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MagTool N170 Plus

MagTool N170 Plus In-Sump DC Protein Skimmer User Manual

Model: N170 Plus

1. Introduction

The MagTool N170 Plus In-Sump DC Protein Skimmer is designed to efficiently remove organic waste from marine aquariums, contributing to a cleaner and healthier reef environment. This manual provides essential information for the proper installation, operation, and maintenance of your protein skimmer.

2. Product Overview

The MagTool N170 Plus utilizes foam fractionation to remove dissolved organic compounds before they degrade into harmful substances. Key features include:

- **Silent DC Sine Wave Pump:** Equipped with a controllable DC sine wave pump and a specialized needle wheel impeller for optimal air-water mixing and bubble production. The pump operates quietly and features 1-8 speed levels, a feed mode, and a delay start function.
- **Superior Design:** Features a Cell-Cast diffuser and a hybrid cone structure to optimize air-water mixing, reduce turbulence, and promote stable laminar flow within the reaction chamber. This design enhances skimming efficiency and allows for smooth skimmate collection.
- **Anti-Overflow Protection:** The collection cup includes a built-in overflow sensor that monitors water levels. If the cup becomes full, the system automatically stops the pump, emits an alarm, and then resumes operation at the lowest power level to prevent waste re-entry into the aquarium.
- **Compact Footprint:** Designed for sumps with limited space, featuring a bottom-open outlet design. Suitable for aquariums up to 135 gallons (high bio-load) or 185 gallons (low bio-load). Recommended water depth for operation is 7.0–8.7 inches.



Image: MagTool N170 Plus Protein Skimmer installed in an aquarium sump, connected to a reef tank. This image shows the skimmer in a typical operational setup within a sump, demonstrating its compact integration.

3. Setup Instructions

Follow these steps for proper assembly and installation of your MagTool N170 Plus Protein Skimmer:

1. **Unpack Components:** Carefully remove all parts from the packaging. Verify that all components listed in the product diagram are present and undamaged.
2. **Assemble the Skimmer Body:** Connect the main body sections according to the provided diagram. Ensure all O-rings and seals are correctly seated to prevent leaks.
3. **Install the Pump:** Securely attach the DC sine wave pump to the skimmer base. Ensure the needle wheel impeller is properly installed within the pump housing.
4. **Connect Air Intake and Water Outlet:**Attach the air intake silencer and tubing to the pump. Connect the water outlet pipe and the adjustable valve.
5. **Position in Sump:** Place the assembled skimmer into your aquarium sump. Ensure the water level in the sump is within the recommended range of 7.0–8.7 inches for optimal performance.

6. **Connect Controller and Power:** Connect the pump and overflow sensor cables to the smart controller. Then, connect the power adapter to the controller and plug it into a power outlet.



Image: Exploded view diagram of the MagTool Protein Skimmer components. This diagram illustrates how the various parts of the skimmer fit together during assembly.

Your browser does not support the video tag.

Video: Official video demonstrating the unboxing and assembly process of the MagTool Protein Skimmer, including connecting components and preparing for installation. This video provides a visual guide to the setup steps.

4. Operating Instructions

Once installed, operate your skimmer using the smart controller:

- **Power On:** After connecting the power, the skimmer will initiate.
- **Adjust Pump Speed:** Use the buttons on the smart controller to adjust the pump speed from level 1 to 8. Start with a lower setting and gradually increase to achieve desired foam production.
- **Adjust Water Level:** Use the red adjustable valve on the water outlet to fine-tune the internal water level within the skimmer body. Adjust until the foam head is stable and rises to the desired height in the collection cup neck.
- **Feed Mode:** Activate the feed mode on the controller to temporarily pause the skimmer during feeding times. This prevents food particles from being skimmed out. The skimmer will resume operation after a set delay.
- **Anti-Overflow System:** The built-in sensor in the collection cup will detect high waste levels. If the cup fills, the pump will stop, an alarm will sound, and the skimmer will restart at the lowest power setting after a 10-minute pause to prevent overflow.



Image: Close-up of the MagTool Protein Skimmer's smart controller. This image displays the control panel for adjusting pump speed and activating special functions.

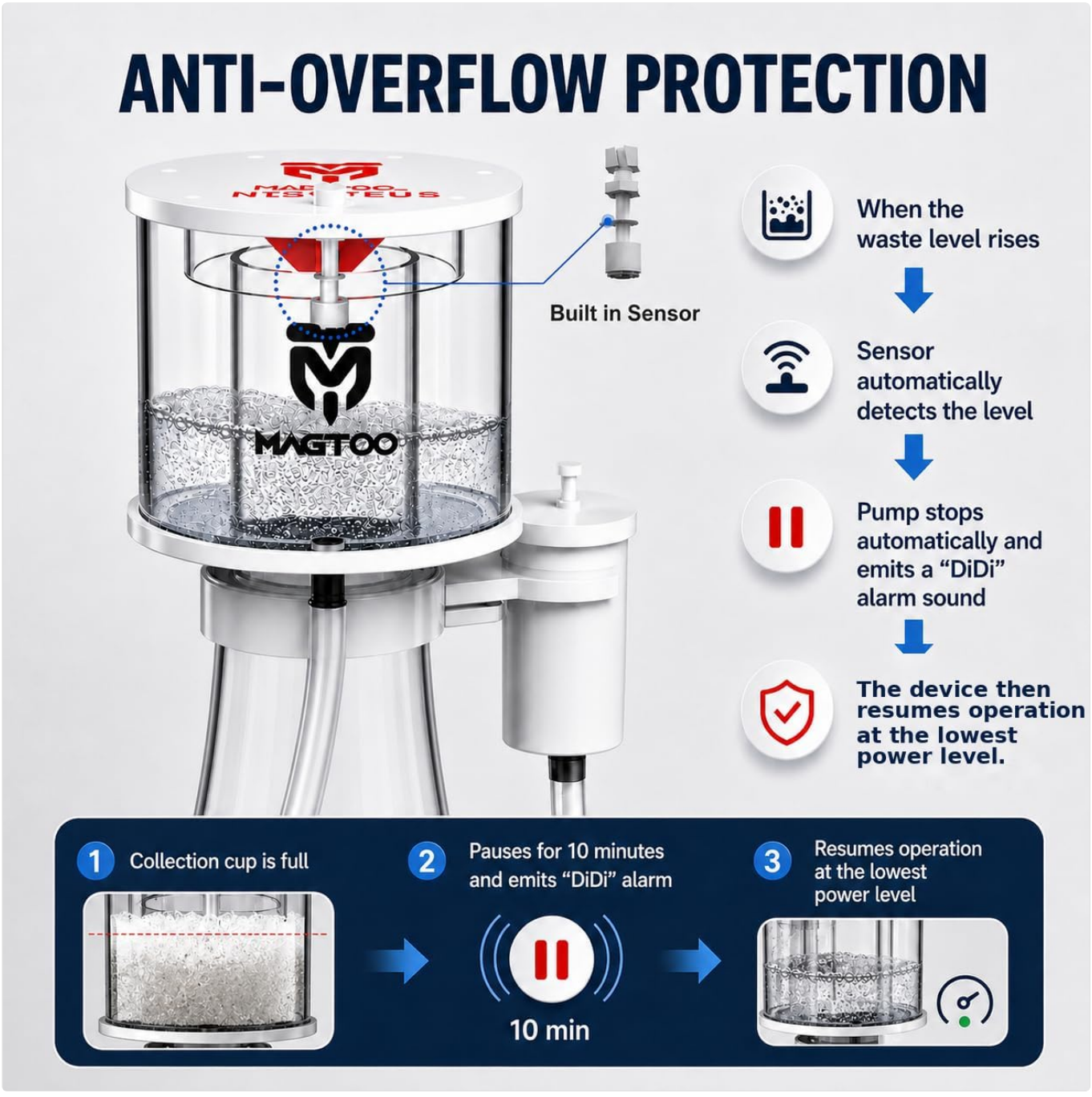


Image: Diagram illustrating the anti-overflow protection system. This visual explains how the skimmer prevents spills by detecting high waste levels and adjusting operation.

5. Maintenance

Regular maintenance ensures optimal performance and longevity of your protein skimmer:

- **Collection Cup Cleaning:** Empty and clean the collection cup regularly (daily to weekly, depending on bio-load). Rinse with fresh water to remove accumulated skimmate.
- **Neck Cleaning:** Clean the skimmer neck periodically to prevent build-up that can hinder foam production.
- **Pump Maintenance:** Disassemble and clean the pump and impeller every 3-6 months. Remove any calcium deposits or debris that may affect performance.
- **Air Intake Silencer:** Check and clean the air intake silencer as needed to ensure unrestricted airflow.

6. Troubleshooting

If you encounter issues with your MagTool N170 Plus Protein Skimmer, consider the following common problems and solutions:

- **No Foam Production:** Check water level in sump, ensure pump is running, verify air intake is clear, and adjust pump speed and water level valve. A new skimmer may require a break-in period of several days.
- **Excessive Microbubbles:** Ensure the skimmer is properly seated and not drawing air from external sources. Adjust the water level valve to lower the internal water level.
- **Collection Cup Overflowing:** Check the overflow sensor for obstructions. Ensure the water level in the sump is stable and within the recommended range. Reduce pump speed if necessary.
- **Unusual Noise:** Inspect the pump impeller for debris or damage. Ensure all connections are secure and the skimmer is not vibrating against the sump walls.

7. Specifications

Detailed specifications for the MagTool N170 Plus Protein Skimmer:

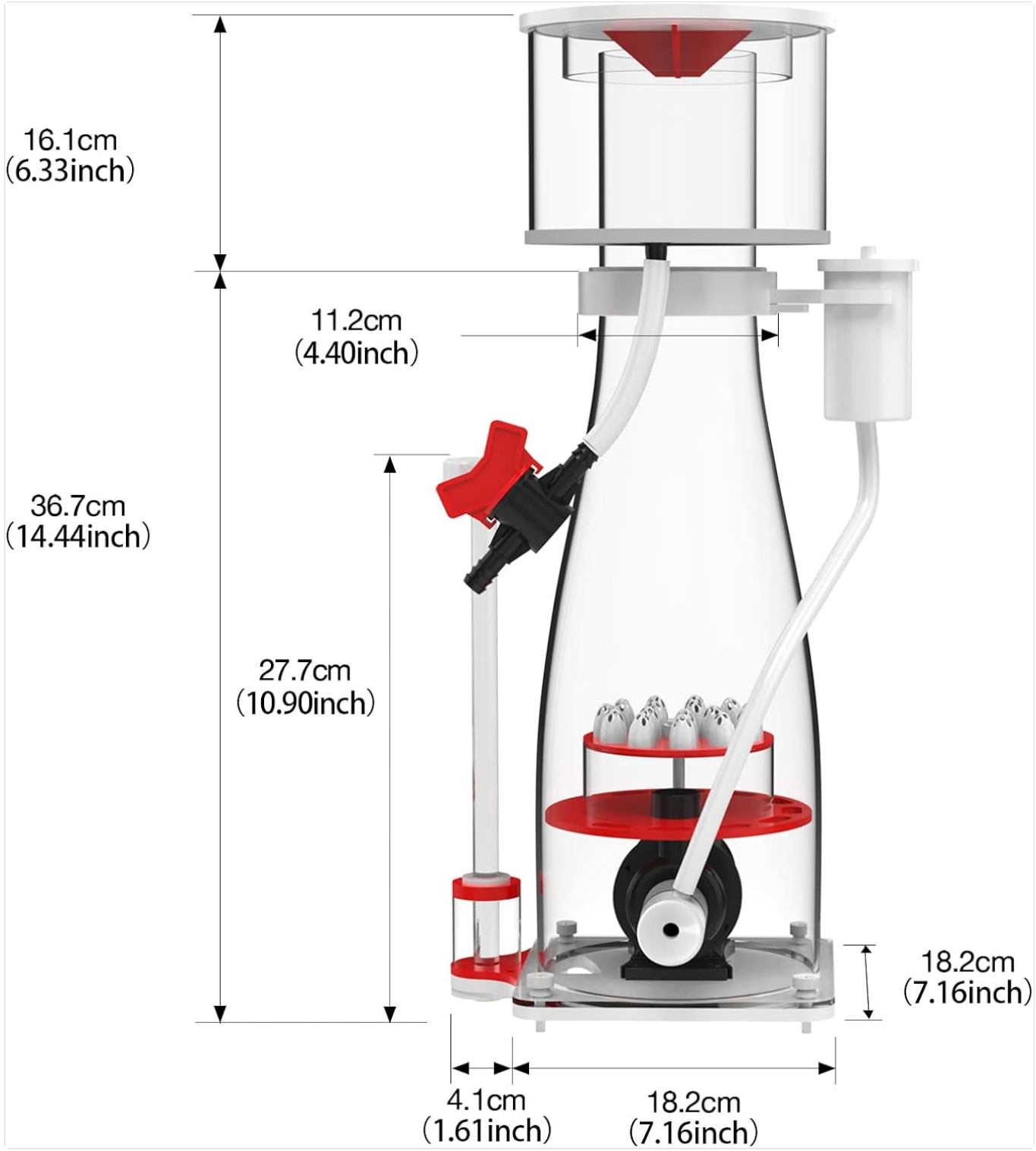


Image: Detailed dimensions of the MagTool N170 Plus Protein Skimmer. This image provides precise measurements for installation planning.

Feature	Detail
Model	N170 Plus
Item Model Number	HF-N100Plus-EU
Aquarium Capacity (Low Bio-Load)	Up to 185 Gallons
Aquarium Capacity (High Bio-Load)	Up to 135 Gallons
Recommended Water Depth	7.0–8.7 inches

Feature	Detail
Footprint	9.0 × 8.2 inches (L × W)
Pump Type	Controllable DC Sine Wave Pinwheel Pump
Pump Power	25 Watts
Max. Flowrate (Water + Air)	660 GPH (420 GPH Water + 140 GPH Air)
Material	Plastic
Item Weight	9.83 pounds (4.46 kg)
Power Source	Corded Electric
Operation Mode	Automatic

MODEL		N100	N130	N170
Footprint(In.)		L4.3" x W5.0"	L7.4" x W7.9"	L 8.2" x W 9.0"
Height(In.)		17.7"	19.0"	20.8"
Water Level(In.)		6.5-7.5"	6.5-8.0"	7.0-8.7"
Pump	Pump Controller	Speed Control Knob	Smart Controller	Smart Controller
	Power	DC24V, 7W	DC24V, 20W	DC24V, 25W
	Max. Flowrate (Water + Air)	265GPH (180 + 80GPH)	400GPH (240 + 160GPH)	660GPH (420 + 140GPH)
Gallon Rating	Light Bio-Load	Up to 100gal	Up to 135gal	Up to 185gal
	Medium Bio-Load	~75gal	~120gal	~160gal
	Heavy Bio-Load	Up to 50gal	Up to 105gal	Up to 135gal

Image: Comparative specifications table for MagTool protein skimmer models N100, N130, and N170. This table allows for quick comparison of key operational parameters across different models.

8. Warranty & Support

MagTool is committed to providing high-performance protein skimmers and excellent customer service. While specific warranty details are not provided in this manual, our customer support team is available 24/7 to assist with any issues or questions you may have regarding your product. Please contact us for prompt assistance to ensure a worry-free aquarium keeping experience.

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