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› **Cooler Master** /

› Cooler Master 120L Core Close-Loop AIO Liquid Cooler, R7|i5 Gen S Dual Chamber Pump, 120mm PWM, 120mm Radiator, White Lighting, AMD Ryzen AM5|i4, Intel LGA 1851|1700 Platform

Cooler Master MLW-D12M-A17PK-R1

Cooler Master MasterLiquid 120L Core User Manual

This manual provides essential information for the installation, operation, and maintenance of your Cooler Master MasterLiquid 120L Core liquid cooler.

PRODUCT OVERVIEW

The Cooler Master MasterLiquid 120L Core is a high-performance, closed-loop All-in-One (AIO) liquid cooler designed to efficiently dissipate heat from your CPU. It features a redesigned Gen S Dual Chamber Pump, a 120mm radiator, and optimized 120mm PWM fans, ensuring superior cooling performance for AMD Ryzen AM5/AM4 and Intel LGA 1851/1700 platforms. The minimalist design with white lighting provides a sleek aesthetic for any PC build.

KEY FEATURES

- **Cool for R7|i5:** Patented Gen S Dual Chamber Pump enhances water pressure and optimizes flow directly to the CPU hotspot, ideal for AMD R7 and Intel i5 processors.
- **Minimalist Classic Design:** The pump design offers a classic aesthetic while enhancing white lighting dispersion for optimal illumination.
- **SickleFlow 120 Fan:** Delivers premium airflow with optimized PWM blades, simplifying installation and ensuring efficient heat dissipation.
- **Dynamic PWM Fan Control:** A 4-pin PWM header allows adjustable fan speeds from 650 to 1,750 RPM, balancing noise levels and airflow.
- **Simplified Brackets:** Redesigned mounting brackets simplify installation on AM5 and LGA 1851|1700 platforms.
- **All Style, No Colors:** Features a sleek all-black design, perfect for users seeking a stealthy, minimalist finish.
- **CryoFuze Thermal Paste:** Includes premium CryoFuze thermal paste with 14W/mK conductivity, ensuring stable temperatures from -50°C to 250°C.

WHAT'S IN THE BOX

- ML 120L Core Liquid Cooler Unit
- CryoFuze Thermal Paste

- Installation Kits (for various CPU sockets)
- User Manual

SETUP AND INSTALLATION

Proper installation is crucial for optimal cooling performance. Please follow these steps carefully. Refer to the included physical manual for detailed diagrams.

1. Prepare Your System:

- Power off your computer and disconnect all cables.
- Open your PC case to access the motherboard and CPU area.
- Remove any existing CPU cooler. Clean the CPU surface thoroughly to remove old thermal paste.

2. Install the Backplate (if required):

- Identify the correct backplate for your CPU socket (AMD AM5/AM4 or Intel LGA 1851/1700).
- Position the backplate behind the motherboard, aligning the holes with the CPU mounting holes.

3. Attach Mounting Stand-offs:

- Screw the appropriate stand-offs into the backplate or directly into the motherboard's CPU socket holes, depending on your platform. Ensure they are finger-tight.

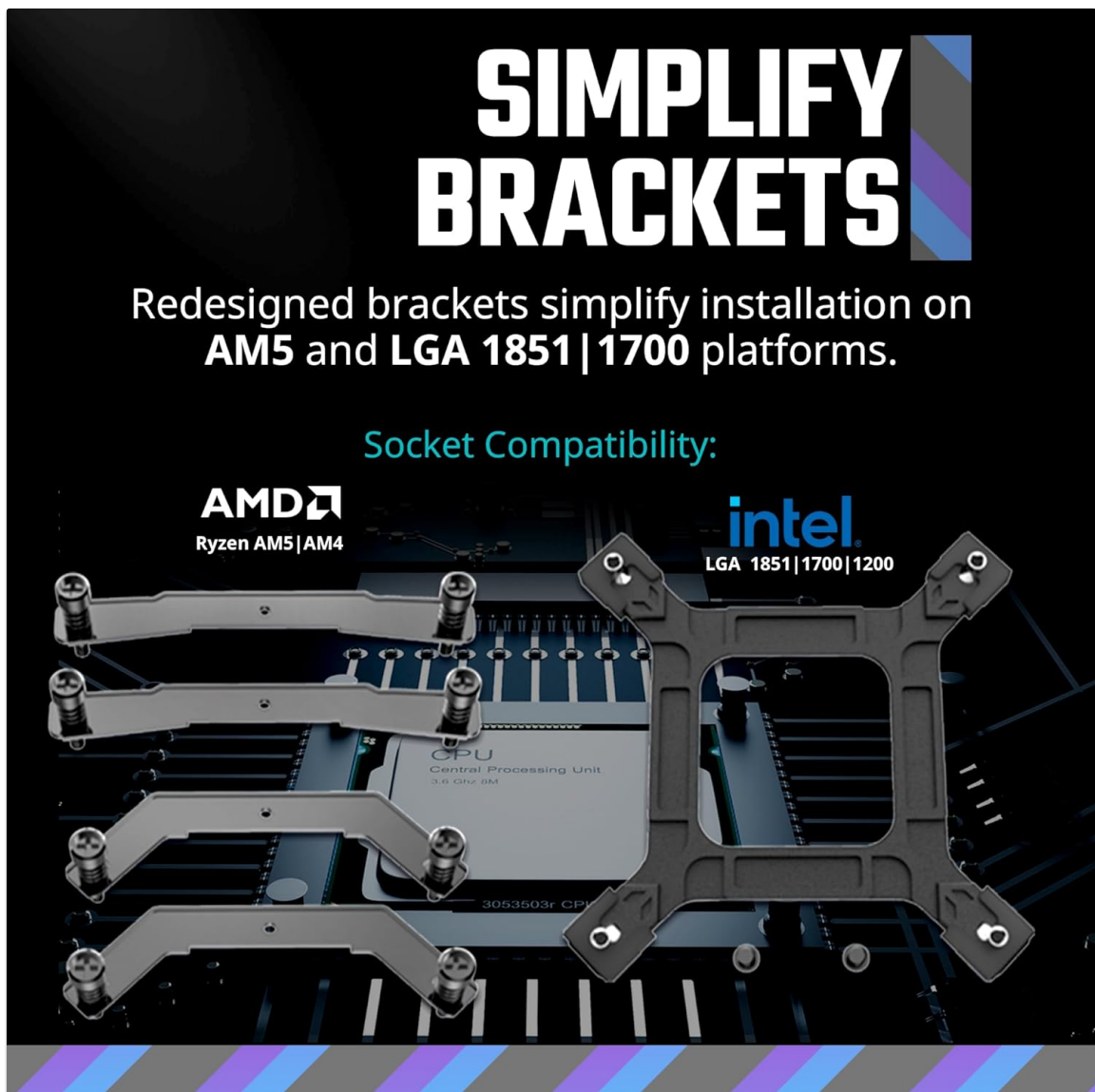


Image: Socket compatibility brackets for AMD Ryzen AM5/AM4 and Intel LGA 1851/1700 platforms.

4. Apply Thermal Paste:

- Apply a small, pea-sized amount of the included CryoFuze thermal paste to the center of your CPU's Integrated Heat Spreader (IHS). Do not spread it manually; the pressure from the pump will distribute it evenly.



Image: Applying CryoFuze thermal paste to the CPU.

5. Mount the Pump/Cold Plate:

- Carefully align the pump's cold plate with the CPU and the mounting holes.
- Place the pump onto the stand-offs and secure it with the provided thumb screws or nuts. Tighten in a diagonal pattern until snug, ensuring even pressure. Avoid overtightening.

MINIMALIST CLASSIC DESIGN

Minimalist pump design gives a classic facelift while enhancing white lighting dispersion for optimal illumination.

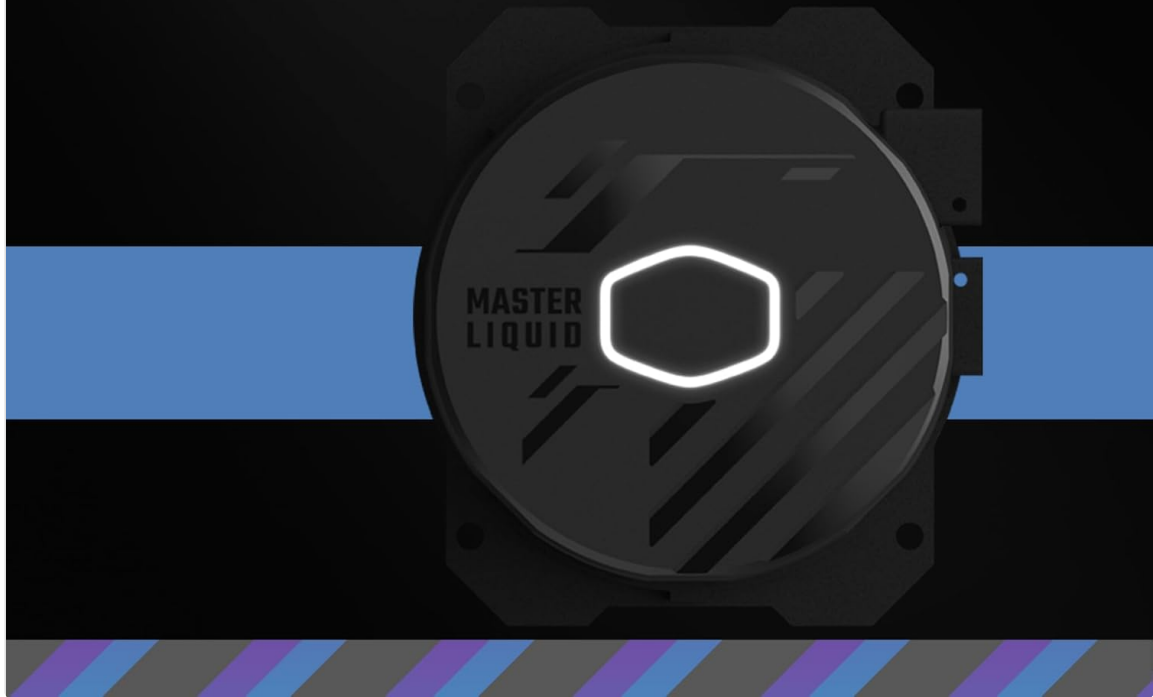


Image: Close-up of the MasterLiquid pump unit with white lighting.

6. Install Radiator and Fans:

- Mount the 120mm fan(s) to the radiator using the long screws. Ensure the fan airflow direction is appropriate for your case (typically intake or exhaust).
- Secure the radiator to an available 120mm fan mount in your PC case (e.g., rear, top, or front).



Image: The Cooler Master 120L Core AIO Liquid Cooler, showing the pump, radiator, and fan assembly.

7. Connect Cables:

- Connect the pump's power cable to an available CPU_FAN or AIO_PUMP header on your motherboard.
- Connect the fan's 4-pin PWM cable to a CPU_FAN or SYS_FAN header on your motherboard.
- If applicable, connect any RGB/lighting cables to the appropriate motherboard header or controller.

8. Final Check:

- Double-check all connections and ensure no cables are obstructing fan blades.
- If you installed the cooler with the case lying down, stand the PC upright and allow 15-20 minutes for the cooling fluid to settle before powering on.

OPERATING INSTRUCTIONS

Once installed, the MasterLiquid 120L Core operates automatically, controlled by your motherboard's fan and pump headers.

- **Initial Power-On:** Upon first boot, the pump and fan will begin operating. Monitor your CPU temperatures using motherboard software or third-party utilities to ensure proper function.
- **Fan Speed Control:** The SickleFlow 120 fan utilizes PWM (Pulse Width Modulation) for dynamic speed control. This allows your motherboard to adjust fan speed (650-1750 RPM) based on CPU temperature, optimizing for either quiet operation or maximum cooling performance.

- **Pump Operation:** The Gen S Dual Chamber Pump operates continuously to circulate coolant. Ensure the pump is always receiving power.
- **Noise Levels:** The cooler is designed for quiet operation, with a typical noise level of 12 dB. Fan noise will increase with higher RPMs under load.

SICKLEFLOW 120

SickleFlow 120 fans deliver premium airflow with optimized PWM blades, while simplifying the installation.

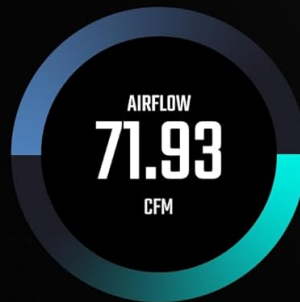
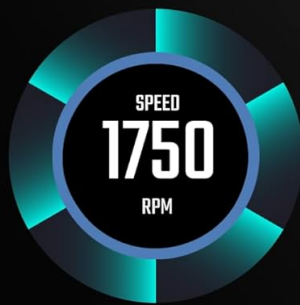


Image: Specifications for the SickleFlow 120 fan, including speed, noise level, airflow, and air pressure.

DYNAMIC PWM FAN

A PWM 4-pin header allows adjustable fan speeds from **650 to 1,750 RPM**, to balance noise and airflow.

Fan Speed

650~1750
RPM \pm 10%



Image: Illustration of dynamic PWM fan speed adjustment.

MAINTENANCE

The MasterLiquid 120L Core is a closed-loop system and requires minimal maintenance.

- **Dust Cleaning:** Periodically clean dust from the radiator fins and fan blades using compressed air or a soft brush. Excessive dust can impede airflow and reduce cooling efficiency.
- **Thermal Paste:** The included CryoFuze thermal paste is long-lasting. Reapplication is generally not needed unless the cooler is removed from the CPU. If reinstallation occurs, clean both surfaces and apply new thermal paste.
- **Fluid Check:** As a closed-loop system, the coolant does not need to be refilled or replaced.

TROUBLESHOOTING

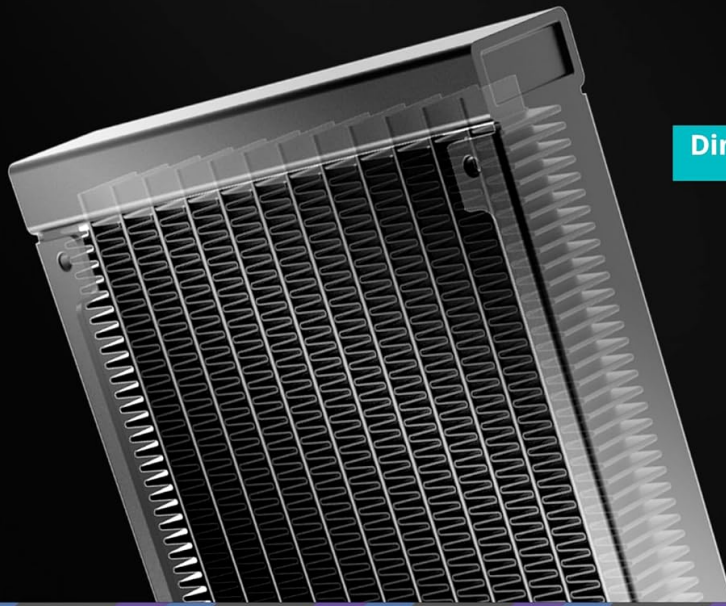
Problem	Possible Cause	Solution
High CPU Temperatures	<ul style="list-style-type: none"> Insufficient thermal paste application. Poor contact between cold plate and CPU. Fans not spinning or spinning too slowly. Radiator clogged with dust. Pump not functioning. 	<ul style="list-style-type: none"> Reapply thermal paste, ensuring even coverage. Check mounting pressure; ensure screws are tightened diagonally. Verify fan and pump connections to motherboard headers. Check BIOS/UEFI settings for fan control. Clean radiator fins and fan blades. Listen for pump operation; if silent and temperatures are high, the pump may be faulty.
Excessive Noise	<ul style="list-style-type: none"> Fan speed too high. Loose fan screws or vibrating components. Air bubbles in the pump (initial setup). 	<ul style="list-style-type: none"> Adjust fan curve in BIOS/UEFI or software. Ensure all fan and radiator screws are tight. Allow the system to run for a few hours; air bubbles should dissipate. Ensure the radiator is mounted higher than the pump if possible.
Installation Difficulties (Brackets/Screws)	<ul style="list-style-type: none"> Incorrect bracket selection. Misaligned screws or threads. 	<ul style="list-style-type: none"> Refer to the physical manual for correct bracket identification for your CPU socket. Ensure screws are started straight and not cross-threaded. Apply gentle, even pressure.

SPECIFICATIONS

Feature	Detail
Model Number	MLW-D12M-A17PK-R1
Product Dimensions	6.2 x 4.7 x 1.1 inches (157 x 119.6 x 27.2 mm)
Weight	2.8 Pounds
Cooling Method	Liquid
Compatible Devices	Desktop (AMD Ryzen AM5/AM4, Intel LGA 1851/1700)
Fan Speed	650 - 1750 RPM (PWM controlled)
Noise Level	12 dB (minimum)
Power Connector Type	4-Pin
Voltage	12 Volts (DC)
Wattage	12 watts
Material	Aluminum, Plastic, Copper

SLIM & SLEEK RADIATOR

The **low-profile radiator**, with superior **fin density** and **high-performance fans**, efficiently dissipates heat.



Dimensions

157 x 119.6 x 27.2 mm
6.2 x 4.7 x 1.1"

Image: Radiator dimensions (157 x 119.6 x 27.2 mm or 6.2 x 4.7 x 1.1 inches).

WARRANTY AND SUPPORT

For warranty information, technical support, and additional resources, please visit the official Cooler Master website or contact their customer service. Keep your proof of purchase for warranty claims.

Manufacturer: Cooler Master

Date First Available: August 10, 2023