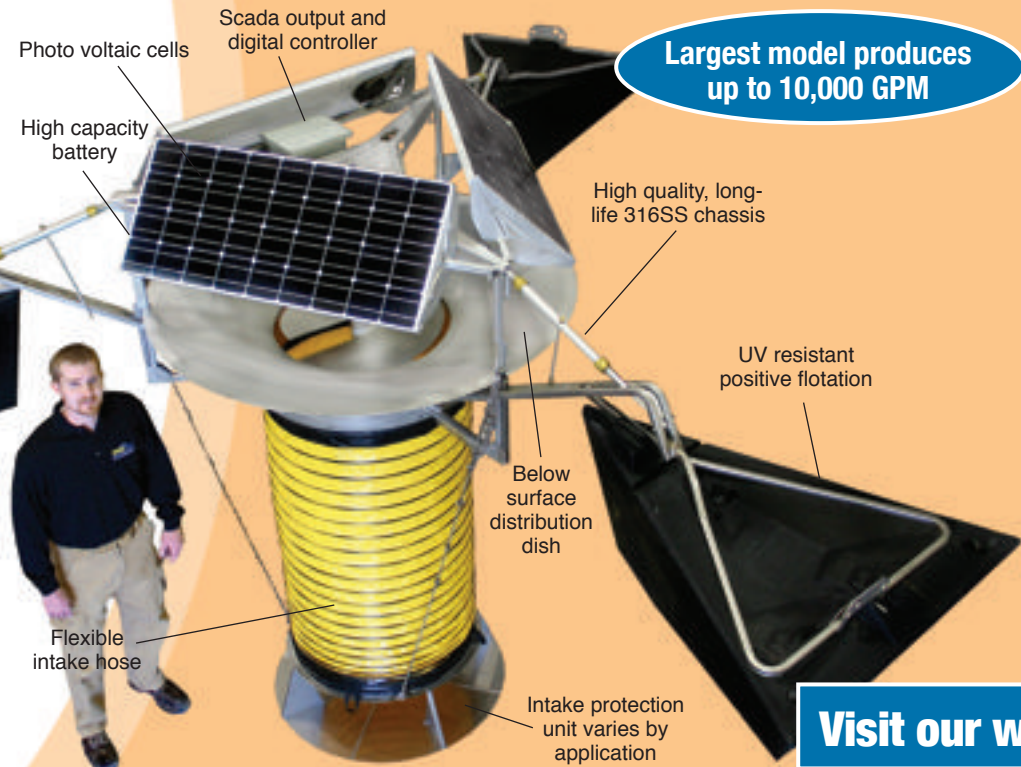
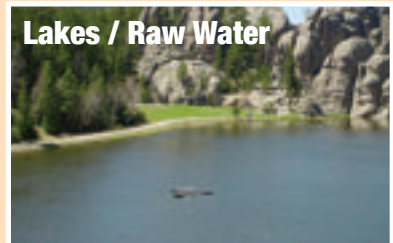
SolarBee has developed a THM Removal System for compliance with the EPA Stage 2 Disinfectants and Disinfection Byproducts Rule. This effective and economical air-stripping system works in conjunction with SolarBee mixers in potable water storage tanks. The system is modular and scalable, can be installed with little or no infrastructure changes.



## Solar-powered unit features

*(Grid-powered units available for various applications)*

- Solar powered for day and night operation
- Large area of influence; up to 35-acre (14 hectare) spacing for lakes and raw water
- SCADA outputs with remote communication options
- Digital Control System; programmable with anti-jam and auto-reverse functions
- Power Management System for variable light conditions
- Certified to NSF / ANSI Standard 61-G (potable water units)
- High-efficiency, high-torque brushless motor with no gearbox for low-speed operation
- 316 SS (stainless steel) and non-corrosion polymer construction
- 2-year machine warranty, 10-year motor warranty, 25+ year service life
- Intake designs specific to the application



**Visit our website: [www.solarbee.com](http://www.solarbee.com)**

## Company background

With roots in the pump/fluid-handling industry since 1978, SolarBee technology was first marketed in 2000. Since then, SolarBee, Inc. has continued to grow and now includes divisions for Wastewater, Potable Water and Lakes and Raw Water. Regional offices are located throughout the US, and international offices can be found in Canada, Europe, the Middle East and the Pacific Rim.



**Over 2,300  
Installations!**



SolarBee Inc. has received numerous awards, including the Greater North Dakota Association Industrial Development Award in 2004, the Natural Resources Award in 2007, and the AWWA Best New Product Technology at ACE 08. SolarBee, Inc. has also received an Open Ratings, Inc. score of 91 out of a possible 100 and was recognized as a Top 50 Water Company by the Artemis Project in 2009, 2010 and 2011. SolarBee, Inc. continues to earn high marks from its customers for its reliable equipment, factory installation and service crews, and after-sales support.

## Development and testing

In order to better understand the ecological benefits of long-distance circulation (LDC), we routinely collect and review extensive water quality data on hundreds of ponds, lakes and reservoirs. These analyses help optimize SolarBee design and deployment for maximum water quality improvements in a wide variety of applications.



Innovation and energy conservation are hallmarks of the SolarBee technology, as we deliver the most sustainable solutions in water treatment available on the market today.

Our engineers and scientists will assist you to provide a solution for your water quality problem. Our

team includes: engineers, biologists, neurotoxicologist, hydrologist, limnologist, oceanographer, 3 Certified Lake Managers, and 11 installation/service teams.



## Manufacturing strength

In 2008, SolarBee Inc. expanded its manufacturing capacity to meet increasing demand. Today, we utilize a 45,000 sq. ft. state-of-the-art facility that optimizes production capabilities while assuring maximum quality control and on-time delivery worldwide. This new manufacturing facility also boasts a large testing area and a lake for ongoing research and development. Our dedicated engineering staff constantly works to improve machine performance and reliability. At the same time, they continue to develop innovative modifications for new applications requiring energy-efficient and sustainable LDC.

## Customer service

Our fleet of safety-trained and OSHA-compliant installation and service personnel, together with extensive after-sales support, represent the SolarBee commitment to our customers. You are never on your own with SolarBee.



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