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Alphacool 49061

Alphacool DC-LT 3600 Ceramic Pump User Manual

Model: 49061

1. Introduction and Overview

The Alphacool DC-LT ceramic 12 Volt pump is a compact and powerful solution designed for water cooling systems, particularly suitable for barebones, HTPC, and desktop systems where quiet operation is a priority. While traditional water cooling often targets extreme overclocking, this pump focuses on providing efficient cooling with minimal noise, contributing to an overall silent system. Its ceramic shaft ensures a long lifespan and consistently smooth operation. With dimensions comparable to a 2 Euro coin, it is one of the most compact water cooling pumps available for computer cooling applications.

2. Product Features

- 12V ceramic pump for water cooling applications.
- Compact dimensions (WxHxD): 51x48x9mm (without fittings), making it highly space-efficient.
- Maximum flow rate of approximately 120 liters per hour (l/h).
- Pressure head at 12V: 2.2 meters H2O.
- Power connector: Standard 3-Pin fan plug for easy integration.
- Permitted voltage range: 5-13.5V DC.
- Designed for quiet operation, though noise levels can vary based on voltage and system setup.
- Ceramic shaft for extended durability and smooth performance.

3. Package Contents

Please verify that all items listed below are present in your package:

- 1x Alphacool DC-LT Ceramic 12 Volt Pump (Bulk Version)
- 2x M3x6 Allen Bolts
- Mounting Manual (this document)

Note: Mounting screws are not included with this bulk version pump. Additionally, this pump in its bulk version has no connection threads. It is recommended to order a suitable pump top from Alphacool's portfolio for proper installation and connection to your water cooling loop.

4. Setup Instructions

Proper installation is crucial for the optimal performance and longevity of your Alphacool DC-LT pump. Follow these steps carefully:

1. **Unpacking and Inspection:** Carefully remove the pump from its packaging. Inspect the pump for any visible damage that may have occurred during shipping.
2. **Attaching a Pump Top/Reservoir:** As this is a bulk version pump without integrated threads, you must attach a compatible Alphacool pump top or reservoir. This component provides the necessary inlet and outlet ports for your water cooling loop. Secure the pump to the chosen top/reservoir using the provided M3x6 allen bolts. Ensure a tight, secure fit to prevent leaks.
3. **Mounting the Pump:** Mount the pump assembly securely within your PC case. Depending on your case and pump top, additional mounting hardware (e.g., M3x8mm screws for certain Alphacool products like the Repack – Dual DC-LT – 5.25 Single Bay station) may be required and is not included. Ensure the pump is mounted in a stable position to minimize vibrations.
4. **Connecting to the Cooling Loop:** Connect the inlet and outlet ports of the pump top to your water cooling loop components (radiator, CPU/GPU blocks, etc.) using appropriate fittings and tubing. Double-check all connections for tightness.
5. **Power Connection:** Connect the pump's 3-Pin fan plug to a compatible 3-Pin header on your motherboard or a fan controller. Ensure the connection is firm. The pump operates on 12V DC.
6. **Filling the Loop:** Fill your water cooling loop with a suitable coolant. It is recommended to use a funnel and fill slowly to avoid air bubbles. Ensure the reservoir (if used) is adequately filled.
7. **Leak Testing:** Before powering on your entire system, perform a thorough leak test. Power the pump independently (e.g., using a dedicated power supply or by shorting the ATX power supply's green and black wires) and let it run for several hours (e.g., 12-24 hours) while carefully inspecting all connections for any signs of leaks. Place paper towels or absorbent material under connections to easily spot drips.

Image: Close-up view of the Alphacool DC-LT 3600 Ceramic Pump, showing the impeller and the compact housing. This image illustrates the core pump unit before a pump top or reservoir is attached.

5. Operating Instructions

Once the pump is properly installed and the loop is filled and leak-tested, you can begin operation:

- **Initial Power On:** After confirming no leaks, power on your system. The pump should start circulating the coolant immediately.
- **Air Bleeding:** During the first few hours of operation, you may hear gurgling noises as air bubbles are purged from the system. Gently tilt your PC case in different directions to help trapped air move to the reservoir. Continue to monitor coolant levels and top up as needed.
- **Voltage Control:** The pump operates within a permitted voltage range of 5-13.5V DC. You can adjust the pump speed via your motherboard's fan control settings (if connected to a controllable header) or a dedicated fan controller. Lower voltages will result in quieter operation but reduced flow rate, while higher voltages increase flow rate and potentially noise.
- **Monitoring:** Regularly monitor your system's temperatures to ensure the water cooling loop is functioning effectively.

6. Maintenance

Regular maintenance helps ensure the longevity and efficiency of your water cooling system:

- **Coolant Replacement:** It is recommended to replace the coolant in your loop every 6-12 months, or as

recommended by your coolant manufacturer, to prevent buildup and maintain optimal performance.

- **System Flush:** When replacing coolant, consider flushing the entire loop with distilled water to remove any old coolant residue or contaminants.
- **Inspection:** Periodically inspect tubing, fittings, and the pump for any signs of wear, leaks, or blockages. Ensure all connections remain secure.
- **Cleaning:** If necessary, the pump can be disassembled (after draining the loop) for cleaning of the impeller and ceramic shaft. Refer to specific instructions for your pump top/reservoir for disassembly.

7. Troubleshooting

If you encounter issues with your Alphacool DC-LT pump, refer to the following common problems and solutions:

- **Pump Not Starting:**
  - Check the 3-Pin power connection to ensure it is securely seated on the motherboard header or controller.
  - Verify that the power supply is providing power to the motherboard/controller.
  - Ensure the motherboard BIOS settings or fan control software are not set to turn off the fan header at low temperatures.
- **Excessive Noise:**
  - The Alphacool DC-LT 3600 pump is known to produce a noticeable noise level, especially at higher voltages (25 dB at specified conditions). This is a characteristic of the 3600 RPM version.
  - Reduce the pump's operating voltage (e.g., to 7V or lower) via your motherboard's fan control settings or a fan controller. This will decrease the pump speed and noise, but also the flow rate.
  - Ensure the pump is securely mounted and not vibrating against the case or other components.
  - Check for air trapped in the loop, which can cause gurgling or cavitation noise. Bleed the system thoroughly.
- **No Flow or Low Flow:**
  - Check coolant level in the reservoir; ensure it is not too low.
  - Verify that there are no kinks or severe bends in the tubing restricting flow.
  - Ensure all fittings are open and not blocked.
  - An airlock might be present. Try tilting the system to dislodge air bubbles.
  - If the pump has been running dry, it may be damaged.
- **Leaks:**
  - Immediately power down the system if a leak is detected.
  - Inspect all fittings and connections. Tighten any loose fittings.
  - Check O-rings and seals for damage or improper seating. Replace if necessary.
  - Ensure tubing is properly seated on barbs or compression fittings.

8. Specifications

Feature	Detail
Product Dimensions (WxHxD)	51x48x9mm (without fittings) / 2.01"L x 0.35"W x 1.89"H
Brand	Alphacool

Feature	Detail
Power Connector Type	3-Pin
Standard Voltage	12V DC
Permitted Voltage	5-13.5V DC
Power Draw	4.9W
Pressure Head at 12V	2.2m H2O
Maximum Flow Rate	Approx. 120l/h
Pumped Medium	Water, Water/glycol mixture
Maximum System Temperature	65°C
Noise Level	25 dB
Material	Ceramic
Item Weight	48g / 1.69 ounces
Item Model Number	49061
Manufacturer	Alphacool
Country of Origin	Germany
Date First Available	February 7, 2013

9. Warranty and Support

For warranty information and technical support regarding your Alphacool DC-LT 3600 Ceramic Pump, please refer to the official Alphacool website or contact their customer service directly. Keep your proof of purchase for any warranty claims.

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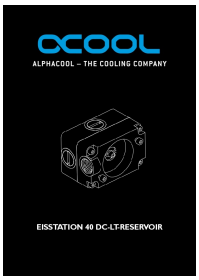
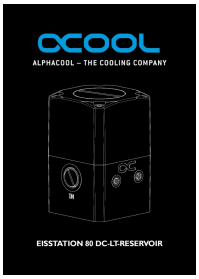
	[Alphacool Eisstation 40 DC-LT Reservoir Installation and User Guide] Comprehensive guide for the Alphacool Eisstation 40 DC-LT Reservoir, covering safety instructions, technical details, mounting, and usage. Learn how to install and connect this essential component for your PC cooling system.
	[Alphacool Eisstation 80 DC-LT Reservoir: Installation and Technical Guide] Comprehensive guide for the Alphacool Eisstation 80 DC-LT reservoir, covering safety instructions, mounting materials, technical specifications, installation steps, and usage recommendations. Includes details on pump compatibility and reservoir replacement.
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	[Alphacool Eisstation Installation Guide] Alphacool Eisstation installation manual detailing the setup for DC-LT, VPP, and DDC pumps, including scope of delivery and mounting instructions.
	[Alphacool VPP655 Cooling Pump: Installation and Operating Manual] Comprehensive installation and operating manual for the Alphacool VPP655 cooling pump. Learn about its features, technical specifications, mounting, electrical connection, and troubleshooting.