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Alphacool Core M.2 NVMe PCIe 4.0 Liquid Cooler

Alphacool article number: 13079

Quick Info

SSDs in M.2 format are now standard PC equipment. The high transfer rates and extremely low access times allow faster and more effective working or gaming on the PC. Alphacool offers the Core M.2 NVMe PCIe 4.0 Liquid Cooler so that the full performance of the M.2 NVMe SSD can be used permanently. It is a useful addition to any water cooled system and ensures that the M.2 SSD memory can unleash its full potential.

- Brilliant aRGB LED illumination
- Enables full potential release of the M.2 SSD memory

Compatibility

- M.2 NVMe PCIe 4.0 SSD

Scope of delivery

1x Core M.2 NVMe PCIe 4.0 Liquid Cooler & backplate
1x M.2 NVMe PCIe 4.0 PCB
1x Low-profile IO Shield
1x 20x68x0.5mm Pad
3x 20x68x1mm Pad
1x SSD Mounting nut
1x SSD Mounting screw M3x4
4x M2x5mm Screw
1x Screw driver
1x Digital-RGB Adapter

Technical data

L x W x H	130,7 x 56 x 24,41mm
Material cooler	nickle-plated copper
Material cooler top	acrylic
Material backplate	aluminium
Water cooling connections	2x G1/4"
Thickness cooler bottom	4mm
Thermal conductivity thermal pads	3 W/mK
Illumination	digital aRGB LEDs
Power connector digital aRGB LEDs	3-Pin JST (cable length 39cm)
Power digital aRGB LEDs	5V
Number of digital aRGB LEDs	5
Pressure tested	0,8 Bar
Maximum working temperature	60°C
Weight	361g
Compatibility	M.2 NVMe PCIe 4.0 SSD

Download links

Manual	13079_Alphacool_Core_M.2_NVMe_PCIe_4.0_Liquid_Cooler_Manual.pdf
Product pictures	13079_Alphacool_Core_M.2_NVMe_PCIe_4.0_Liquid_Cooler_pics.zip

Packaging dimensions per unit

L x W x H	185 x 142 x 50 mm
Weight	485 g

Other data

Certificates	CE, FC, RoHS
EAN	4250197130790
Customs code	84733080000

Article text

SSDs in M.2 format are now standard PC equipment. The high transfer rates and extremely low access times allow faster and more effective working or gaming on the PC. Alphacool offers the Core M.2 NVMe PCIe 4.0 Liquid Cooler so that the full performance of the M.2 NVMe SSD can be used permanently. It is a useful addition to any water cooled system and ensures that the M.2 SSD memory can unleash its full potential.

Why an active M.2 cooler?

Due to their design, M.2 SSDs are only capable of delivering their maximum performance for a short time. The controller chip heats up extremely quickly and starts to throttle the performance of the M.2 SSD early on to avoid overheating. Independent tests have shown that during write operations, the transfer rates of uncooled M.2 SSDs can drop after just 30 seconds. With read processes, the throttling usually occurs a few seconds later. With the Alphacool Core M.2 NVMe PCIe 4.0 Liquid Cooler, the maximum performance of the SSD can be used over a significantly longer period of time. This is clearly noticeable during longer read and write processes.

Mounting

The Core Cooler is mounted in a free PCI Express x4 slot. It is compatible with M.2 NVMe SSDs that are populated on one or both sides. If the PCB is populated with memory chips on both sides, the 1 mm heat conduction pad is used on both sides. If memory chips are only installed on one side, then the 0.5 mm and 1 mm thermal pads are used on top of each other on the side without chips. Once the top and bottom of the SSD have been fitted with thermal pads, the SSD memory is inserted into the retaining clip of the M.2 NVMe PCIe 4.0 PCB and mounted on the cooler together with the backplate. The cooler itself can now be integrated into the water loop using the integrated G1/4" connections.

Copper instead of aluminium!

Alphacool only uses copper in its water coolers. The reason is simple: copper has almost twice the thermal conductivity of aluminium and is therefore the obviously better choice of material for a water cooler.

Brilliant lighting

5 digitally addressable 5V RGB LEDs are installed in the cooler, which create a unique, very noble-looking illumination. The digital aRGB LED illumination is connected via a JST 3-pin connector. To control the aRGB lighting, the enclosed adapter must be connected to the 3-pin female connector and connected to a digital RGB controller or a digital RGB-capable mainboard. Additional digital aRGB LEDs can be connected to the remaining 3-pin male connector.

Drawing