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MagTool N100 Plus (HF-N100Plus-EU)

MagTool N100 Plus Aquarium In-Sump DC Protein Skimmer Instruction Manual

Model: N100 Plus (HF-N100Plus-EU)

1. Introduction

The MagTool N100 Plus In-Sump DC Protein Skimmer is designed for efficient filtration in reef aquarium tanks ranging from 50 to 100 gallons. This compact unit features a controllable DC pinwheel pump and an anti-overflow design to help maintain optimal water quality by removing organic waste before it breaks down. Its innovative design ensures powerful performance with quiet operation, making it suitable for space-limited installations.

2. Safety Information

- Always disconnect the power supply to the skimmer and any other aquarium equipment before performing maintenance, cleaning, or assembly.
- Ensure the skimmer is placed in a stable position within the sump and that the recommended water level is maintained.
- Do not operate the pump dry. Ensure the pump is fully submerged in water before connecting to power.
- Keep all electrical connections dry and away from water.
- This product is intended for indoor use only in an aquarium environment.

3. Package Contents

Please verify that all components are present and undamaged upon unboxing.

- Skimmer Body (Reaction Chamber)
- Collection Cup with Lid
- DC Pinwheel Pump
- Air Intake Silencer
- Water Level Adjustment Pipe
- Output Valve
- Power Adapter and Controller
- Mounting Screws/Hardware



Figure 1: Exploded view of the MagTool N100 Plus Protein Skimmer components.

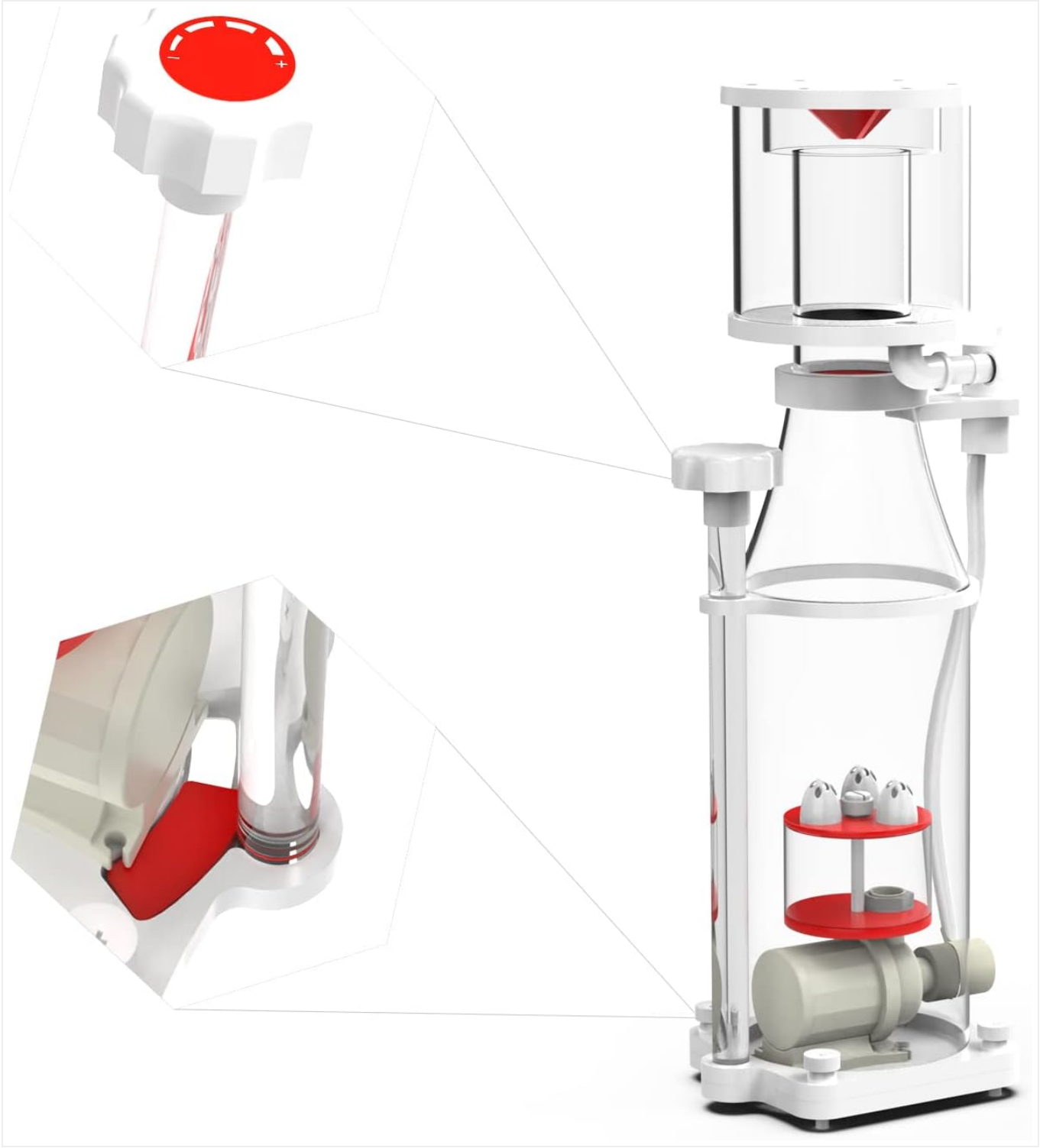

Figure 2: Detailed view of individual skimmer parts, including the pump, collection cup, and adjustment knob.

4. Setup Instructions

1. **Assembly:** Refer to the exploded view (Figure 1) for component identification. Assemble the skimmer body, ensuring all O-rings and seals are correctly seated. Attach the DC pinwheel pump to the base of the skimmer. Secure the collection cup to the top of the reaction chamber.
2. **Connect Air Intake:** Connect the air intake silencer to the pump's air inlet.
3. **Install Water Level Adjustment:** Insert the water level adjustment pipe and attach the output valve.
4. **Placement in Sump:** Place the assembled skimmer into your aquarium sump. Ensure the skimmer is positioned in a chamber with a stable water level.
5. **Recommended Water Level:** The optimal operating water level for the N100 Plus is between 6.5 to 7.5 inches.

Adjust the skimmer's position or the sump's water level as needed to meet this requirement.

6. **Power Connection:** Connect the DC pump to the provided controller, and then connect the controller to the power adapter. Finally, plug the power adapter into a suitable electrical outlet.
7. **Initial Break-in:** Allow a break-in period of several days for the skimmer to achieve optimal performance. During this time, foam production may be inconsistent.



Figure 3: The MagTool N100 Plus Protein Skimmer installed in a typical aquarium sump setup.

Setup Videos

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Video 1: This video demonstrates the unboxing and setup process for the MagTool Protein Skimmer, guiding users through assembly and initial installation steps.

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Video 2: This video provides a detailed guide on building and installing the MagTool Skimmer in a 75-gallon sump, offering practical tips for placement and connection.

5. Operating Instructions

1. **Power On:** Once assembled and placed in the sump with the correct water level, connect the power. The pump will start operating.
2. **Adjusting Water Level:** Use the water level adjustment pipe and output valve to control the internal water level within the skimmer. For drier skimmate (darker, thicker), lower the water level. For wetter skimmate (lighter, more watery), raise the water level. Fine-tune this adjustment over several days to achieve desired foam consistency.
3. **Pump Speed Control:** The N100 Plus features a controllable DC pump. Use the speed control knob on the controller to adjust the pump's power. Higher speeds generally produce more foam. Start at a medium setting and adjust as needed.
4. **Anti-Overflow Design:** The skimmer is equipped with an anti-overflow design. In case of excessive foam production or a blockage, the system is designed to prevent the collection cup from overflowing into your sump.



Figure 4: The water level adjustment knob allows precise control over skimmer performance.

Operation Videos

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Video 3: This video showcases the MagTool Aquarium in-Sump DC Protein Skimmer in operation, highlighting its controllable DC pinwheel pump for 50-100 gallon tanks.

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Video 4: A demonstration of the Aquarium in-Sump DC Protein Skimmer, focusing on its controllable DC pinwheel pump and overall functionality.

6. Maintenance

Regular maintenance is crucial for the optimal performance and longevity of your protein skimmer.

1. **Collection Cup Cleaning:** Empty and clean the collection cup regularly, typically every few days or as needed, depending on the amount of skimmate produced. Rinse with fresh water to remove accumulated organic waste.
2. **Neck Cleaning:** Clean the skimmer neck (where the collection cup attaches) to prevent organic buildup that can hinder foam production. Use a brush or cloth to remove any slime.
3. **Pump and Impeller Cleaning:** Periodically (e.g., monthly or bi-monthly), disassemble the pump and clean the impeller. Remove any debris, calcium buildup, or algae that may impede its operation. Use a soft brush and vinegar solution for stubborn deposits.

4. **Full Disassembly and Cleaning:** For a thorough cleaning, the entire skimmer can be disassembled. Soak components in a vinegar solution to remove mineral deposits, then rinse thoroughly with fresh water before reassembly.

7. Troubleshooting

Problem	Possible Cause	Solution
No foam or poor foam production	• New skimmer (break-in period) • Incorrect water level • Air intake blocked • Pump/impeller dirty or damaged • Chemicals in water (e.g., medications, dechlorinators)	• Allow 1-2 weeks for break-in. • Adjust water level to 6.5-7.5 inches. • Check and clear air intake line and silencer. • Clean pump and impeller. Inspect for damage. • Perform water change; avoid adding chemicals that affect surface tension.
Skimmer overflowing	• Water level too high • Sudden change in water parameters • Feeding or dosing additives • Air intake too open	• Lower the internal water level using the adjustment pipe. • Monitor water parameters. • Temporarily turn off skimmer during feeding/dosing. • Ensure air intake is not excessively open.
Excessive noise or vibration	• Impeller dirty or misaligned • Air intake silencer clogged • Skimmer not stable	• Clean and re-seat impeller. • Clean air intake silencer. • Ensure skimmer is firmly placed on a level surface.

8. Specifications

Feature	Detail (N100 Plus)
Model Number	HF-N100Plus-EU
Footprint	5.0 x 4.3 inches (12.7 x 10.9 cm)
Height	16.34 inches (41.5 cm)
Recommended Water Level	6.5 - 7.5 inches
Pump Power Consumption	7 Watts (DC24V)
Max. Flowrate (Water + Air)	265 GPH (180 GPH Water + 80 GPH Air)
Gallon Rating (Light Bio-Load)	Up to 100 gallons
Gallon Rating (Medium Bio-Load)	~75 gallons
Gallon Rating (Heavy Bio-Load)	Up to 50 gallons

Feature	Detail (N100 Plus)
Material	Metal, Plastic
Item Weight	3.57 Pounds (1.62 Kilograms)

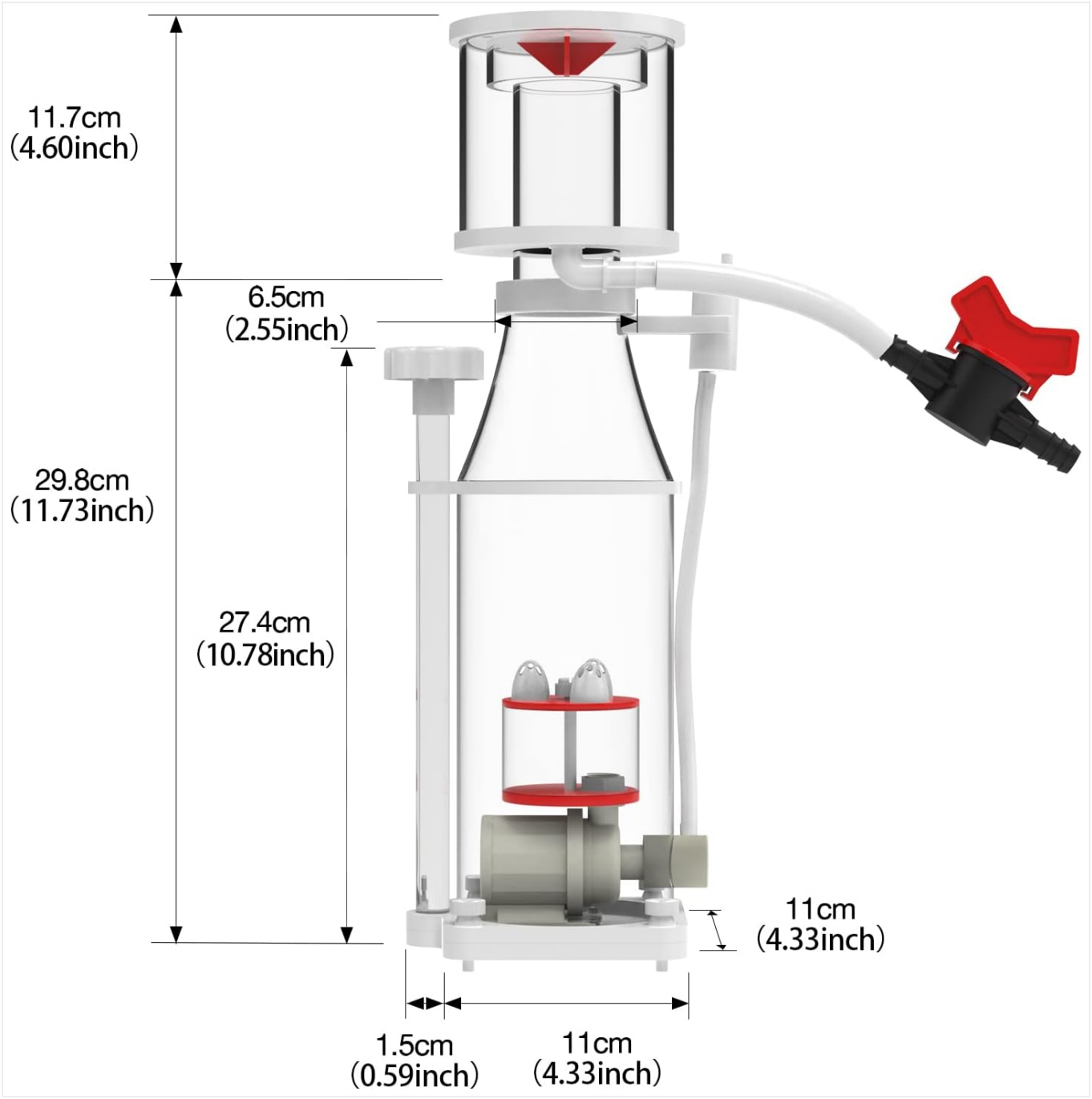

Figure 5: Product dimensions for the MagTool N100 Plus Protein Skimmer.

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

Figure 6: Comparative specifications for MagTool skimmer models, including N100.

9. Warranty and Support

For warranty information, technical support, or replacement parts, please contact MagTool customer service directly. Refer to the product packaging or the official MagTool website for the most current contact details.

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