Biling SPA20WG

Biling Solar Pond Pump (Model SPA20WG) Instruction Manual

1. Introduction

This manual provides comprehensive instructions for the Biling Solar Pond Pump, Model SPA20WG. This solar-powered water pump is designed for use in various outdoor water features such as garden ponds, fountains, bird baths, and waterfalls. It utilizes solar energy to circulate water, offering an eco-friendly and efficient solution for water aeration and decorative displays.

Please read this manual thoroughly before installation and operation to ensure proper use, optimal performance, and safety.

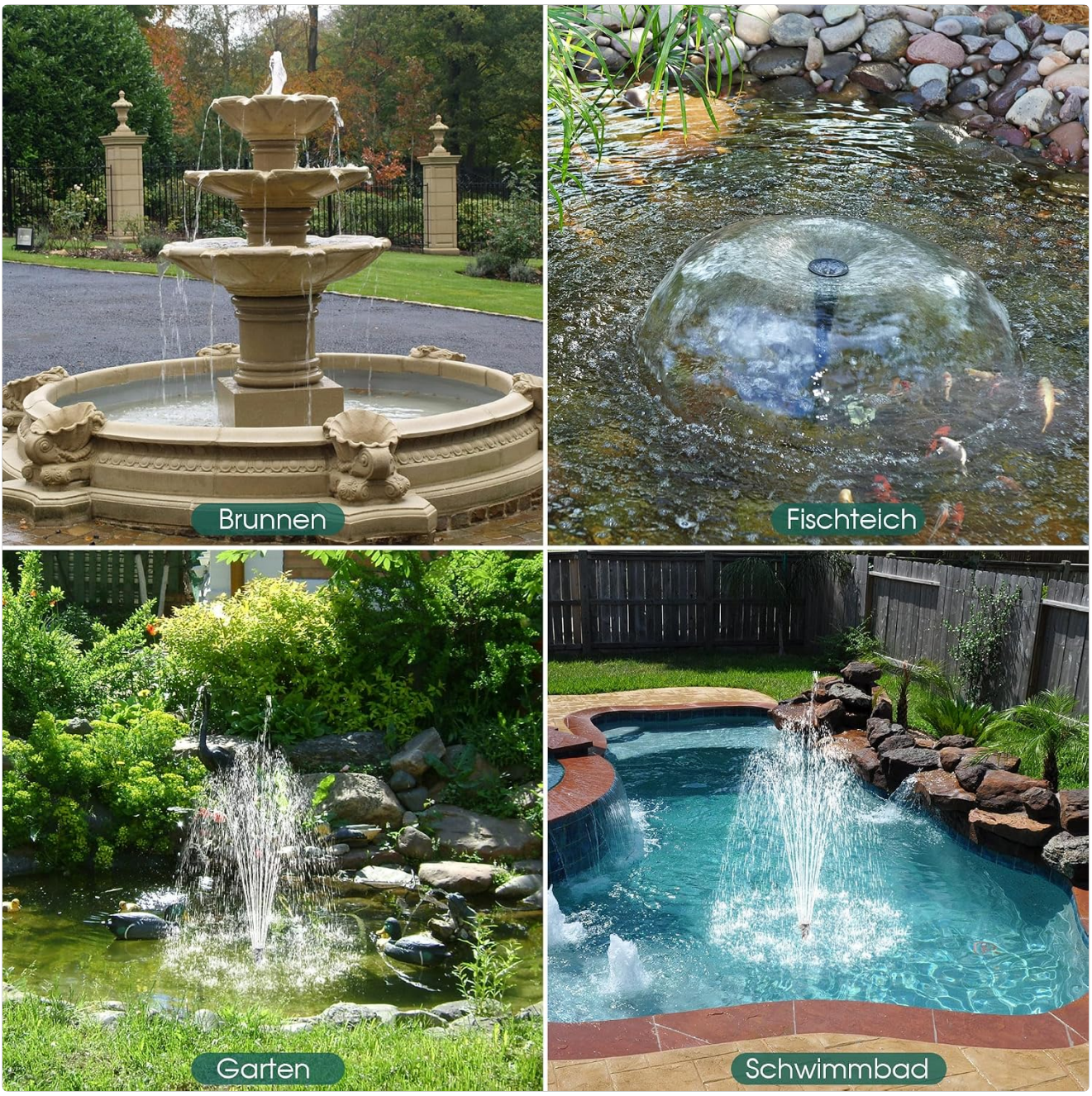


Figure 1: Examples of Biling Solar Pond Pump applications in various water features.

2. Product Overview and Components

The Biling Solar Pond Pump system consists of a solar panel, a water pump, and various accessories for installation and water display. Understanding each component is crucial for correct setup and operation.

2.1 Included Components

- Solar Panel (20W)
- Water Pump (320 GPH / 1200 L/h)
- Water Hoses/Pipes (1.2m hose, 2m clear tube)
- Nozzle Kit (various spray patterns)
- Filter Sponges (including 2 replacement filters)
- Adjustable Ground Spike for Solar Panel



Figure 2: Package contents and dimensions of the Biling Solar Pond Pump system.

2.2 Key Features

- **Solar-Powered Operation:** Operates directly from sunlight, eliminating the need for external power sources or batteries.
- **High Efficiency:** 20W solar panel provides sufficient power for a maximum flow rate of 320 GPH (1200 L/h) and a maximum lift height of 2.3 meters (7.5 feet).
- **Adjustable Water Flow:** Features a control valve to adjust the water flow rate and spray height.
- **Integrated Filtration:** Comes with filter sponges to prevent debris from entering the pump, ensuring longevity and clean water circulation.
- **Versatile Installation:** Solar panel can be inserted into the ground or wall-mounted.

3. Safety Instructions

Adhere to the following safety guidelines to prevent injury and ensure the safe operation of your solar pond pump:

- Always read and understand all instructions before installing or operating the pump.

- Do not operate the pump without water. Dry running can cause permanent damage to the pump.
- Ensure all electrical connections between the solar panel and the pump are secure and waterproof.
- Keep children and pets away from the pump and water feature during operation.
- Only use the pump in freshwater environments. Do not use with corrosive, flammable, or explosive liquids.
- Do not attempt to disassemble or repair the pump or solar panel yourself. Contact qualified personnel for service.
- Position the solar panel in a location where it will not be easily damaged or cause a tripping hazard.

4. Setup and Installation

Follow these steps for proper setup and installation of your Biling Solar Pond Pump:

4.1 Solar Panel Placement

The performance of your pump is directly dependent on the amount of direct sunlight the solar panel receives. Choose a location that gets maximum direct sunlight throughout the day.

- **Ground Insertion:** Attach the adjustable ground spike to the solar panel. Insert the spike firmly into the ground in a sunny spot. Adjust the angle of the solar panel to face the sun directly for optimal power generation.
- **Wall Mounting:** If preferred, the solar panel can be mounted on a wall using appropriate hardware (not included). Ensure the wall mount is secure and allows for angle adjustment.



Figure 3: Solar panel components and flexible installation options.

4.2 Pump Assembly and Placement

- **Attach Filter:** Ensure the filter sponge is correctly installed on the pump intake to prevent debris from entering.
- **Connect Hose/Nozzle:** Attach the desired nozzle or hose to the pump outlet. If using a hose for a waterfall or external feature, ensure it is securely connected.
- **Submerge Pump:** Place the pump completely underwater in your pond or water feature. Ensure it rests on a stable, level surface and is not obstructed by debris. The pump must always be fully submerged during operation.

4.3 Connecting the System

Connect the cable from the water pump to the corresponding port on the solar panel. Ensure the connection is firm and secure. The pump will begin operating automatically once the solar panel receives sufficient direct sunlight.

5. Operation

The Biling Solar Pond Pump is designed for simple, automatic operation. It will start working when the solar panel is exposed to direct sunlight and stop when sunlight is insufficient (e.g., at night, on cloudy days, or when shaded).

5.1 Adjusting Water Flow and Spray Height

The pump features an adjustable water flow control valve. Rotate the valve to increase or decrease the water flow rate and, consequently, the spray height of the fountain or the intensity of the water flow to other features.



Figure 4: Adjustable water flow control on the pump.

5.2 Nozzle Selection

The included nozzle kit allows for various spray patterns. Select the desired nozzle and attach it firmly to the pump outlet. Experiment with different nozzles to achieve your preferred water display.



Figure 5: Examples of various spray patterns and uses with different nozzles.

5.3 Performance in Different Light Conditions

The spray height and pump performance are directly influenced by the intensity of sunlight. On sunny days with direct sunlight, the pump will operate at its maximum capacity, producing a strong water spray. On cloudy days or during winter, with weaker sunlight, the pump's performance will be reduced, resulting in a lower or intermittent spray.



Figure 6: Water spray height varies with sunlight intensity.

6. Maintenance

Regular maintenance ensures the longevity and efficient operation of your solar pond pump.

6.1 Cleaning the Pump Filter

The pump's filter sponge can become clogged with debris, reducing water flow. Regularly check and clean the filter:

- Disconnect the pump from the solar panel.
- Remove the pump from the water.
- Open the pump casing to access the filter sponge.
- Rinse the filter sponge thoroughly under clean water to remove any accumulated debris. If heavily soiled or damaged, replace it with one of the provided spare filters.
- Reassemble the pump and place it back in the water.



Figure 7: Cleaning and replacing the pump filter sponge.

6.2 Cleaning the Solar Panel

Dust, dirt, and bird droppings can accumulate on the solar panel, reducing its efficiency. Periodically wipe the solar panel surface with a soft, damp cloth to ensure maximum sunlight absorption.

6.3 Winter Storage

In regions with freezing temperatures, it is recommended to remove the pump and solar panel from the water feature before winter. Clean all components, dry them thoroughly, and store them in a dry, frost-free location until spring.

7. Troubleshooting

If your Biling Solar Pond Pump is not operating as expected, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Pump does not start or runs intermittently.	Insufficient direct sunlight.	Relocate the solar panel to an area with maximum direct sunlight. Ensure no shadows are cast on the panel.
	Solar panel is dirty.	Clean the solar panel surface with a soft, damp cloth.
	Loose connection between pump and solar panel.	Check and secure all cable connections.
Weak water flow or low spray height.	Clogged pump filter or nozzle.	Clean the pump filter and nozzle thoroughly. Replace filter if necessary.
	Insufficient direct sunlight.	Ensure the solar panel receives full, direct sunlight. Performance decreases on cloudy days.
	Water level too low.	Ensure the pump is fully submerged in water.
Pump is noisy.	Debris caught in impeller.	Disconnect power, remove pump from water, and carefully inspect the impeller for any obstructions. Clean as needed.

8. Specifications

Detailed technical specifications for the Biling Solar Pond Pump (Model SPA20WG):

- **Model Number:** SPA20WG
- **Power Source:** Solar Powered
- **Solar Panel Power:** 20 Watt
- **Voltage:** 18 Volts
- **Maximum Flow Rate:** 320 Gallons per Hour (GPH) / 1200 Liters per Hour (L/h)
- **Maximum Lift Height:** 2.3 Meters (7.5 Feet)
- **Product Dimensions (L x W x H):** 27.2 x 35 x 4 cm (Solar Panel); 10.4 x 5 x 6 cm (Pump)
- **Weight:** 1.6 Kilograms (Total package)
- **Included Components:** Solar panel, fountain pump, water pipes, nozzle kit, filter sponges.
- **Specific Uses:** Bird baths, streams, ponds, gardens, waterfalls, fountains, outdoor decoration.

9. Warranty and Support

For warranty information and customer support, please refer to the documentation included with your product at the time of purchase or contact Biling customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question

and use this page's manual context to help answer it.

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Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question