## Alphacool 15483

Alphacool Core 100 Aurora D5/VPP Reservoir with VPP655 PWM Pump Instruction Manual

Model: 15483

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Alphacool Core 100 Aurora D5/VPP Reservoir with VPP655 PWM Pump. This product is designed for integration into custom PC water cooling loops, offering both efficient fluid circulation and aesthetic lighting.

The Alphacool Core reservoir features an integrated pump top for D5 pumps and includes a VPP655 PWM pump. The reservoir tube is constructed from acrylic, while the D5/VPP pump top and lid are made of acetal. This combination provides a functional and visually appealing design. The unit also incorporates 12 digitally addressable RGB LEDs in the pump top, creating a light tower effect within the acrylic tube.
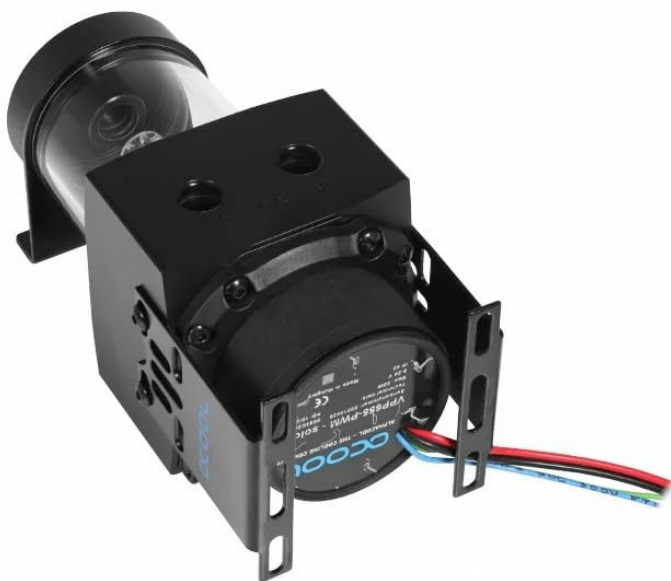
2. SAFETY INFORMATION

- Always disconnect power from your computer before installing or performing maintenance on any water cooling components.

- Ensure all fittings are securely tightened to prevent leaks. Use appropriate tools and avoid over-tightening.

- Use only approved coolants for PC water cooling systems. Mixing incompatible coolants can lead to system damage.

- Perform a leak test with distilled water or a non-conductive fluid before powering on your system with coolant.

- Keep electronic components away from liquids during installation and maintenance.

- Handle the product with care to avoid damage to the acrylic tube or internal components.

3. PACKAGE CONTENTS

Verify that all components listed below are present in your package:

- Alphacool Core 100 Aurora D5/VPP Reservoir with VPP655 PWM Pump (pre-installed)
- Mounting feet for case bottom installation
- 120mm/140mm mounting frames for fan/radiator attachment
- Mounting screws and hardware
- Hex key (Allen wrench)
- Power connection cable (4-pin Molex)
- Digital aRGB LED connection cable (3-pin JST)

Image 3.1: Overview of included mounting hardware, cables, and tools for the Alphacool Core 100 Aurora D5/VPP Reservoir.

4. Setup and Installation

4.1 Mounting Options

The Alphacool Core 100 Aurora offers versatile mounting options:

1. **Case Bottom Mounting:** Use the provided feet to secure the reservoir to the bottom of your PC case. Ensure adequate clearance for tubing and connections.

2. **Fan/Radiator Mounting:** Utilize the included 120mm/140mm mounting frames to attach the reservoir to available fan spaces, directly to radiators, or to fans already mounted on radiators. This allows for flexible placement within your system.

Image 4.1: The reservoir unit shown mounted on a radiator, demonstrating one of the installation possibilities.

4.2 Connecting to the Water Cooling Loop

The reservoir features three G1/4" connection ports. Typically, one port serves as the inlet from the rest of the loop, and another as the outlet to the pump. The third port can be used for filling, draining, or as an additional sensor port.

- Install your G1/4" fittings into the desired inlet and outlet ports. Ensure O-rings are properly seated and fittings are tightened securely by hand, then a quarter turn with a wrench if necessary, to prevent leaks.
- Connect your tubing to the fittings, ensuring a snug and secure fit.

Image 4.2: Front view of the reservoir, highlighting the G1/4" inlet and outlet ports and the illuminated interior.

4.3 Power and RGB Connections

The VPP655 PWM pump requires a 4-pin Molex power connection. The integrated aRGB LEDs require a 3-pin JST connection.

- Connect the 4-pin Molex connector from the pump to an available 4-pin Molex power cable from your power supply unit (PSU).

- Connect the 3-pin JST connector from the aRGB LEDs to a compatible 3-pin 5V addressable RGB header on your motherboard or an external aRGB controller. Ensure correct polarity to avoid damage.

Image 4.3: Close-up of the 4-pin Molex power connector and the 3-pin JST aRGB connector.

4.4 Filling the Loop and Leak Testing

After all components are installed and connected:

1. Fill the reservoir with your chosen coolant. Do not fill completely; leave some air space for expansion.

2. Perform a leak test. It is highly recommended to use a dedicated PSU for the pump only, or to use a PSU jumper, to power the pump without powering other PC components. Run the pump for at least 24 hours, checking for any leaks.

3. Once leak testing is complete and no leaks are detected, you can power on your full system.

5. OPERATING INSTRUCTIONS

5.1 Pump Operation (VPP655 PWM)

The VPP655 pump is a PWM (Pulse Width Modulation) controlled pump. This allows for dynamic control of pump speed based on system temperatures or user preferences via your motherboard's fan headers or a dedicated fan controller.

- Connect the 4-pin PWM cable from the pump to a 4-pin fan header on your motherboard (e.g., CPU_FAN, PUMP_FAN).

- Configure the pump speed curve in your motherboard's BIOS/UEFI settings or using motherboard software. The pump operates within a control range of 800-4800 RPM.

- Ensure the pump is always running when the system is powered on to maintain coolant circulation.
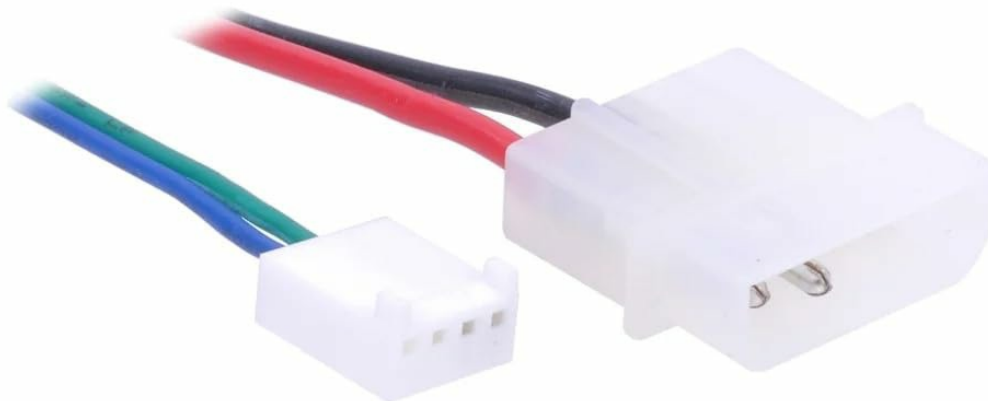
Image 5.1: Close-up of the VPP655 PWM pump label, showing model and basic specifications.

5.2 Digital aRGB Lighting

The 12 digitally addressable RGB LEDs in the pump top provide customizable lighting effects.

- Once connected to a compatible 3-pin 5V aRGB header or controller, you can control the lighting effects using your motherboard's RGB software (e.g., ASUS Aura Sync, MSI Mystic Light, Gigabyte RGB Fusion) or the software provided with your external aRGB controller.

- Explore various colors, patterns, and synchronization options to match your system's aesthetic.

Image 5.2: The reservoir operating within a PC case, demonstrating the vibrant digitally addressable RGB lighting effects.

6. Maintenance

- **Coolant Replacement:** It is recommended to replace your coolant every 6-12 months, depending on the coolant type and system usage, to prevent buildup and maintain optimal performance.

- **System Flush:** Before adding new coolant, consider flushing your loop with distilled water or a dedicated flushing agent to remove any old coolant residue.

- **Cleaning:** If disassembling for cleaning, gently clean the acrylic tube and acetal components with distilled water and a soft cloth. Avoid abrasive materials or harsh chemicals.

- **Pump Inspection:** Periodically inspect the pump for any unusual noises or reduced flow. If issues arise, refer to the troubleshooting section.

7. Troubleshooting

Problem	Possible Cause	Solution
Pump not starting/no flow	No power, incorrect wiring, air lock, pump failure.	Check 4-pin Molex power connection. Verify PWM cable is connected. Gently tilt the case to dislodge air bubbles. If pump is faulty, contact support.
Leaks detected	Loose fittings, damaged O-rings, cracked component.	Immediately power off system. Tighten all fittings. Inspect O-rings for damage and replace if necessary. Check components for cracks.

Problem	Possible Cause	Solution
RGB LEDs not lighting up	Incorrect 3-pin JST connection, incompatible header, software issue.	Ensure 3-pin JST is correctly connected to a 5V aRGB header. Check motherboard manual for compatible headers. Verify RGB software settings.
Reduced flow/poor cooling performance	Air in loop, clogged components, pump running at low speed.	Bleed air from the loop. Inspect radiators and blocks for clogs. Check pump PWM settings in BIOS/software.

8. SPECIFICATIONS

Feature	Detail
Model	15483
Dimensions (L x W x H)	131 x 76.5 x 76.5 mm (5.16 x 3.01 x 3.01 inches)
Volume	200 ml
Pump Compatibility	D5 (VPP655 PWM pump included)
Material (Pump Top & Lid)	Acetal
Material (Tube)	Acrylic
Connections	3x G1/4"
Maximum Working Temperature	60°C
Pressure Tested	0.8 bars
Digital aRGB LEDs	12
Voltage Digital aRGB LEDs	5V
Power Connection Digital aRGB LEDs	3-pin JST (male & female switch)
VPP655 PWM Pump Power Connection	4-pin Molex
VPP655 PWM Pump Control Range	800-4800 RPM
VPP655 PWM Pump Operating Voltage	8-24Vdc
VPP655 PWM Pump Power Consumption	23W
VPP655 PWM Pump Maximum Head	3.7m

Feature	Detail
VPP655 PWM Pump Maximum Flow	1000 l/h
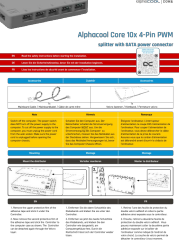
Image 8.1: Dimensional drawing showing the length, width, and height of the Alphacool Core 100 Aurora D5/VPP Reservoir.

9. WARRANTY AND SUPPORT

Alphacool products are manufactured to high quality standards. For warranty information and technical support, please refer to the official Alphacool website or contact your retailer. Keep your proof of purchase for warranty claims.

For further assistance, visit the Alphacool website.

Related Documents - 15483

[Alphacool Core Flat Reservoir 240 Right with VPP Pump - Technical Specifications](#)
Explore the Alphacool Core Flat Reservoir 240 Right, featuring integrated VPP pump, digital aRGB lighting, and a flat acrylic design ideal for custom PC water cooling and compact builds. Includes 5 connections for flexible setup.

[Alphacool Core 10x 4-Pin PWM Splitter: Installation Guide](#)
Detailed installation instructions and safety information for the Alphacool Core 10x 4-Pin PWM splitter with SATA power connector, designed for PC fan control.

[Alphacool Core Hurrican XT45 HardTube Water Cooling Set Installation Guide](#)
Detailed installation manual for the Alphacool Core Hurrican XT45 HardTube water cooling set. Covers component identification, radiator preparation, XPX cooler mounting, fan and LED connections, hardtube bending and connection, system filling, and leak testing. Includes a comprehensive parts list and safety warnings.

[Alphacool Core Distro Plate 240 Right with VPP Apex Pump - PC Water Cooling Component](#)
Detailed information on the Alphacool Core Distro Plate 240 right, featuring the VPP Apex pump. Includes technical specifications, scope of delivery, installation guide, and design features for custom PC water cooling systems.

[Alphacool Core RTX 4090 Water Block with Backplate - Reference Design](#)
High-quality Alphacool Core water cooling solution for the NVIDIA GeForce RTX 4090 Reference Design. This high-performance GPU water block features a chrome-plated copper base, optimized fin structure, digital aRGB lighting, and an aluminum backplate. Includes detailed specifications, compatibility information, and scope of delivery.

[Alphacool Core Distro Plate 360 Left VPP/D5 - High-Performance PC Water Cooling](#)
Discover the Alphacool Core Distro Plate 360 Left VPP/D5, a premium acrylic distribution plate designed to simplify custom PC water cooling setups. Features include digital aRGB illumination, compatibility with VPP/D5 pumps, and multiple mounting options for easy installation and maintenance.

[pdf] Datasheet

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