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Alphacool ES RTX 6000 Pro Server Edition 1-Slot-Design

Alphacool article number: 19450



Quick Info

The Alphacool ES 1-Slot GPU water cooler for the RTX Pro 6000 Blackwell Server Edition 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

- Nvidia RTX PRO 5000 Blackwell
- Nvidia RTX PRO 6000 Blackwell Max-Q Workstation-Edition, 96GB GDDR7
- Nvidia RTX PRO 6000 Blackwell Server-Edition, 96GB GDDR7

Scope of delivery

1x ES RTX 6000 Pro Server Edition 1-Slot-Design Cooler
1x Backplate
1x 54x15x1mm Pad
1x 14x8x0.5mm Pad
1x 26x8x0.5mm Pad
2x 73x8x1mm Pad
1x 55x15x0.5mm Pad
1x 13x15x1.5mm Pad
1x 30x30x0.5mm Pad
2x 12.5x15x1mm Pad
2x 68x15x1mm Pad
4x 6x8x1mm Pad
2x 69x15x0.5mm Pad
2x 14x15x0.5mm Pad
1x Thermal Grease
1x Putty tool
13x M2x8mm Screw
4x M4x8mm Screw
1x PCIe Bracket

Technical data

Dimensions (L x W x H)	267.80 x 95.58 x 19.20 mm
Slot size	1
Material cooler	Chome-plated copper
Material cooler top	Carbon
Threads	2 x G 1/4
Material Connection thread	Brass (CuZn39Pb3)
Maximum torque G 1/4 thread	1.00 Nm
Maximum torque M2 thread	0.13 Nm
Maximum torque M2,5 thread	0.27 Nm
Maximum torque M3 thread	0.48 Nm
Maximum torque M4 thread	1.12 Nm
Maximum operating temperature	60 °C
Recommended working temperature	20 °C
Minimum operating temperature	-20 °C
Maximum tested pressure	4.00 bar
Recommended working pressure	0.00-2.00 bar
Thickness of the cooling plate	2.96
Thickness of cooling fins	0.40 mm
Distance between cooling fins	0.40 mm
Cooling technology	Jet engine

Technical data Backplate

Dimensions (L x W x H)	267.70 x 95.58 x 4.00 mm
Material	Aluminium (AlMg0,7Si)
Color	Black

Technical data Thermal pads

Thermal conductivity of thermal pads	7 W/(m·K)
Thermal pads Hardness ASTM 2240	35 Shore 00

Technical data Thermal paste

Evaporation rate	Less than 0.5
Density	3.2 g/cm³ (Test method ASTM D2196)
Viscosity	150-200 × 10³ (Test method ASTM D2196)
Operating temperature (°C)	-40 °C to 120 °C
Breakdown voltage	250 V/mil (Test method ASTM D149)
Thermal impedance	0.1 ±0.01 °C in 2/W (Test method ASTM D5470)
Maximum operating pressure	40 psi
Quantity (in gramm)	1
Color	Grey

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Manual	19450_Alphacool_ES_RTX_6000_Pro_Server_Edition_1-Slot-Design_Manual.pdf
Product pictures	19450_Alphacool_ES_RTX_6000_Pro_Server_Edition_1-Slot-Design_pics.zip
EU-DoC / CE / RoHS	Alphacool_EuDoc_CE_RoHS_19450.pdf

Packaging dimensions per unit

L x W x H	350 x 170 x 40 mm
Weight	1139 g

Other data

Certificates	CE, FC, RoHS
EAN	4250197194501
Customs code	84195080900
Guarantee	3 years

Article text

The Alphacool ES 1-Slot GPU Water Block for the RTX PRO 6000 Blackwell Server Edition and RTX PRO 5000 Blackwell has been specifically developed for professional use in performance-optimized server environments. With its compact 1-slot design and carefully considered port positioning, it meets the highest demands for cooling performance, reliability, and ease of installation – particularly in densely packed rack installations where space is limited.

The top of the water block is made of lightweight, durable carbon fiber. This significantly reduces the weight of the cooler compared to conventional solutions. At the same time, the matte carbon finish provides a subtle, premium appearance that combines functionality with elegance. The cooling block itself is made entirely of chrome-plated copper. The chrome plating is considerably harder and more durable than conventional nickel plating, providing reliable protection against corrosion, scratches, and mechanical stress – making it ideal for long-term 24/7 operation.

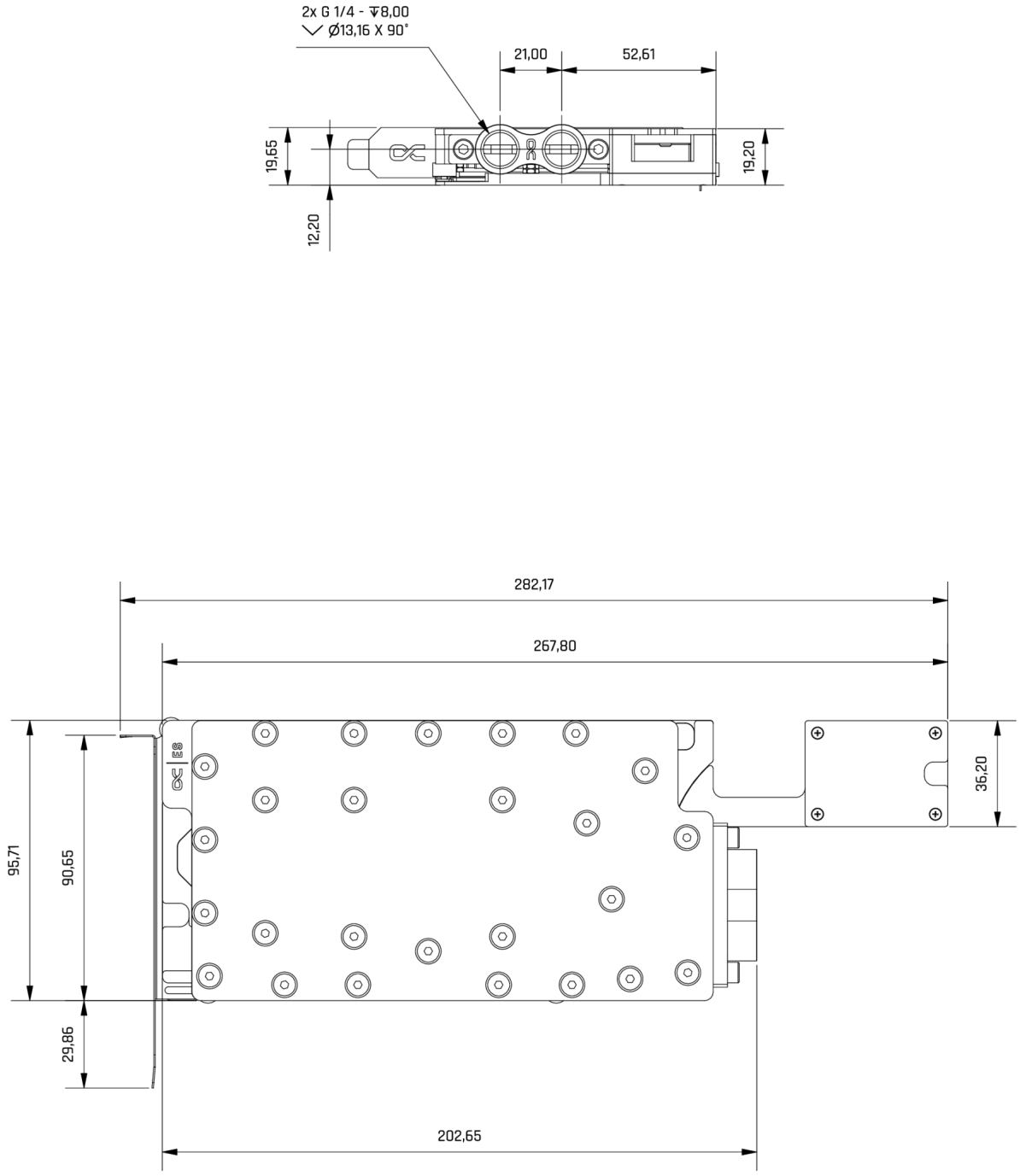
The inlet and outlet ports are positioned at the rear of the water block to save space. This port configuration simplifies tubing installation and integration into existing cooling loops, even in extremely compact server chassis. An optimized cooling channel structure ensures particularly efficient heat dissipation from the GPU, VRAM, and voltage regulators. The precisely designed internal channel layout ensures uniform coolant flow across all critical components.

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

The Alphacool ES 1-Slot GPU Water Block for the Nvidia RTX PRO 6000 Blackwell Server Edition, Nvidia RTX PRO 6000 Blackwell Max-Q Workstation Edition, and Nvidia RTX PRO 5000 Blackwell is the ideal solution for enterprise applications where performance, reliability, and efficient space utilization are top priorities.

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

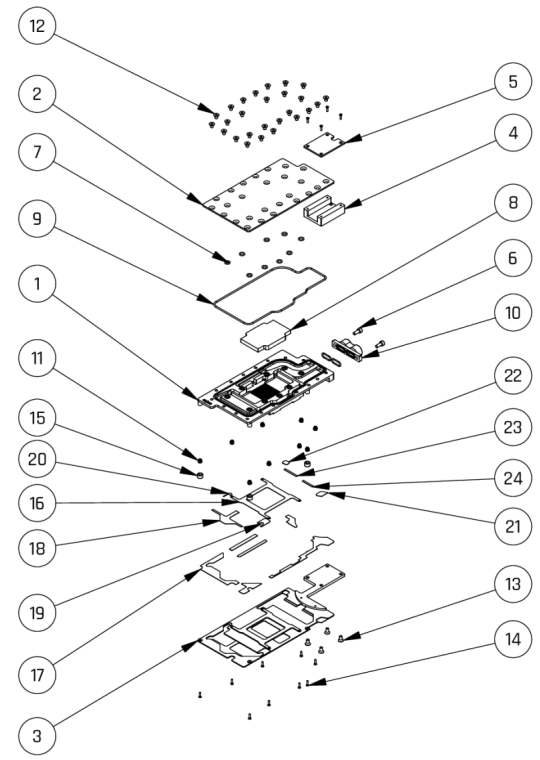
Figure (1)



General tolerance: ± 0,25mm
Thickness with graphics card (PCB)
Dimension in millimeter

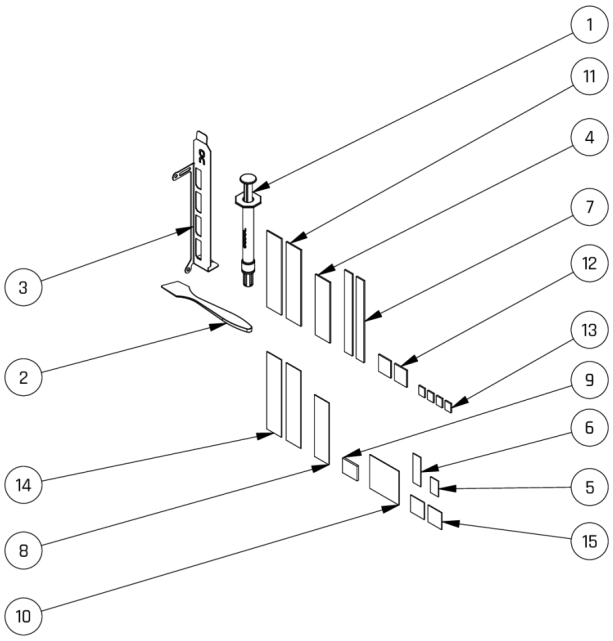
Figure (2)

Mechanical properties:					
Minimum temperature t min =	-20°C	Working pressure p =	0,0 - 2,0Bar	Maximum torque of M thread DIN 13-1 Metric ISO standard thread	M max = M2X0,4 = 0,13Nm M2,5X0,45 = 0,27Nm M3X0,5 = 0,48Nm M4X0,7 = 1,12Nm
Working temperature t =	20°C	Maximum pressure p max =	4,0Bar		
Maximum temperature t max =	60°C	Maximum torque of G thread ISO 228-1 Parallel Whitworth pipe thread BSPP (GB)	M max = G1/4 = 1,0Nm		



Spare parts list

Number	Quantity	Description	Material
1	1	Copper	Cu-HCP
2	1	Carbon Top	CFRP_
3	1	Backplate	AlMg0,7Si
4	1	Cable Mount	POM-C 4520
5	1	Cable mount cap	CFRP_
6	2	ISO 4762 - M4 x 10	X5CrNi18-10
7	9	ORing 5 x 1,5	NBR Shore 70
8	1	Jet	POM-C 4520
9	1	O-Ring 145 x 2	NBR Shore 70
10	1	ES Terminal	
11	9	GPX Spacer SW5 M4X0,7-M2X0,4 x 3	CuZn39Pb3
12	26	M4 x 6	X10CrNi18-8
13	4	M4 x 8	X10CrNi18-8
14	13	M2 x 8	X5CrNi18-10
15	3	PCB Spacer	PA 66,GF25 FR(V-2)
16	1	Isolation Tape 1	PI Tape
17	1	Isolation Tape 2	PI Tape
18	1	Isolation Tape 3	PI Tape
19	1	Isolation Tape 4	PI Tape
20	1	Isolation Tape 5	PI Tape
21	1	Isolation Tape 6	PI Tape
22	1	Isolation Tape 7	PI Tape
23	1	Isolation Tape 8	PI Tape
24	1	Isolation Tape 9	PI Tape



Spare parts list

Number	Quantity	Description	Material
1	1	Alphacool Subzero Thermal grease 1g	-
2	1	Putty Tool	-
3	1	IO Shield	Cr01
4	1	PAD 54 x 15 x 1	7W/mK - Shore-00 35 - 1.00 mm
5	1	PAD 14 x 8 x 0,5	7W/mK - Shore-00 35 - 0.50 mm
6	1	PAD 26 x 8 x 0,5	7W/mK - Shore-00 35 - 0.50 mm
7	2	PAD 73 x 8 x 1	7W/mK - Shore-00 35 - 1.00 mm
8	1	PAD 55 x 15 x 0,5	7W/mK - Shore-00 35 - 0.50 mm
9	1	PAD 13 x 15 x 1,5	7W/mK - Shore-00 35 - 1.50 mm
10	1	PAD 30 x 30 x 0,5	7W/mK - Shore-00 35 - 0.50 mm
11	2	PAD 68 x 15 x 1	7W/mK - Shore-00 35 - 1.00 mm
12	2	PAD 12,5 x 15 x 1	7W/mK - Shore-00 35 - 1.00 mm
13	4	PAD 6 x 8 x 1	7W/mK - Shore-00 35 - 1.00 mm
14	2	PAD 69 x 15 x 0,5	7W/mK - Shore-00 35 - 0.50 mm
15	2	PAD 14 x 15 x 0,5	7W/mK - Shore-00 35 - 0.50 mm

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