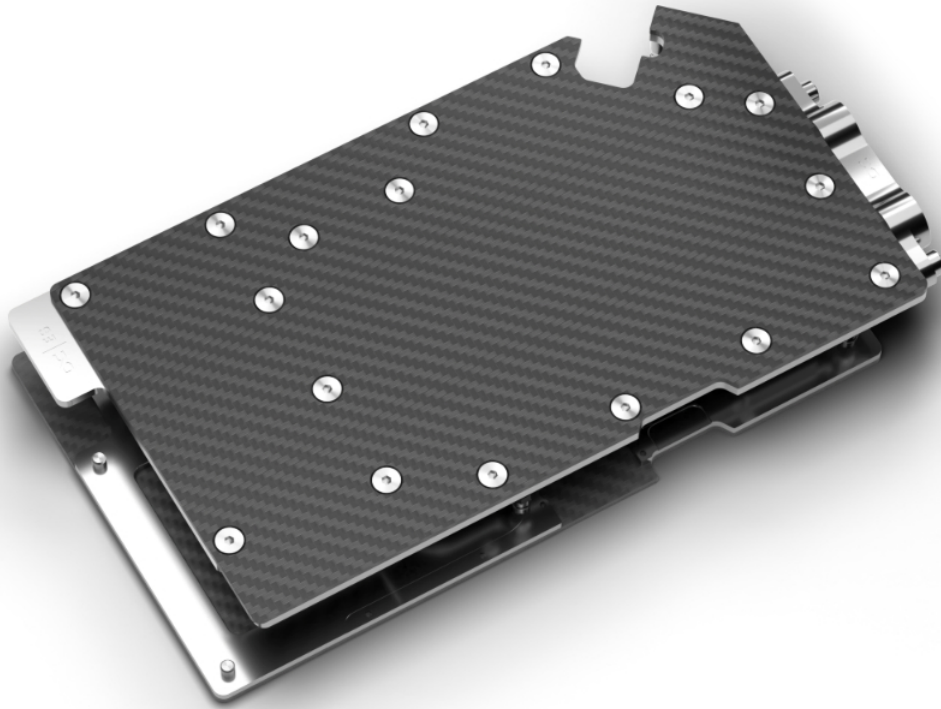


Alphacool ES RTX 6000 Pro Workstation/RTX 5090 Founders Edition

Alphacool article number: 5100182



Quick Info

The Alphacool ES GPU water cooler for the RTX Pro 6000 Blackwell Workstation Edition was specifically designed for professional use in performance-optimized server and workstation environments. Thanks to its compact 1.5-slot design and intelligently positioned ports, it meets the highest standards in cooling performance, operational reliability, and ease of installation – particularly in densely populated server systems with limited space.

- Fullcover water cooler
- Chrome-plated copper bottom
- For high performance in server and workstation systems
- Active cooling of the rear side via the backplate

Compatibility

- Nvidia GeForce RTX 5090 Founders Edition, 32GB GDDR7, HDMI, 3x DP
- Nvidia RTX PRO 6000 Blackwell Workstation-Edition, 96 GB GDDR7

Scope of delivery

1x ES RTX 6000 Pro Workstation/RTX 5090 Founders Edition	5x 8x8x3mm Pad
Cooler	1x Thermal Grease
1x Active Backplate	1x Putty tool
2x 54x15x1 mm Pad	6x M2x18mm Screw
4x 67.5x15x1mm Pad	6x M2x4mm Screw
4x 12x15x1mm Pad	2x Washer
5x 12x8x1mm Pad	2x M4 Nut
1x 61.5x8x1mm Pad	1x PCIe Bracket
1x 45x8x1mm Pad	
9x 8x8x1mm Pad	

Technical data cooler

Dimensions (L x W x H) (in mm)	231,10 x 119,40 x 13,40 mm
Slot size	1.5
Material cooler	Chome-plated copper (Cu-HCP)
Material cooler top	Carbon
Threads	2 x G1/4"
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
Recommended working temperature (in °C)	20
Minimum operating temperature (in °C)	-20
Maximum tested pressure (in bar)	4,00
Recommended working pressure (in bar)	0,00 - 2,00
Thickness of the cooling plate	3,30
Thickness of cooling fins (in mm)	0,40
Distance between cooling fins (in mm)	0,40
Cooling technology	Jet engine

Technical data active backplate

Dimensions (L x W x H) (in mm)	208,97 x 120.90 x 10.93 mm
Material cooler	Chome-plated copper (Cu-HCP)
Material backplate top	Carbon (CFRP)
Maximum torque M2 thread (in Nm)	0,13
Maximum torque M4 thread (in Nm)	1,12
Maximum operating temperature (in °C)	60
Recommended working temperature (in °C)	20
Minimum operating temperature (in °C)	-20
Maximum tested pressure (in bar)	4,00
Recommended working pressure (in bar)	0,00 - 2,00
Thickness of the cooling plate	2,5
Cooling technology	Flow-through cooler

Technical data thermalpads

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

Technical data thermalpaste

Evaporation rate	Less than 0,5
Density (g/cm3)	3,2 (Test method ASTM D2196)
Viscosity	150~200*10 ³ (Test method ASTM D2196)
Operating 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)
Maximum operating pressure (psi)	40
Quantity (in gramm)	1
Color	Grey

Download links

Manual	5100182_Alphacool_ES_RTX_6000_Pro_Workstation-RTX_5090_Founders_Edition_Manual.pdf
Product pictures	5100182_Alphacool_ES_RTX_6000_Pro_Workstation-RTX_5090_Founders_Edition_pics.zip
EU-DoC / CE / RoHS	Alphacool_EuDoc_CE_RoHS_5100182.pdf

Packaging dimensions per unit

L x W x H	350 x 200 x 50 mm
Weight	2000 g

Other data

Certificates	CE, FC, RoHS
EAN	4070201001829
Customs code	84195080900
Guarantee	3 years

The Alphacool ES GPU water cooler for the RTX Pro 6000 Blackwell Workstation Edition was specifically designed for professional use in performance-optimized server and workstation environments. Thanks to its compact 1.5-slot design and intelligently positioned ports, it meets the highest standards in cooling performance, operational reliability, and ease of installation – particularly in densely populated server systems with limited space.

The top of the cooler is made from lightweight yet extremely durable carbon. This significantly reduces the overall weight compared to conventional solutions. The matte carbon finish also emphasizes the high-quality, understated appearance, combining functionality with an elegant design. The actual cooling block is manufactured entirely from chrome-plated copper. The chrome plating is considerably harder and more durable than traditional nickel plating, providing reliable protection against corrosion, scratches, and mechanical impact – ideal for continuous 24/7 operation.

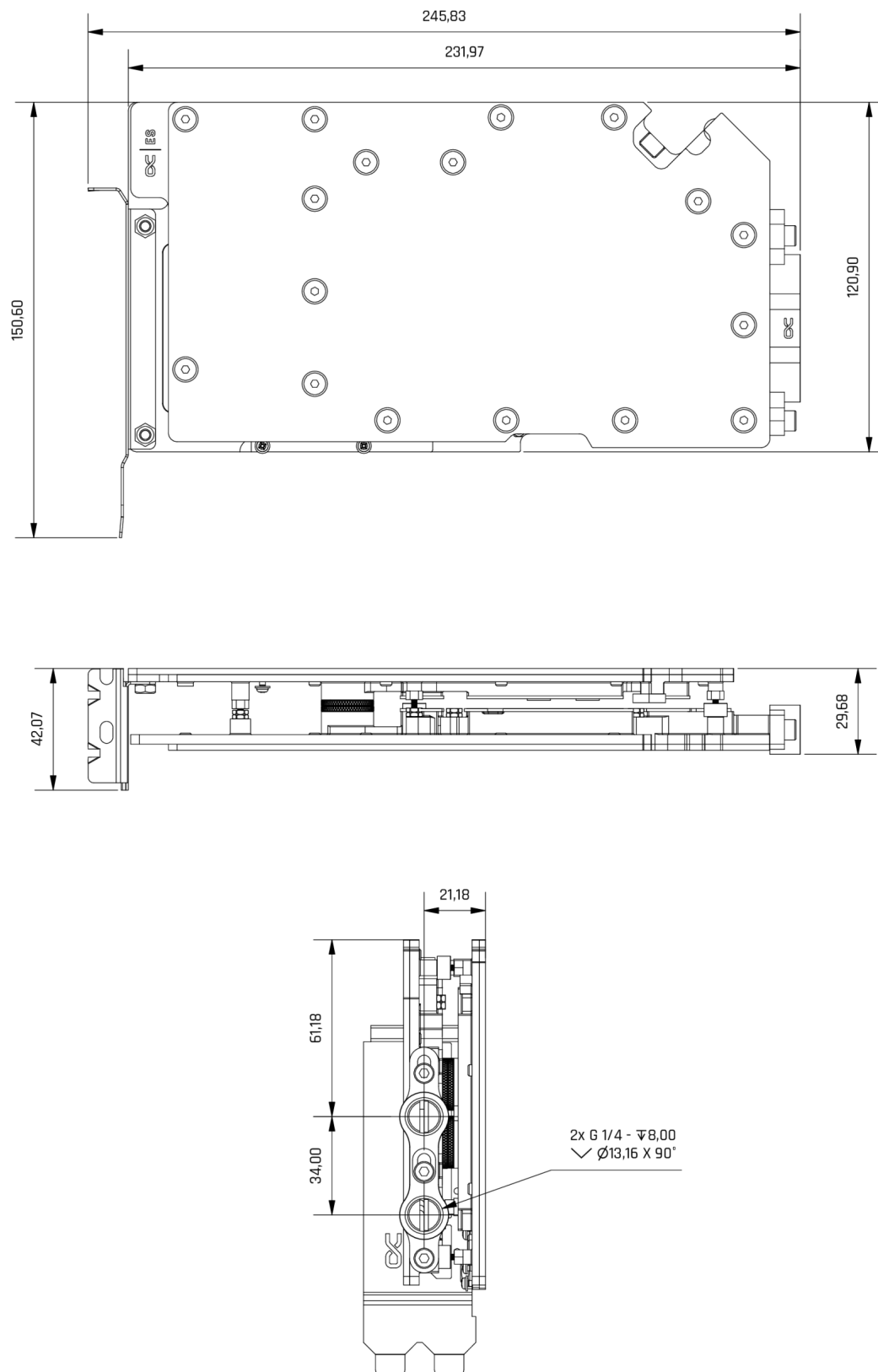
For additional cooling of the RTX Pro 6000 Blackwell Workstation Edition, an active backplate is used. Like the main cooling block, it consists of a chrome-plated copper base and a carbon backplate. The cooling block and active backplate are connected via a unique internal double-nipple system. As is typical for Alphacool ES GPU coolers, the terminal with inlet and outlet is positioned on the rear of the cooler to save space. This well-designed connection architecture simplifies integration into existing cooling loops and makes tubing easier, 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 routing of the coolant guarantees uniform flow across all thermally relevant components.

The solid copper base, combined with the active backplate, enables excellent heat absorption and transfer. The durable chrome plating reliably prevents flaking or damage even under high thermal stress.

The Alphacool ES RTX 6000 Pro Workstation / RTX 5090 Founders Edition GPU water cooler for the Nvidia RTX Pro 6000 Blackwell Workstation Edition as well as the Nvidia RTX 5090 Founders Edition is therefore the ideal solution for enterprise applications where maximum performance, high reliability, and efficient space management are the primary focus.

Figure (1)

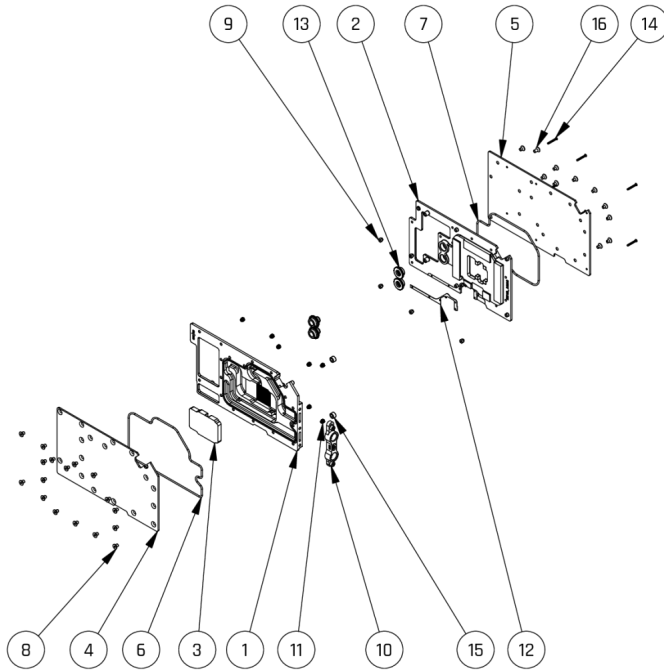


General tolerance: $\pm 0,25\text{mm}$
 Thickness with graphics card (PCB)
 Dimension in millimeter

Figure (2)

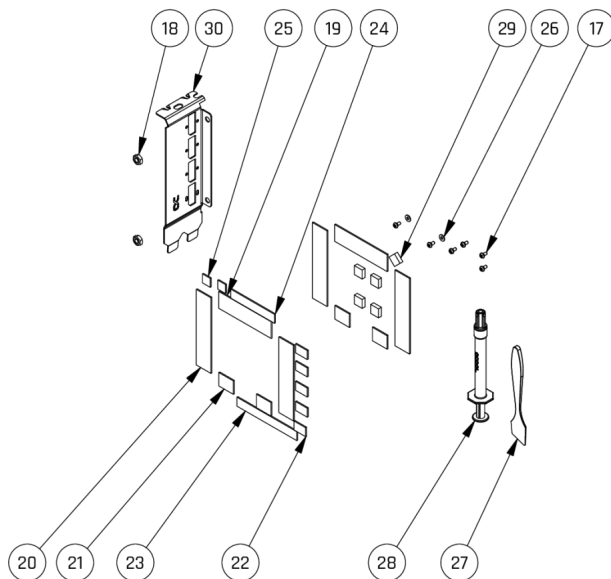
Mechanical properties:

Minimum temperature $t_{min} = -20^{\circ}\text{C}$	Working pressure $p = 0,0 - 1,0\text{Bar}$	Maximum torque of $M_{max} =$ M_{thread} DIN 13-1 Metric ISO standard thread $M2X0,4 = 0,13\text{Nm}$ $M3X0,5 = 0,48\text{Nm}$ $M4X0,7 = 1,12\text{Nm}$
Working temperature $t = 20^{\circ}\text{C}$	Maximum pressure $p_{max} = 2,0\text{Bar}$	
Maximum temperature $t_{max} = 60^{\circ}\text{C}$	Maximum torque of G thread $M_{max} = G1/4 = 1,0\text{Nm}$ ISO 228-1 Parallel Whitworth pipe thread BSPP (GB)	



Spare parts list

Number	Quantity	Description	Material
1	1	Copperplate	Cu-HCP
2	1	Copperplate 2	Cu-HCP
3	1	Engine insert	POM-C 4520
4	1	Carbon Top	CFRP_
5	1	Carbon bottom	CFRP_
6	1	O-Ring 148 x 2	NBR Shore 70
7	1	O-Ring 119 x 2	NBR Shore 70
8	31	M4 x 6	X10CrNi18-8
9	6	CORE Spacer SW5 - M4X0,7 x 3	PA 66,GF25 FR(V-2)
10	1	ES GPX Terminal 3 hole block	
11	10	GPX Spacer SW5 M4X0,7-M2X0,4 x 3	CuZn39Pb3
12	1	Electrical insulation	PI Tape
13	2	Alphacool ES Doppelnippel Steckbar G14 AG auf G14 AG Deep Black	
14	6	M2 x 18	X10CrNi18-8
15	3	PCB Spacer	PA 66,GF25 FR(V-2)
16	2	M4 x 8	X10CrNi18-8



Spare parts list

Number	Quantity	Description	Material
17	6	M2 x 4	X10CrNi18-8
18	2	ISO 4032 - M4	Cr01
19	2	Pad 54 x 15 x 1	7W/mK - Shore-00 35 - 1.00 mm
20	4	Pad 67,5 x 15 x 1	7W/mK - Shore-00 35 - 1.00 mm
21	4	Pad 12 x 15 x 1	7W/mK - Shore-00 35 - 1.00 mm
22	5	Pad 12 x 8 x 1	7W/mK - Shore-00 35 - 1.00 mm
23	1	Pad 61,5 x 8 x 1	7W/mK - Shore-00 35 - 1.00 mm
24	1	Pad 45 x 8 x 1	7W/mK - Shore-00 35 - 1.00 mm
25	2	Pad 8 x 8 x 1	7W/mK - Shore-00 35 - 1.00 mm
26	2	ISO 7089 - 2 - PA66	PA 66,GF25 FR(V-2)
27	1	Putty Tool	-
28	1	Alphacool Subzero Thermal grease 1g	-
29	5	Pad 8 x 8 x 3	7W/mK - Shore-00 35 - 3.00 mm
30	1	IO-Bracket V2	Cr01