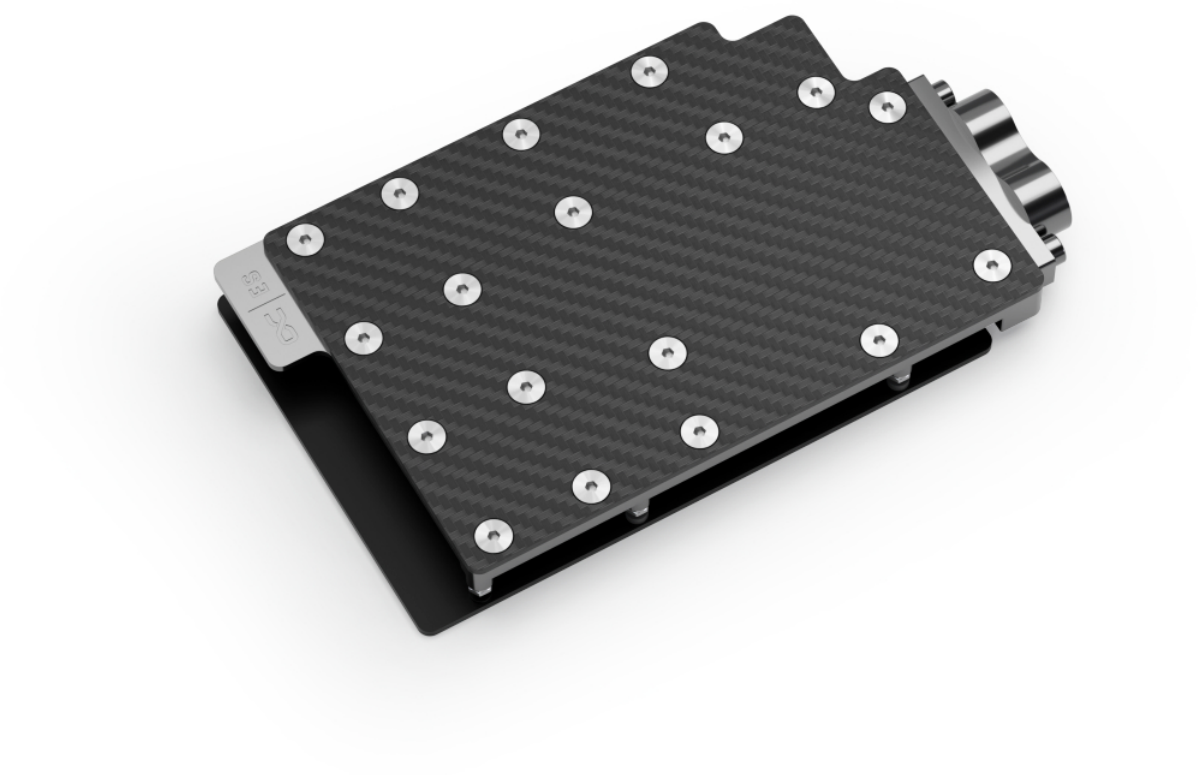
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# Alphacool ES RTX PRO 4000 Blackwell 1-Slot-Design

Alphacool article number: 5100408



## Quick Info

The Alphacool ES 1-Slot GPU water cooler for the RTX Pro 4000 Blackwell was specifically developed for professional use in performance-optimized server environments. With its compact 1-Slot design and carefully engineered port positioning, it meets the highest standards in cooling performance, reliability, and ease of installation – especially in dense rack installations with limited space.

- 1-Slot Design Cooler
- Fullcover water cooler
- Chrome-plated copper bottom
- For high performance in server and workstation systems

## Compatibility

- PNY RTX PRO™ 4000 Blackwell GPU

## Scope of delivery

1x Alphacool ES RTX PRO 4000 Blackwell 1-Slot-Design GPU Cooler
1x Backplate
10x M2x10mm Screw
1x 56x15x1mm Pad
2x 28x15x1mm Pad
1x 75x8x1mm Pad
1x Thermal Grease
1x Putty tool
2x 28x15x1.5mm Pad
1x 56x15x1.5mm Pad
1x 75x8x2mm Pad
1x 30x30x2mm Pad

## Technical data

| | |
|---|---|
| Dimensions (L x W x H) (in mm) | 264.30 x 94.70 x 20.70 |
| Slot size | 1 |
| Material cooler | Chrome-plated copper (Cu-HCP) |
| Material Backplate | Aluminium (AlMg1SiCu) |
| Material terminal | Brass (CuZn39Pb3) |
| Threads | 2x G 1/4 |
| Material connection thread | Brass (CuZn39Pb3) |
| Maximum torque G1/4 thread (in Nm) | 1.00 |
| Maximum torque M2 thread (in Nm) | 0.13 |
| Maximum torque M4 thread (in Nm) | 1.12 |
| Maximum operating temperature (in °C) | 60 |
| Minimum operating temperature (in °C) | -20 |
| Maximum tested pressure (in bar) | 4.00 |
| Recommended working pressure (in bar) | 0.00 - 2.00 |
| Thickness of cooling fins (in mm) | 0.40 |
| Distance between cooling fins (in mm) | 0.40 |
| Cooling technology | Jet engine |

## Technical data thermalpads

| | |
|---|---|
| Thermal conductivity of thermal pads (in W/mK) | 7 |
| Thermal pads Hardness ASTM 2240 | 35 Shore 00 |

## Technical data Thermal paste

| | |
|---|---|
| Volatilization Rate (24H@200°C)% | less than 0.5 |
| Density (g/cc) | 3.2 (Test method ASTM D792) |
| Viscosity (mPa.s) | 150~200*10³ (Test method ASTM D2196) |
| Continuous Using Temperature (°C) | -40°C to 120°C |
| Breakdown Voltage (V/mil) | 250 (Test method ASTM D149) |
| Thermal Impedance (°C in 2/W) | 0.1 +/- 0.01 (Test method ASTM D5470) |
| Max. working pressure (psi) | 40 |
| Quantity | 1g |
| Color | gray |

## Download links

| | |
|---|---|
| Manual | 5100408_Alphacool_ES_RTX_PRO_4000_Blackwell_1-Slot-Design_Manual.pdf |
| Product pictures | 5100408_Alphacool_ES_RTX_PRO_4000_Blackwell_1-Slot-Design_pics.zip |
| EU-DoC / CE / RoHS | Alphacool_EuDoc_CE_RoHS_5100408.pdf |

## Packaging dimensions per unit

| | |
|---|---|
| L x W x H | 355 x 175 x 45 mm |
| Weight | 842 g |

## Other data

| | |
|---|---|
| Certificates | CE, FC, RoHS |
| EAN | 4070201004080 |
| Customs code | 84195080900 |
| Guarantee | 3 years |

## Article text

The Alphacool ES 1-Slot GPU water cooler for the RTX Pro 4000 Blackwell was specifically developed for professional use in performance-optimized server environments. With its compact 1-Slot design and carefully engineered port positioning, it meets the highest standards in cooling performance, reliability, and ease of installation – especially in dense rack installations with limited space.

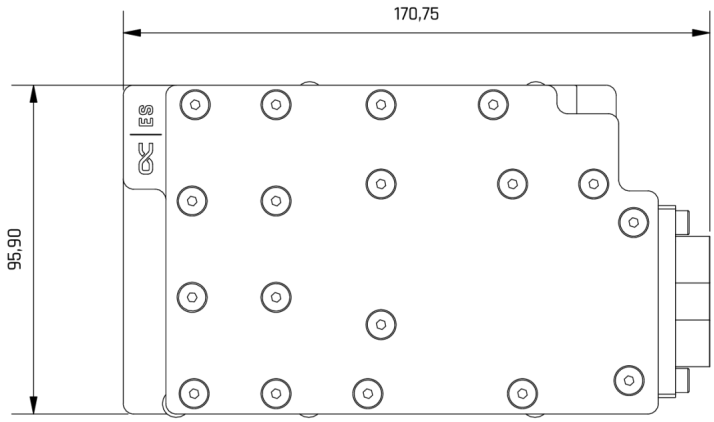
The top of the cooler is made from lightweight, durable carbon. This significantly reduces the overall weight compared to conventional solutions. At the same time, the matte carbon finish provides a subtle, high-quality appearance – functional and elegant in equal measure. The cooling block itself is made entirely of chrome-plated copper. The chrome plating is considerably harder and more durable than traditional nickel plating, offering reliable protection against corrosion, scratches, and mechanical impact – ideal for long-term 24/7 operation.

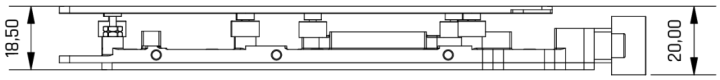
The inlet and outlet ports are positioned on the rear of the cooler to save space. This connection layout simplifies tubing and integration into existing cooling loops, even in very compact server chassis. An optimized internal channel structure ensures highly efficient heat dissipation from the GPU, VRAM, and voltage regulators. The targeted channel routing inside the cooler guarantees uniform water flow across all critical components.

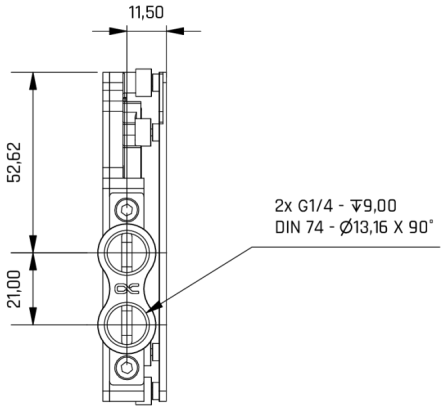
The solid copper base ensures optimal heat absorption and transfer. The robust chrome plating prevents flaking or damage under thermal stress.

The Alphacool ES 1-Slot GPU water cooler for the Nvidia RTX Pro 4000 Blackwell is the ideal solution for enterprise applications where performance, reliability, and efficient space management are top priorities.

# Figure (1)



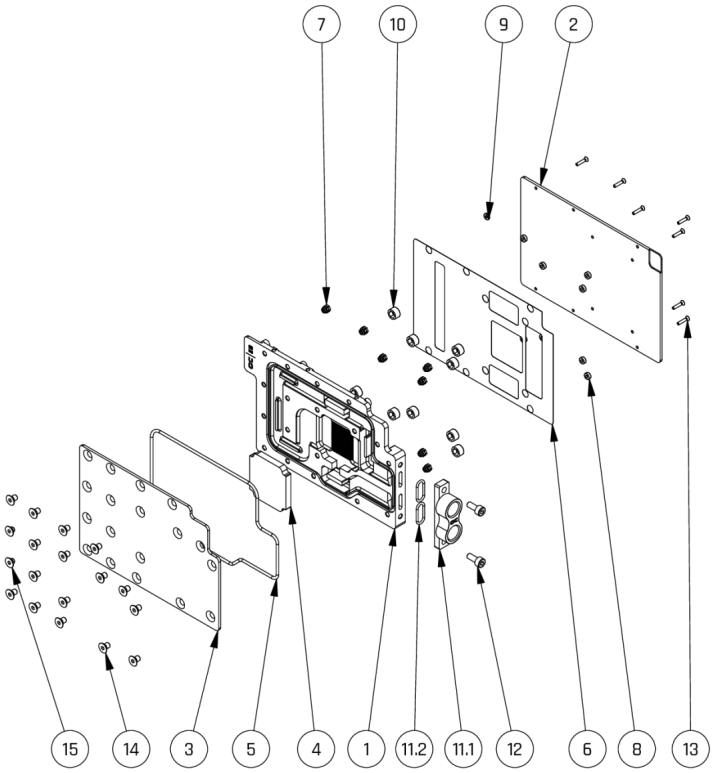

General tolerance: ±0,25mm
Dimension in millimeter

We assume no responsibility for any typing errors. Alphacool International GmbH, Marienberger Strasse 1, 38122 Braunschweig Tel: (+49)0531 288 7400 Supportmail: info@alphacool.com

# Figure (2)

| Mechanical properties: | |
|---|---|
| Minimum temperature t min = | -20°C |
| Maximum temperature t max = | 60°C |
| Working pressure p = | 0,0 - 2,0Bar |
| Maximum pressure p max = | 4,0Bar |

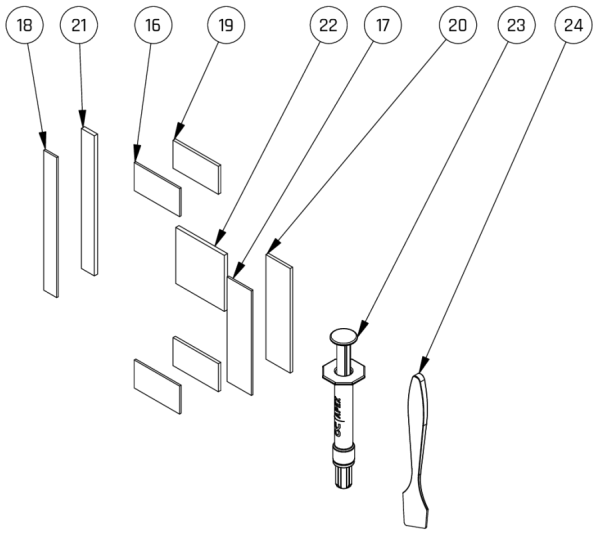
| | |
|---|---|
| Maximum torque of G thread M max = G 1/4 = 1,00Nm<br>ISO 228-1 Parallel Whitworth pipe thread BSPP (GB) | |
| Maximum torque of M thread<br>DIN 13-1 Metric ISO standard thread | M max = M2X0,4 = 0,13Nm<br>M3X0,5 = 0,48Nm<br>M4X0,7 = 1,12Nm |




5100408
Alphacool ES RTX PRO 4000 Blackwell 1SlotDesign

Parts List

| Number | Quantity | Description | Material |
|---|---|---|---|
| 1 | 1 | Copperplate | Cu-HCP |
| 2 | 1 | Backplate | AlMg0,7Si |
| 3 | 1 | Top | CFRP_ |
| 4 | 1 | Jet | POM-C 4520 |
| 5 | 1 | O-Ring 125 x 2 | NBR Shore 70 |
| 6 | 1 | PI Tape | PI Tape |
| 7 | 10 | GPX Spacer SW5 M4X0,7-M2X0,4 x 3 | CuZn39Pb3 |
| 8 | 8 | ES Spacer 2,00 mm | PA 66,GF25 FR(V-2) |
| 9 | 2 | ES Spacer 1,00 mm | PA 66,GF25 FR(V-2) |
| 10 | 10 | PCB Spacer | PA 66,GF25 FR(V-2) |
| 11.1 | 1 | ES GPX Terminal block | CuZn39Pb3 |
| 11.2 | 2 | ES GPX Terminal O - Ring 11,5 x 1,5 | NBR Shore 70 |
| 12 | 2 | ISO 4762 - M4 x 10 | X5CrNi18-10 |
| 13 | 10 | ISO 7046-1 - M2 x 10 | X10CrNi18-8 |
| 14 | 16 | M4 x 6 Countersunk screw | X10CrNi18-8 |
| 15 | 2 | ISO 10642 - M4 x 4 | X10CrNi18-8 |




Accessories

| Number | Quantity | Description | Material |
|---|---|---|---|
| 16 | 2 | Pad 28 x 15 x 1 | 7W/mK - Shore-00 35 - 1.00 mm |
| 17 | 1 | Pad 56 x 15 x 1 | 7W/mK - Shore-00 35 - 1.00 mm |
| 18 | 1 | Pad 75 x 8 x 1 | 7W/mK - Shore-00 35 - 1.00 mm |
| 19 | 2 | Pad 28 x 15 x 1,5 | 7W/mK - Shore-00 35 - 1.50 mm |
| 20 | 1 | Pad 56 x 15 x 1,5 | 7W/mK - Shore-00 35 - 1.50 mm |
| 21 | 1 | Pad 75 x 8 x 2 | 7W/mK - Shore-00 35 - 2.00 mm |
| 22 | 1 | Pad 30 x 30 x 2 | 7W/mK - Shore-00 35 - 2.00 mm |
| 23 | 1 | Alphacool Apex Thermal grease 1g | - |
| 24 | 1 | Putty Tool | - |
| 25 | 1 | Slotbracket | Cr01 |