Cooler Master MLW-D24M-A18PZ-R1

Cooler Master MasterLiquid 240L Core ARGB Liquid Cooler User Manual

Model: MLW-D24M-A18PZ-R1

Product Overview

The Cooler Master MasterLiquid 240L Core ARGB is an advanced all-in-one (AIO) liquid cooling solution designed for high-performance computing. It features a redesigned Gen S dual chamber pump for enhanced water flow and pressure, a larger radiator surface area for improved cooling, and newly designed 120mm ARGB fans for efficient heat dissipation and customizable lighting. This cooler also includes premium CryoFuze thermal paste for superior heat conductivity, ensuring optimal thermal performance for your system.



Figure 1: MasterLiquid 240L Core ARGB Liquid Cooler, showcasing the radiator, two ARGB fans, and the pump unit.

Key Features

- **Clean Classic Design:** A minimalist pump design with enhanced ARGB lighting dispersion for fully customizable illumination.
- **Gen S Dual Chamber Pump:** Improved copper base design for precise heat spot targeting and increased water flow/pressure, enhancing cooling performance.



Figure 2: Internal view of the Gen S Dual Chamber Pump, illustrating enhanced water flow and pressure for CPU cooling.

- **CryoFuze Thermal Paste:** Premium thermal paste with 14W/mK conductivity, offering stable temperatures from -50°C to 250°C.



Figure 3: Application of CryoFuze thermal paste on a CPU, highlighting its high thermal conductivity.

- **Optimized Fan Blades:** PWM curve blade design improves airflow and air pressure, reducing turbulent flow for quieter and more efficient cooling.

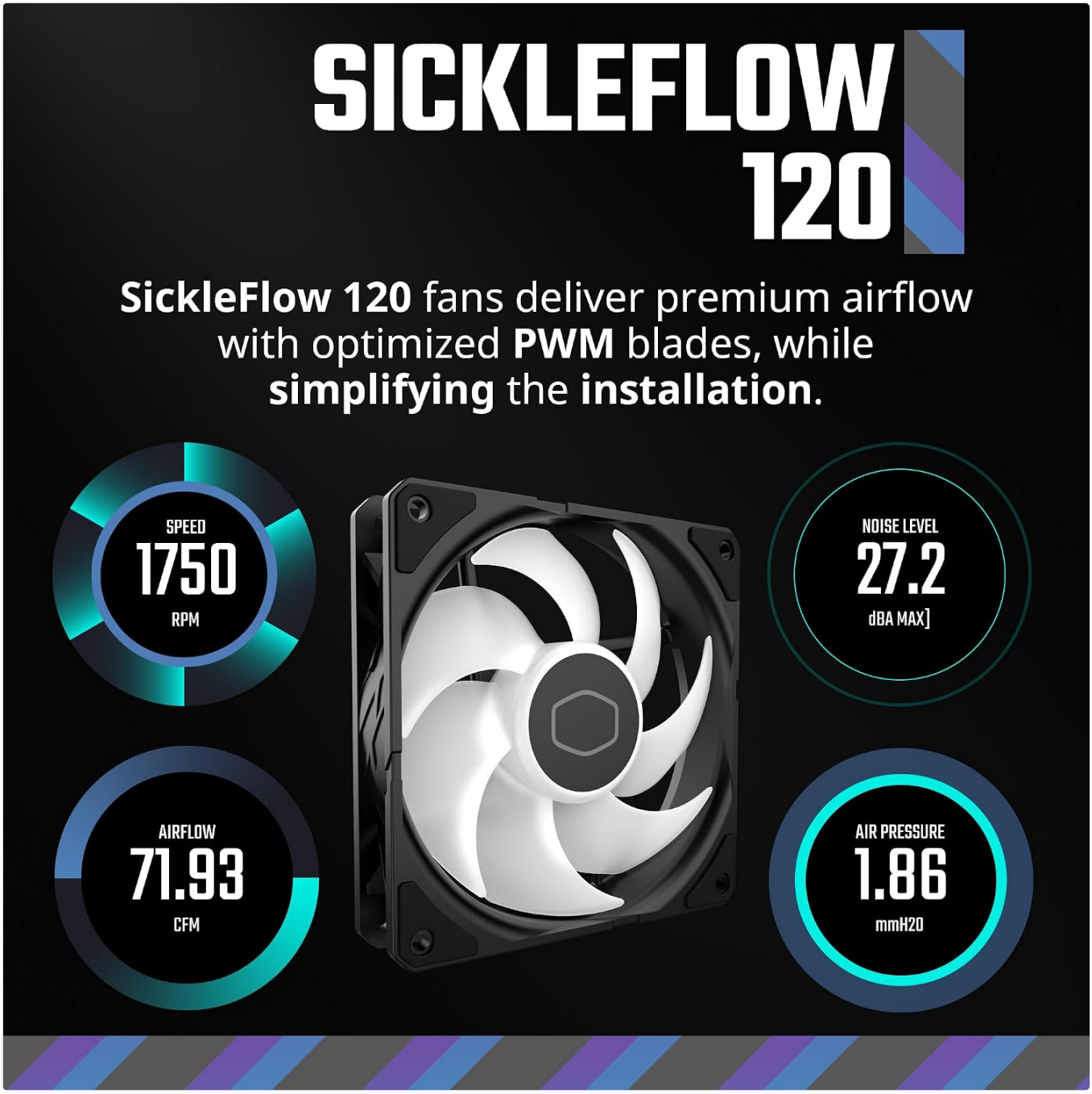


Figure 4: Detailed specifications of the SickleFlow 120 fan, including speed, airflow, noise level, and air pressure.

- **Frosted Blade Design:** Refreshed frosted blade design enhances ARGB lighting dispersion for a vibrant and customizable luminous effect.



Figure 5: Close-up of the frosted fan blade, showcasing the enhanced ARGB lighting effects and motherboard sync compatibility.

- **Slim & Sleek Radiator:** Low-profile radiator with superior fin density and high-performance fans for efficient heat dissipation.

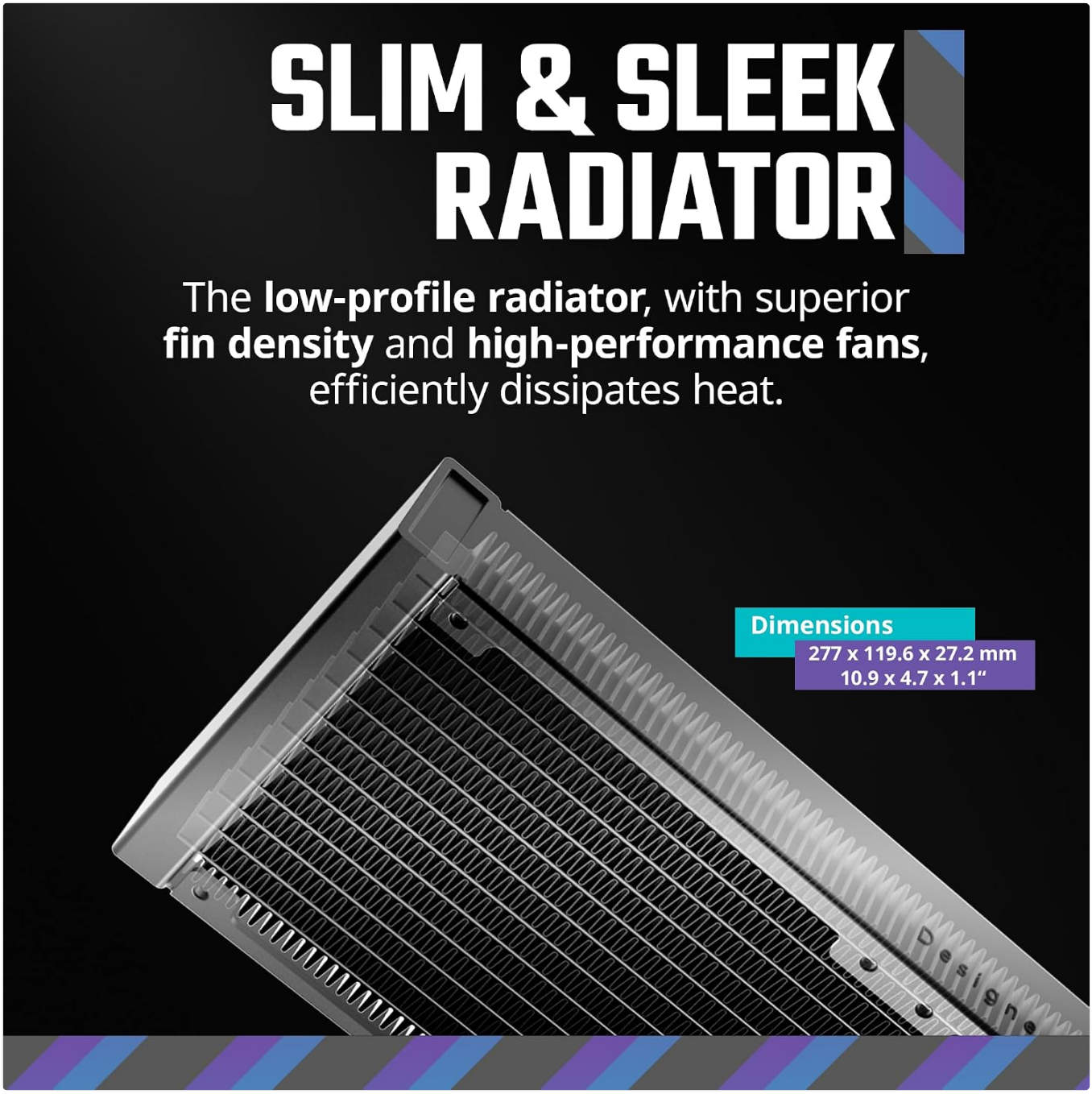


Figure 6: Diagram illustrating the slim and sleek design of the radiator with its dimensions.

What's in the Box

The Cooler Master MasterLiquid 240L Core ARGB package includes all necessary components for installation and operation:

- ML240L Core Liquid Cooler Unit
- 2x 120mm ARGB Fans
- CryoFuze Thermal Paste (pre-applied or tube)
- Installation Kits (for various CPU sockets)
- User Manual (this document)



Figure 7: All components included in the MasterLiquid 240L Core ARGB retail package.

Setup and Installation

Proper installation is crucial for optimal performance. Please follow these general steps. Refer to the detailed installation guide provided with your product for specific instructions for your CPU socket (AMD AM5/AM4, Intel LGA1700/1200).

1. **Prepare Your System:** Power off your computer and disconnect all cables. Open your PC case to access the motherboard and CPU area.
2. **Mount the Radiator:** Identify a suitable mounting location in your PC case (typically top or front) for the 240mm radiator. Secure the radiator and fans using the provided screws. Ensure fans are oriented for optimal airflow (intake or exhaust).
3. **Prepare the CPU Socket:** Install the correct mounting brackets for your CPU socket (AMD or Intel) onto the pump unit and motherboard backplate as per the detailed manual.

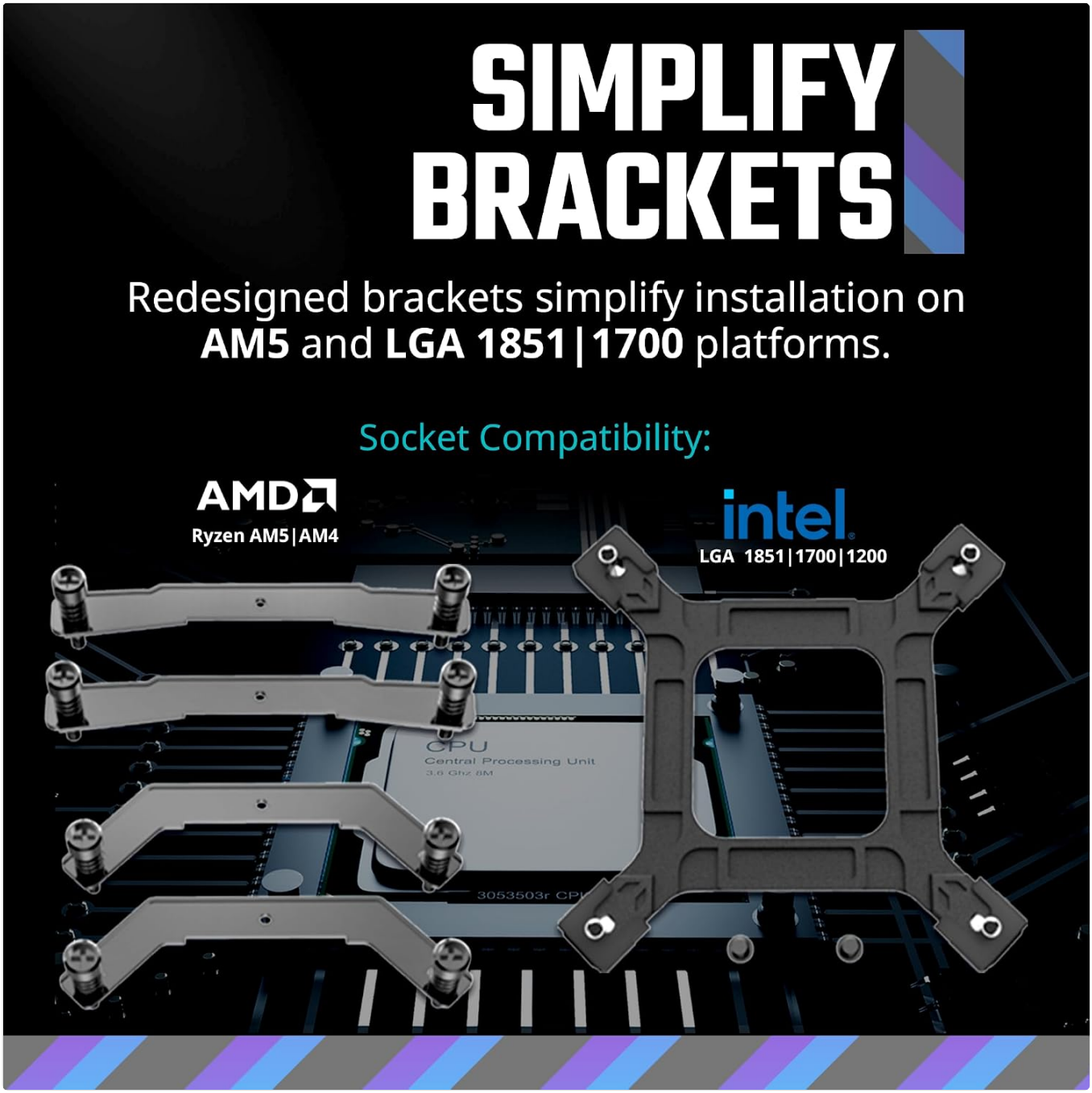


Figure 8: Various mounting brackets for AMD (Ryzen AM5/AM4) and Intel (LGA 1851/1700/1200) sockets.

4. **Apply Thermal Paste:** If not pre-applied, apply a small amount of CryoFuze thermal paste to the center of your CPU's integrated heat spreader (IHS).
5. **Install the Pump/Coldplate:** Carefully place the pump/coldplate assembly onto the CPU, aligning it with the mounting holes. Secure it firmly with the provided screws, ensuring even pressure.
6. **Connect Cables:** Connect the pump's power cable to the CPU_FAN or AIO_PUMP header on your motherboard. Connect the ARGB fan cables to an available ARGB header on your motherboard or to the included ARGB controller. Connect the fan PWM cables to available fan headers on your motherboard.
7. **Cable Management:** Route cables neatly to ensure proper airflow and a clean build.
8. **Close Case and Power On:** Close your PC case and reconnect all external cables. Power on your system and verify that the pump and fans are operating correctly and ARGB lighting is functional.

Operating Instructions

Once installed, the MasterLiquid 240L Core ARGB operates automatically to cool your CPU. Here are some operational

aspects:

- **Automatic Cooling:** The pump and fans will adjust their speed based on CPU temperature, as controlled by your motherboard's BIOS/UEFI settings or fan control software.
- **ARGB Lighting Control:**
  - If connected to your motherboard's ARGB header, use your motherboard's RGB software (e.g., ASUS Aura Sync, MSI Mystic Light Sync, GIGABYTE RGB Fusion, ASRock Polychrome Sync) to customize lighting effects.
  - If using the included ARGB controller, refer to its specific instructions for changing lighting modes and colors.

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Video 1: Cooler Master Atmos - This video demonstrates the customization options for Cooler Master's liquid coolers, including interchangeable pump covers and ARGB lighting effects, showcasing how users can personalize their setup.

- **Dynamic PWM Fan Operation:** The fans are designed to operate within a speed range of 650 to 1750 RPM (±10%), balancing noise and airflow for efficient cooling.



Figure 9: Illustration of the dynamic PWM fan operation, showing adjustable fan speeds for optimized performance and noise levels.

Maintenance

The MasterLiquid 240L Core ARGB is a closed-loop system, requiring minimal maintenance. However, periodic checks can ensure longevity and optimal performance:

- **Dust Cleaning:** Regularly clean dust from the radiator fins and fan blades using compressed air or a soft brush. Dust accumulation can impede airflow and reduce cooling efficiency.
- **Inspect Tubing and Connections:** Periodically check the tubing for any kinks or damage, and ensure all connections to the pump and radiator are secure.
- **Monitor Temperatures:** Use monitoring software to keep an eye on your CPU temperatures. Significant increases might indicate an issue requiring further investigation.

Troubleshooting

If you encounter issues with your MasterLiquid 240L Core ARGB, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
High CPU Temperatures	Insufficient thermal paste, poor pump contact, dust buildup on radiator, incorrect fan orientation.	Reapply thermal paste, ensure pump is securely mounted, clean radiator/fans, verify fan airflow direction.
Fans Not Spinning / Pump Not Working	Loose power connection, incorrect header connection, faulty component.	Check all power cables and ensure they are connected to the correct motherboard headers (CPU_FAN/AIO_PUMP). Test components if possible.
ARGB Lighting Not Working	Incorrect ARGB header connection, software issue, faulty LED.	Ensure ARGB cables are connected to a 3-pin 5V ARGB header (not 4-pin 12V RGB). Update/reinstall RGB software. Check controller if used.
Unusual Noises (Gurgling, Whining)	Air bubbles in the loop (common during initial setup), pump cavitation, fan bearing noise.	Orient radiator higher than pump to allow air to collect in radiator. Gently tilt case to dislodge bubbles. If fan noise, check for obstructions or replace fan.

Specifications

Feature	Detail
Model Number	MLW-D24M-A18PZ-R1
Product Dimensions	2.36 x 8.65 x 5.91 inches; 4.3 Pounds (Unit) / 13"L x 9.4"W x 5.4"H (Package)
Cooling Method	Liquid Cooling
Compatible Devices	Desktop (AMD Ryzen AM5/AM4, Intel LGA1700/1200)
Fan Size	120mm
Maximum Rotational Speed	1495 RPM

Feature	Detail
Noise Level	27.2 dB
Material	Aluminum (Radiator)
Power Connector Type	3-Pin (Pump), PWM (Fans)
Voltage	12 Volts
Wattage	3.96 watts

Warranty and Support

For warranty information, technical support, or service inquiries, please visit the official Cooler Master website or contact their customer support directly. Keep your proof of purchase for warranty claims.
Official Cooler Master Store: Cooler Master Store on Amazon

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Example: How do I reset this device or fix this error?

Details

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