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Cooler Master MLW-D36M-A18PZ-R1

Cooler Master MasterLiquid 360L Core ARGB CPU Liquid Cooler User Manual

Model: MLW-D36M-A18PZ-R1

1. INTRODUCTION

The Cooler Master MasterLiquid 360L Core ARGB CPU Liquid Cooler is an all-in-one liquid cooling solution designed to provide efficient and high-performance cooling for your CPU. This manual provides essential information for the proper installation, operation, and maintenance of your liquid cooler, ensuring optimal performance and longevity.



Figure 1.1: Cooler Master MasterLiquid 360L Core ARGB CPU Liquid Cooler

This image displays the complete MasterLiquid 360L Core ARGB CPU Liquid Cooler, featuring the radiator with three ARGB fans, the pump, and the connecting tubes.

2. KEY FEATURES

- **Improved Design:** The MasterLiquid Lite liquid cooler has been updated from its design to its components, bringing affordable, high-quality and high-performing all-in-one liquid cooling solutions to novices and experienced builders.
- **Dual Chamber Gen S Pump:** The updated dual chamber pump features boosted water flow and pressure; the redesigned copper base targets heat spots with increased precision for enhanced cooling performance.



Figure 2.1: Gen S Dual Chamber Pump

An internal view of the Gen S Dual Chamber Pump, highlighting its improved copper base design for precise heat targeting and enhanced water flow.

- **Increased Radiator Surface Area:** The 394 x 119.6 x 27.2 mm radiator uses fins which are deeper than those of the original MasterLiquid Lite, leading to highly-efficient heat dissipation along the wider water channels.



Figure 2.2: 360 Radiator Layout

This image illustrates the dimensions and layout of the 360mm radiator, emphasizing its increased surface area for efficient heat dissipation.

- **120 ARGB Fans:** The updated 120 mm ARGB fans deliver optimal radiator performance, providing increased airflow (71.93 CFM) with less noise (27.2 dBA).

360 RADIATOR LAYOUT

Our product is compatible with chassis that can accommodate radiators up to 360mm in length, providing flexibility in placement to meet your cooling needs.

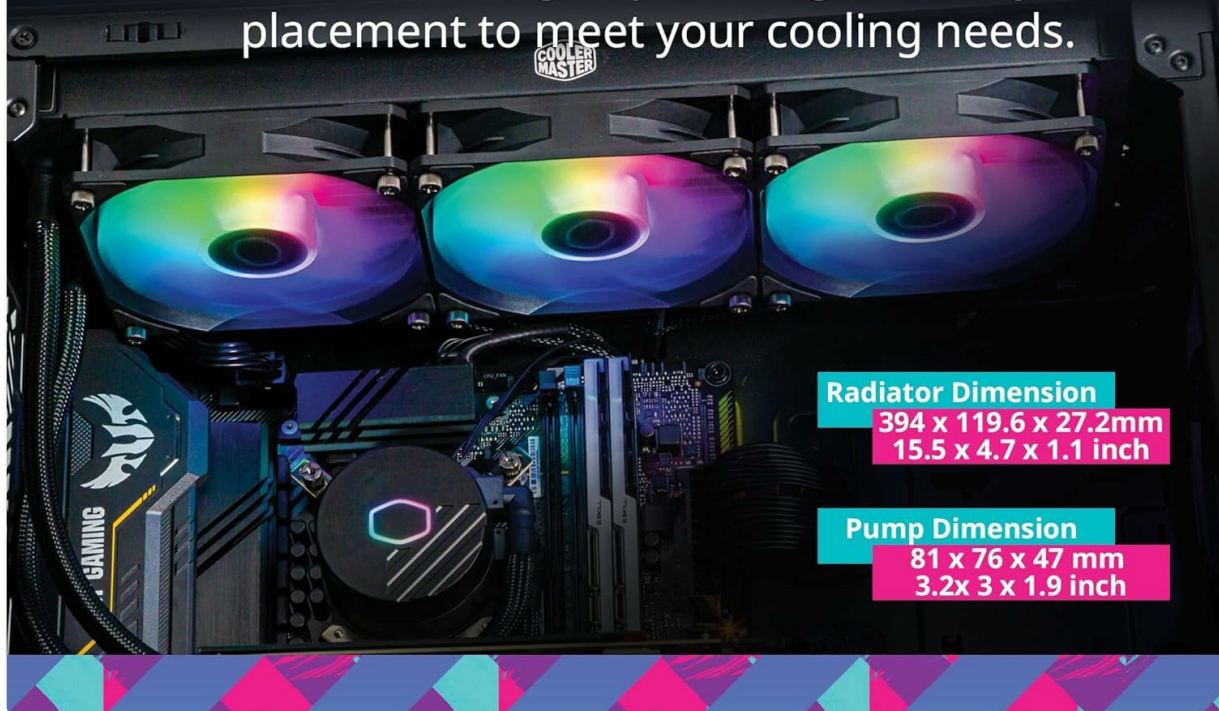


Figure 2.3: Optimized Fan Blades

A close-up of the optimized fan blades, detailing their design for improved airflow and reduced noise levels.

CRYOFUZE THERMAL PASTE

Now included premium CryoFuze thermal paste, which offers exceptional thermal conductivity of 14W/mK, as well as non-corrosive and oxidation-resistant properties for temperature stability ranging from -50°C up to 250°C.

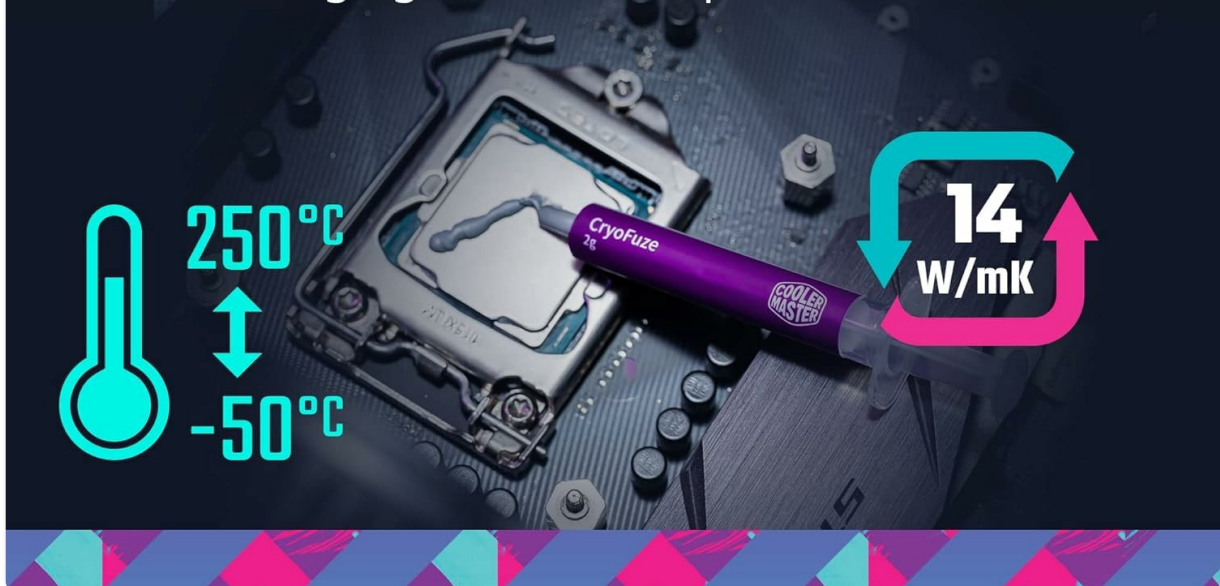


Figure 2.4: Frosted Blade Design with ARGB

This image showcases the frosted blade design of the fans, which enhances the dispersion of ARGB lighting for a vibrant and customizable effect.

- **Universal CPU Compatibility:** The universal CPU brackets have been updated to be compatible with the latest Intel LGA 1700 and AMD AM5 CPUs; Also compatible with: Intel LGA 1200/1151/1150/1155/1156 and AMD AM4/AM3/AM3+/AM2+/AM2/FM2 CPUs.

LATEST SOCKET COMPATIBILITY

Tool-free mounting brackets enable effortless and rapid installation on the latest AMD AM5 and Intel LGA1700 sockets.

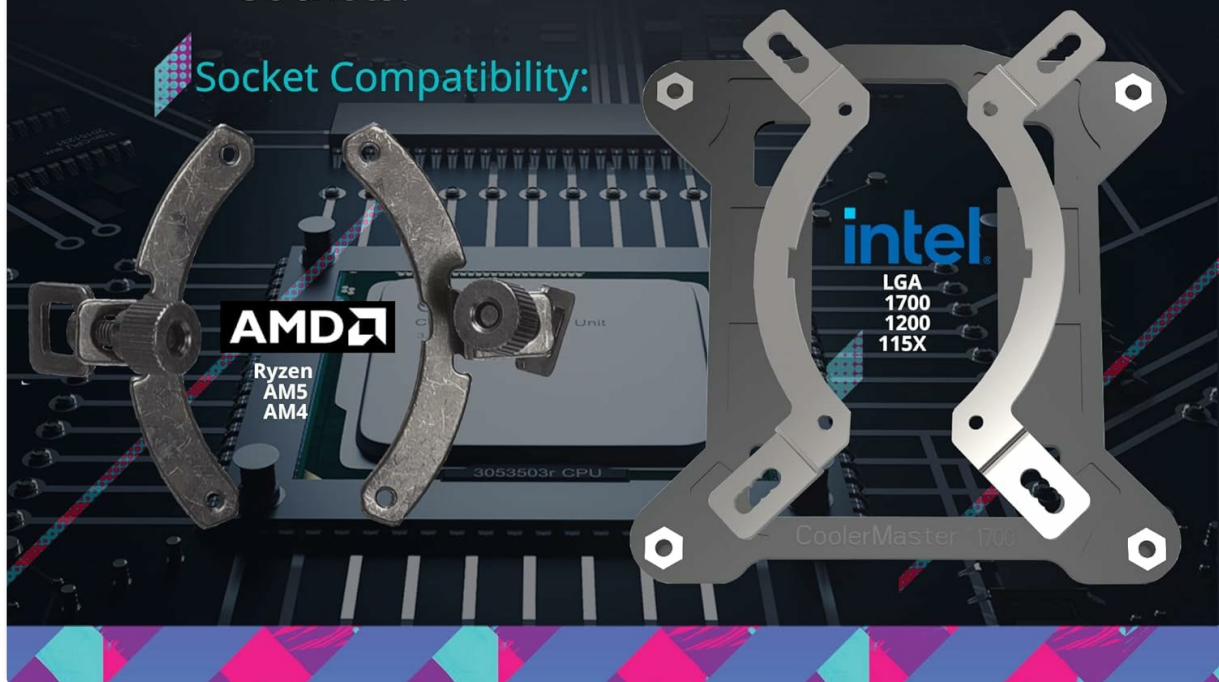


Figure 2.5: Latest Socket Compatibility Brackets

The image displays the mounting brackets for both Intel (LGA 1700, 1200, 115X) and AMD (AM5, AM4) sockets, illustrating the cooler's broad compatibility.

- **CryoFuze Thermal Paste:** Includes premium CryoFuze thermal paste, offering exceptional thermal conductivity of 14W/mK and non-corrosive, oxidation-resistant properties for temperature stability from -50°C to 250°C.



Figure 2.6: CryoFuze Thermal Paste Application

This image shows the CryoFuze thermal paste being applied to a CPU, highlighting its high thermal conductivity and wide temperature stability range.

3. WHAT'S IN THE BOX

Upon unboxing your Cooler Master MasterLiquid 360L Core ARGB CPU Liquid Cooler, please verify that all components listed below are present and in good condition.

- 1x MasterLiquid 360L Core ARGB CPU Liquid Cooler (Radiator, Pump, Tubing pre-assembled)
- 3x 120mm ARGB Fans
- Mounting Hardware for Intel (LGA 1700, 1200, 115X) and AMD (AM5, AM4) Sockets
- CryoFuze Thermal Paste
- Fan and ARGB Cables/Splitters
- User Manual (this document)



Figure 3.1: All Components Included

This image displays all the components typically included in the MasterLiquid 360L Core ARGB CPU Liquid Cooler package, laid out for inspection.

4. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your liquid cooler. Please follow these general steps. Refer to the detailed installation guide provided with your product for specific instructions for your CPU socket type.

1. **Prepare Your System:** Power off your computer and disconnect all cables. Open your PC case to access the motherboard and CPU area.
2. **Install Backplate (if required):** Depending on your CPU socket (Intel or AMD), install the appropriate backplate behind the motherboard.
3. **Apply Thermal Paste:** Clean the CPU surface thoroughly. Apply a small amount of the included CryoFuze thermal paste to the center of the CPU's integrated heat spreader (IHS).
4. **Mount the Pump/Cold Plate:** Carefully place the pump/cold plate assembly onto the CPU, aligning it with the mounting holes. Secure it using the appropriate standoffs and thumb screws for your socket type.

Ensure even pressure.

5. **Mount the Radiator:** Identify a suitable mounting location in your PC case (e.g., top, front, or rear) that can accommodate a 360mm radiator. Secure the radiator to the case using the provided screws.
6. **Install Fans:** Attach the three 120mm ARGB fans to the radiator using the long screws. Ensure the fan airflow direction is optimized for your case's cooling setup (e.g., intake or exhaust).
7. **Connect Cables:**
 - Connect the pump's 3-pin or 4-pin power cable to your motherboard's CPU_FAN or AIO_PUMP header.
 - Connect the fan power cables to available fan headers on your motherboard or a fan controller.
 - Connect the ARGB cables from the fans and pump to your motherboard's 3-pin 5V ARGB header or a compatible ARGB controller.
8. **Cable Management:** Route all cables neatly to ensure proper airflow and a clean build.
9. **Test System:** Close your PC case, reconnect all external cables, and power on your system. Verify that the pump and fans are operating and that the ARGB lighting is functioning correctly. Monitor CPU temperatures to ensure proper cooling.

5. OPERATING PRINCIPLES

The MasterLiquid 360L Core ARGB CPU Liquid Cooler operates on the principle of liquid cooling, which is highly effective for dissipating heat from high-performance CPUs. Here's a brief overview:

- **Cold Plate:** The copper cold plate, integrated into the pump, sits directly on the CPU's IHS. It absorbs heat from the CPU.
- **Pump:** The Gen S Dual Chamber Pump circulates the coolant (a specialized liquid) from the cold plate to the radiator and back. The dual-chamber design enhances flow and pressure for efficient heat transfer.
- **Radiator:** The heated coolant flows through the radiator, which consists of a series of fins and channels. The large surface area of the radiator allows heat to transfer from the coolant to the surrounding air.
- **Fans:** The three 120mm ARGB fans are mounted on the radiator. They push or pull air through the radiator fins, accelerating the heat dissipation process. The optimized fan blades ensure high airflow (71.93 CFM) with low noise levels (27.2 dBA).
- **Tubing:** Flexible, durable tubing connects the pump/cold plate to the radiator, allowing the coolant to circulate in a closed loop.

This continuous cycle efficiently removes heat from your CPU, maintaining optimal operating temperatures even under heavy loads.

6. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your liquid cooler.

- **Dust Cleaning:** Periodically (every 3-6 months, or more often in dusty environments) use compressed air to clean dust from the radiator fins and fan blades. Ensure fans are not spinning rapidly during cleaning to prevent damage.
- **Check Tubing and Connections:** Visually inspect the tubing for any signs of kinks, leaks, or damage. Ensure all connections to the pump, radiator, and motherboard are secure.
- **Monitor Coolant Levels:** As this is a closed-loop system, coolant replenishment is generally not required. However, be aware of any unusual noises from the pump that might indicate air bubbles or low coolant.

- **Fan Health:** Listen for any unusual fan noises. If a fan becomes excessively noisy or stops spinning, it may need replacement.
- **Thermal Paste Reapplication:** While not frequently necessary, if you remove the cooler from the CPU for any reason, it is recommended to clean off the old thermal paste and apply new paste before reinstallation.

7. TROUBLESHOOTING

If you encounter issues with your MasterLiquid 360L Core ARGB CPU Liquid Cooler, refer to the following common troubleshooting tips:

- **High CPU Temperatures:**
 - Ensure the pump is running and connected to the correct motherboard header (CPU_FAN or AIO_PUMP).
 - Verify that the fans are spinning and correctly oriented for airflow.
 - Check if the cold plate is making proper contact with the CPU. Reapply thermal paste if necessary.
 - Ensure there is no excessive dust buildup on the radiator fins.
- **Pump Noise:**
 - A slight gurgling sound initially is normal as air bubbles settle. This should subside.
 - Ensure the pump is running at its recommended speed (often full speed for AIO pumps). Adjust pump speed settings in BIOS if possible.
 - Verify the radiator is mounted higher than the pump if possible, to help air bubbles collect in the radiator.
- **Fan Not Spinning / No ARGB Lighting:**
 - Check all power and ARGB cable connections to the motherboard or controller.
 - Ensure the motherboard's ARGB header (5V 3-pin) is enabled in BIOS or software.
 - Test fans individually if possible to identify a faulty fan.
- **Leaks:** If you observe any liquid leakage, immediately power off your system and disconnect it from the power source. Contact Cooler Master support.

8. SPECIFICATIONS

Attribute	Value
Model Number	MLW-D36M-A18PZ-R1
Product Dimensions	6.18 x 4.71 x 1.07 inches (Radiator: 394 x 119.6 x 27.2 mm)
Weight	2.89 Pounds
Manufacturer	Cooler Master
Country of Origin	China
Power Connector Type	4-Pin
Voltage	12 Volts (DC)

Attribute	Value
Wattage	144 Milliwatts
Cooling Method	Water
Compatible Devices	Desktop, Server
Noise Level	27.2 dB (Fans)
Material	Copper (Cold Plate)
Maximum Rotational Speed	1750 RPM (Fans)

9. WARRANTY AND SUPPORT

Cooler Master products are designed and manufactured to the highest standards. For information regarding warranty coverage, terms, and conditions, please refer to the warranty card included with your product or visit the official Cooler Master website.

For technical support, product registration, or to download the latest drivers and software, please visit the Cooler Master support page:

www.coolermaster.com/support/

When contacting support, please have your product model number (MLW-D36M-A18PZ-R1) and serial number ready.