**MagTool MT-4200**

# MagTool MT-4200 DC Gyre Wave Maker User Manual

## 1. Introduction

Thank you for choosing the MagTool MT-4200 DC Gyre Wave Maker. This device is designed to create natural cross-flow water movement in your aquarium, simulating ocean currents to eliminate dead spots and promote a healthier aquatic environment. This manual provides essential information for the safe and efficient operation of your wave maker.
The MT-4200 model is suitable for tanks measuring 120-150cm (47-60 inches) and offers a maximum flow rate of 4200 GPH.

## 2. Safety Instructions

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in product damage, injury, or electric shock.

- Ensure the power supply voltage matches the specifications of the wave maker (DC 24V).
- Do not operate the pump out of water. Always ensure the pump is fully submerged before powering on.
- Keep the power adapter and controller away from water. Do not immerse them in water.
- Always unplug the device from the power outlet before performing any maintenance, cleaning, or when handling the pump.
- Do not use the device if any part is damaged, especially the power cord or plug. Contact customer support for replacement parts.
- This product is for indoor aquarium use only.
- Keep out of reach of children.

## 3. Package Contents

Carefully unpack the box and ensure all items are present and in good condition. If any items are missing or damaged, please contact your retailer or MagTool customer support.

- MagTool DC Gyre Wave Maker (MT-4200)
- External LCD Controller
- DC 24V Power Adapter

- Magnetic Mount

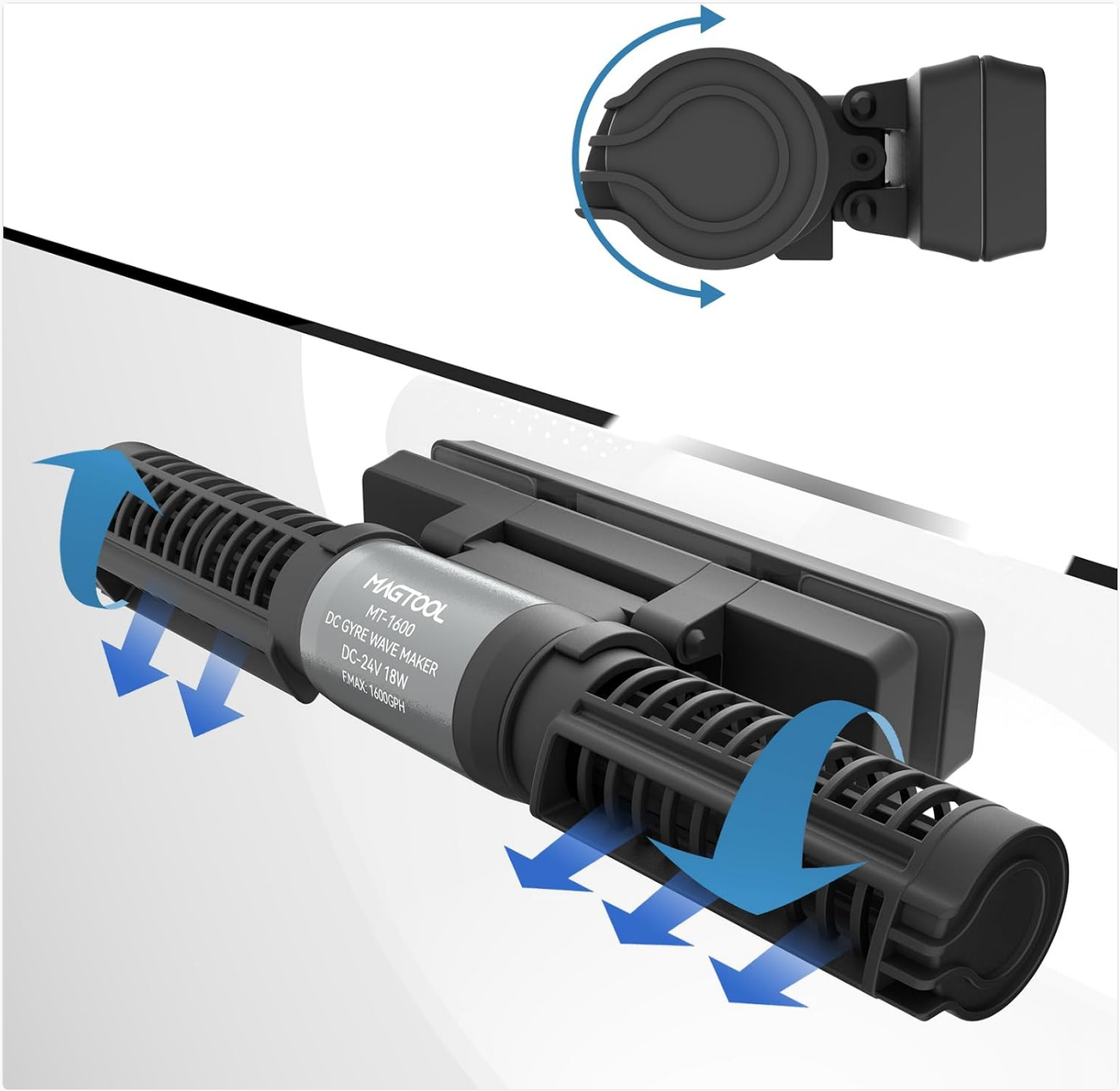


Image 3.1: Contents of the MagTool DC Gyre Wave Maker package, including the pump, controller, and power adapter.

## 4. Product Overview

The MagTool DC Gyre Wave Maker consists of the pump unit and an external LCD controller. Understanding each component is crucial for proper operation.

### 4.1 Wave Maker Pump Unit




Image 4.1: The MagTool DC Gyre Wave Maker pump unit, showing the cross-flow design and the adjustable magnetic mount for aquarium attachment.

The pump unit features a wide water outlet for comprehensive water circulation and a magnetic mount for secure attachment to aquarium glass. The design allows for directional adjustment of water flow.

## 4.2 LCD Controller




Image 4.2: The external LCD controller for the MagTool DC Gyre Wave Maker, highlighting the LED display, intensity buttons, mode button, feeding button, and frequency adjustment knob.

The controller provides an intuitive interface for managing the wave maker's functions:

- **LED Display:** Shows current mode, intensity (Watt/%), and gear (frequency).
- **Intensity Buttons (+/-):** Adjusts the flow intensity.
- **Mode Button (M):** Cycles through the four operating modes.
- **Feeding Button (F) / Power ON/OFF:** Initiates feeding mode (10-minute pause) or powers the unit on/off with a long press.
- **Frequency Adjustment Knob:** Fine-tunes wave frequencies in Pulse and Tidal modes.

## 5. Setup

Follow these steps for proper installation of your MagTool DC Gyre Wave Maker.

1. **Mount the Pump:** Position the wave maker inside your aquarium using the magnetic mount. Place the pump unit on the desired inner wall of the aquarium and align the external magnet on the outer wall. Ensure the

pump is fully submerged and securely attached. The magnetic mount is designed for glass thickness up to 1/2 inch (12mm).

2. **Positioning:** Angle the pump slightly downwards or horizontally to direct the cross-flow effectively across your tank, avoiding direct impingement on corals or substrate. The pump can be rotated to adjust flow direction.
3. **Connect to Controller:** Connect the pump's cable to the designated port on the external LCD controller.
4. **Connect Power Adapter:** Plug the DC 24V power adapter into the controller, then plug the power adapter into a suitable electrical outlet.
5. **Power On:** The unit will power on automatically or can be turned on by pressing and holding the 'F' button.

## 6. Operating Instructions

The MagTool DC Gyre Wave Maker offers four distinct flow modes and a convenient feeding mode, all controlled via the external LCD controller.

### 6.1 Power On/Off

- To **Power On**, connect the power adapter. If the unit does not start, press and hold the 'F' button.
- To **Power Off**, press and hold the 'F' button until the display turns off.

### 6.2 Mode Selection

Press the 'M' (Mode) button to cycle through the available operating modes:

1. **Constant Flow Mode:** Provides a steady, continuous water flow. Adjust intensity using the '+' and '-' buttons.
2. **Pulse Mode:** Generates rhythmic, oscillating waves. Adjust intensity with '+' and '-' buttons. Fine-tune the wave frequency (1-11) using the Frequency Adjustment Knob.
3. **Tidal Mode:** Simulates tidal currents with varying flow patterns. Adjust intensity with '+' and '-' buttons. Fine-tune the wave frequency (1-11) using the Frequency Adjustment Knob.
4. **Turbulent Mode (Random Mode):** Creates unpredictable, turbulent water movement to mimic natural ocean conditions. Adjust intensity using the '+' and '-' buttons.




| | voltage | Max.Power | Min.Power | Max. Flow (GPH) | sizes | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | A | B | C | D |
| MT-1600 | DC 24V | 18W | 7.2W | 1600 | 16CM | 26CM | 7CM | 3.4CM |
| MT-2400 | DC 24V | 28W | 11.2W | 2400 | 18CM | 30CM | 7.2CM | 3.8CM |
| MT-4200 | DC 24V | 45W | 18W | 4200 | 18CM | 30CM | 7.2CM | 3.8CM |

Image 6.1: Visual representation of the four wave-making modes: Pulse wave, Tidal Swell, Constant wave, and Random Mode (Turbulent).

### 6.3 Feeding Mode

Press the 'F' (Feeding) button once to activate Feeding Mode. The pump will pause for 10 minutes, providing a calm environment for feeding fish or corals without food being immediately swept away. The pump will automatically resume its previous operating mode after 10 minutes. To exit Feeding Mode manually, press the 'F' button again.

## 7. Maintenance

Regular maintenance ensures optimal performance and longevity of your MagTool DC Gyre Wave Maker.

1. **Cleaning the Pump:** Disconnect the power before cleaning. Carefully remove the pump from the aquarium. Disassemble the pump housing and impeller. Rinse all components under clean running water to remove algae, detritus, and mineral deposits. A soft brush can be used for stubborn buildup. Avoid using harsh chemicals or abrasive materials.
2. **Impeller Inspection:** Periodically inspect the impeller for wear or damage. Replace if necessary.
3. **Cable Inspection:** Regularly check the power cord and pump cable for any signs of damage, fraying, or kinks.
4. **Reassembly:** Ensure all components are dry and correctly reassembled before placing the pump back into the aquarium and reconnecting power.

## 8. Troubleshooting

If you encounter issues with your wave maker, refer to the following common troubleshooting steps:

- **Pump Not Running:**
  - Check if the power adapter is securely plugged into both the controller and the wall outlet.
  - Ensure the pump cable is firmly connected to the controller.
  - Press and hold the 'F' button to ensure the unit is powered on.
  - Verify the power outlet is functional by plugging in another device.
- **Weak or Intermittent Flow:**
  - Clean the pump and impeller as described in the Maintenance section. Algae or debris can restrict flow.
  - Ensure the pump is fully submerged and not drawing air.
  - Check the intensity setting on the controller and increase if necessary.
- **Unusual Noise:**
  - Disconnect power and inspect the impeller for any foreign objects (e.g., sand, snails) that might be causing obstruction.
  - Ensure the pump is securely mounted and not vibrating against the aquarium glass.
  - Clean the impeller and its housing thoroughly.
- **Controller Display Not Working:**
  - Check all power connections.
  - Try unplugging and replugging the power adapter to reset the controller.

If these steps do not resolve the issue, please contact MagTool customer support for further assistance.

## 9. Specifications

Detailed specifications for the MagTool MT-4200 DC Gyre Wave Maker.

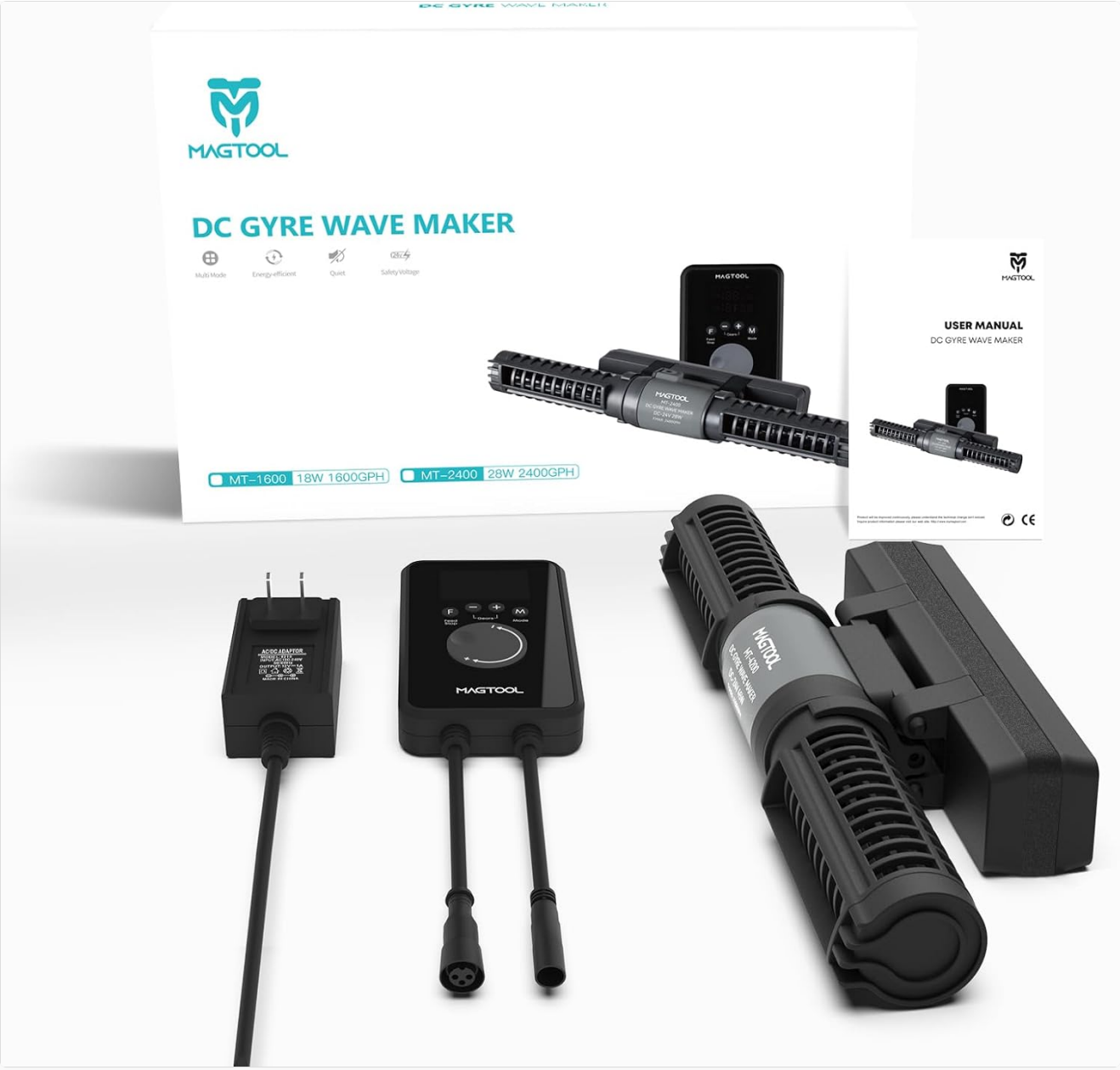


Image 9.1: Dimensional drawing of the MagTool DC Gyre Wave Maker and a table detailing specifications for MT-1600, MT-2400, and MT-4200 models.

**MagTool MT-4200 Specifications**

| Feature | Specification (MT-4200) |
|---|---|
| Model | MT-4200 |
| Voltage | DC 24V |
| Max Flow (GPH) | 4200 GPH |
| Max Power | 45W |
| Min Power | 18W |
| Recommended Tank Size | 120-150cm (47-60 inches) |
| Material | Plastic |
| Weight | 1.67 Kilograms |

| Feature | Specification (MT-4200) |
|---|---|
| Dimensions (A) | 18 cm |
| Dimensions (B) | 30 cm |
| Dimensions (C) | 7.2 cm |
| Dimensions (D) | 3.8 cm |

## 10. Warranty and Support

MagTool products are manufactured to high-quality standards. For warranty information, please refer to the documentation provided with your purchase or visit the official MagTool website. If you require technical assistance, have questions about operation, or need to report a defect, please contact MagTool customer support through their official channels.


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