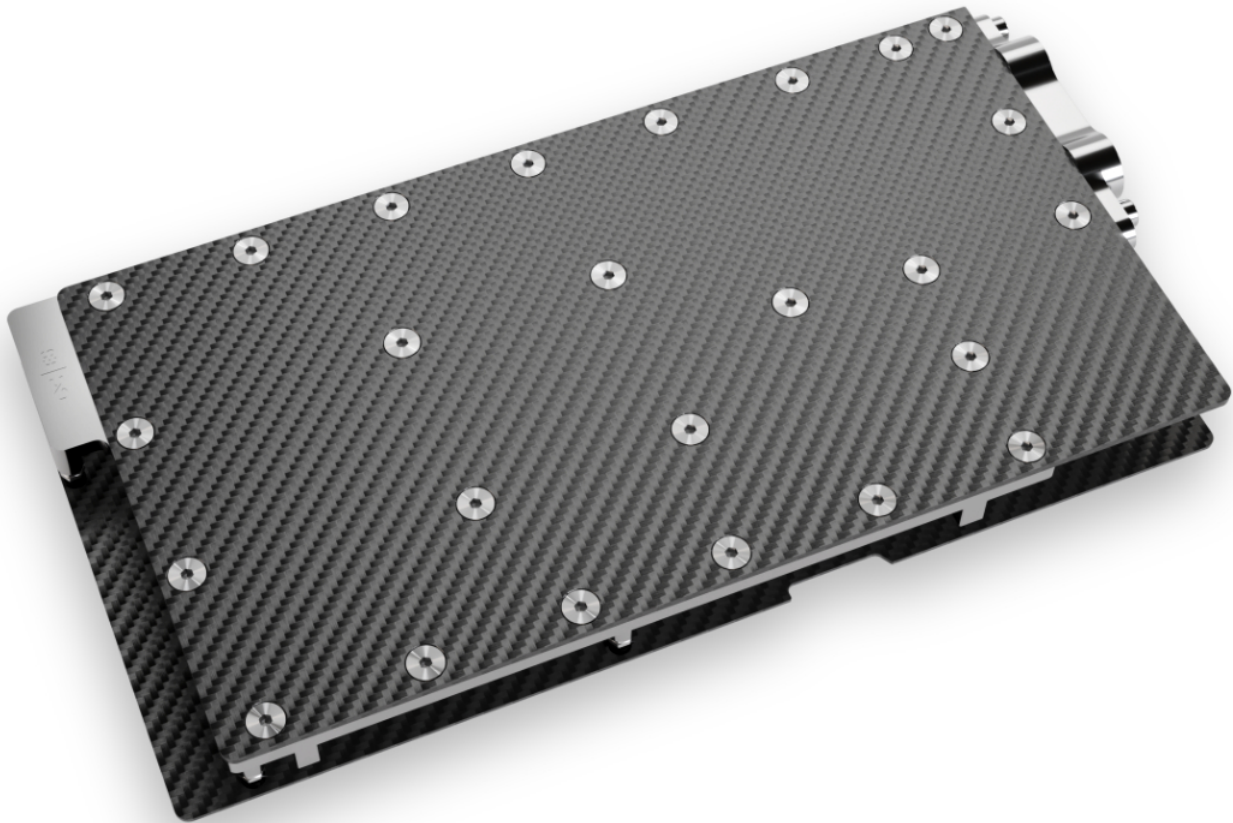


Alphacool ES Geforce RTX 5090 Gaming 1-Slot Design

Alphacool article number: 10292



Quick Info

Alphacool expands its Enterprise series with the latest 1-slot water coolers for the current Nvidia GeForce RTX generation. These solutions are specifically designed for use in server enclosures and workstations, enabling efficient cooling even in densely packed systems.

- Optimized water flow through software and practical measurements
- Massive brass threads for secure fastening
- Superior chrome plating instead of nickel plating on the copper cooler
- ES 1-Slot Design

Compatibility

- Gigabyte AORUS GeForce RTX 5090 MASTER 32G (GV-N5090AORUS M-32GD)
- Gigabyte AORUS GeForce RTX 5090 MASTER ICE 32G (GV-N5090AORUSM ICE-32GD)
- Gigabyte GeForce RTX 5090 GAMING OC 32G (GV-N5090GAMING OC-32GD)
- Gigabyte GeForce RTX 5090 WINDFORCE 32G (GV-N5090WF3-32GD)
- Gigabyte GeForce RTX 5090 WINDFORCE OC 32G (GV-N5090WF3OC-32GD)

Scope of delivery

1x Alphacool ES Geforce RTX 5090 Gaming 1-Slot Design cooler	8x 8x8x1mm Pad
1x Backplate	1x Thermal Grease
8x M2x8mm screws	1x Putty tool
2x 68x15x1mm Pad	1x PCIe Bracket
1x 54x15x1mm Pad	1x Nut
2x 110x8x1mm Pad	1x Washer
2x 12x15x1mm Pad	1x M2x5mm Screw

Technical data cooler

Dimensions total (L x W x H)	255,00 x 128,00 x 19,20mm
Material cooler	chrome-plated copper
Material cooler top	Carbon
Material terminal	Brass
Material Connection thread	Brass
Max working temperature	60°C
Pressure tested	4 bar
Threads	2 x G1/4"
Thickness cooler bottom	3,25mm
Thickness cooling fins	0,4mm
Distance cooling fins	0,4mm

Technical data backplate

Dimensions (L x W x H)	244,50 x 128,00 x 3mm
Thickness backplate without spacers	1mm
Material	Carbon

Download links

Manual	10292_Alphacool_ES_Geforce_RTX_5090_Gaming_1-Slot_Design_Manual.pdf
Product pictures	10292_Alphacool_ES_Geforce_RTX_5090_Gaming_1-Slot_Design_pics.zip
EU-DoC / CE / RoHS	Alphacool_EuDoc_CE_RoHS_10292.pdf

Packaging dimensions per unit

L x W x H	350 x 205 x 60 mm
Weight	1500 g

Other data

Certificates	CE, FC, RoHS
EAN	4250197102926
Customs code	84195080900
Guarantee	3 years

Article text

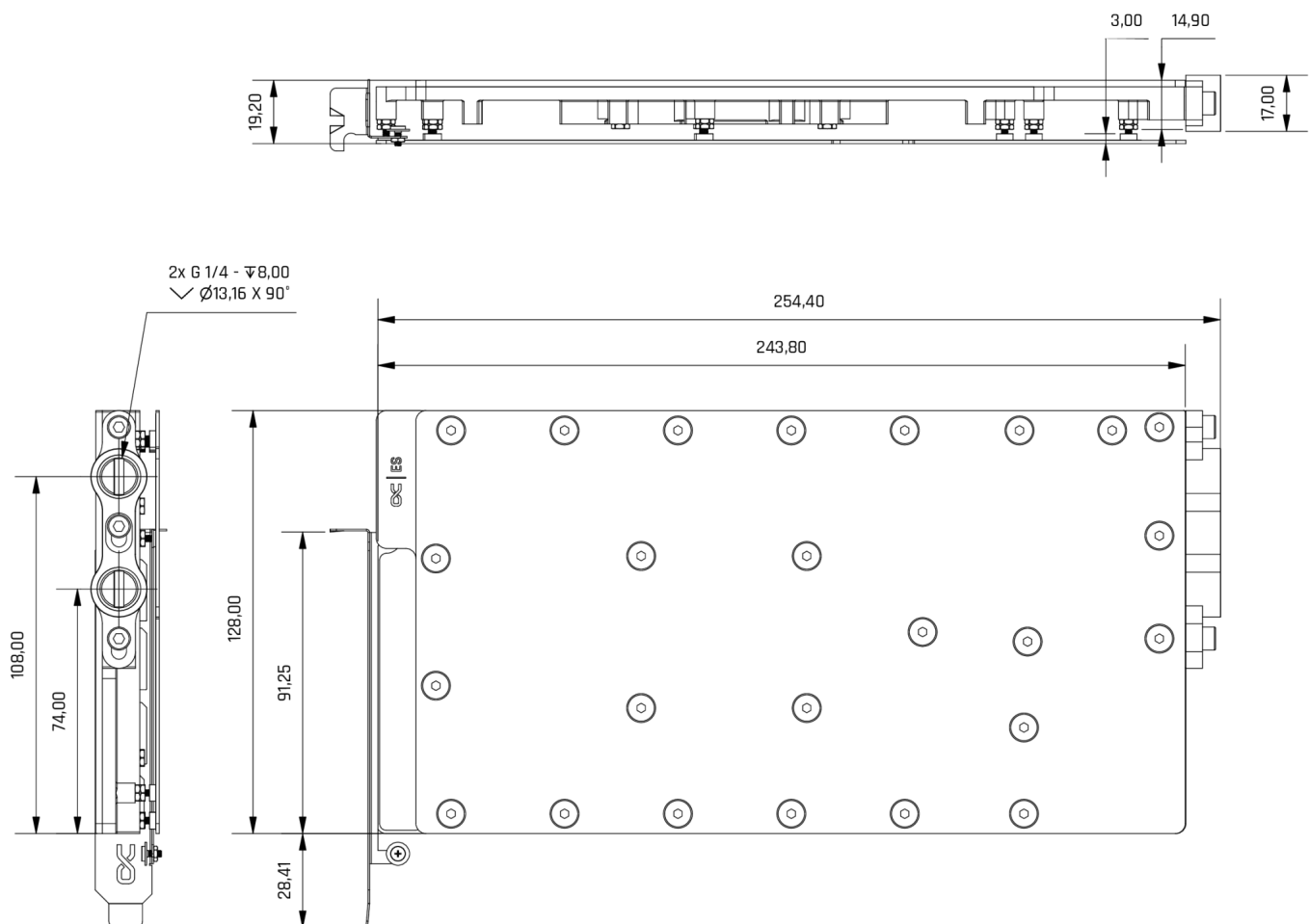
Alphacool expands its Enterprise series with the latest 1-slot water coolers for the current Nvidia GeForce RTX generation. These solutions are specifically designed for use in server enclosures and workstations, enabling efficient cooling even in densely packed systems.

By employing a thin yet extremely robust carbon plate, these coolers have been designed as 1-slot units without compromising the integrity of the copper block. Paired with rear-placed brass connectors, multiple coolers can be easily stacked on top of each other or side by side within a server case. This thoughtful design saves space, simplifies tubing, and allows for seamless integration into the water circuit.

All water-bearing parts are made from high-quality copper, which offers nearly twice the thermal conductivity of aluminum. Additionally, the copper is chrome-plated rather than nickel-plated, providing extra protection for the cooler. Chrome plating is more resistant to acids, scratches, and other damage, effectively preventing the chipping of coatings.

The GPU water cooler has undergone a complete technical overhaul. To optimize cooling performance, the spacing between the cooler and the components on the PCB was redefined and tested. The water flow was simulated using state-of-the-art software and validated through practical trials. These extensive tests led to improvements in the cooler base and nozzle, ensuring the best possible cooling performance for the new Nvidia GeForce RTX generation.

Figure (1)



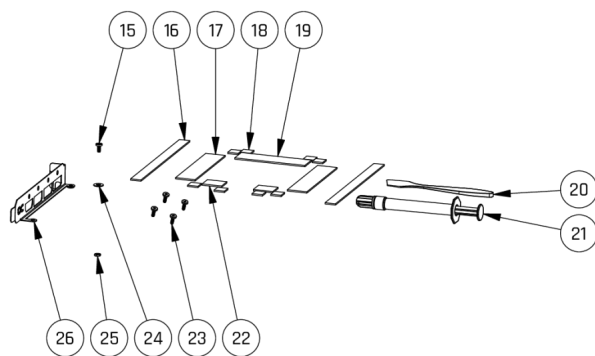
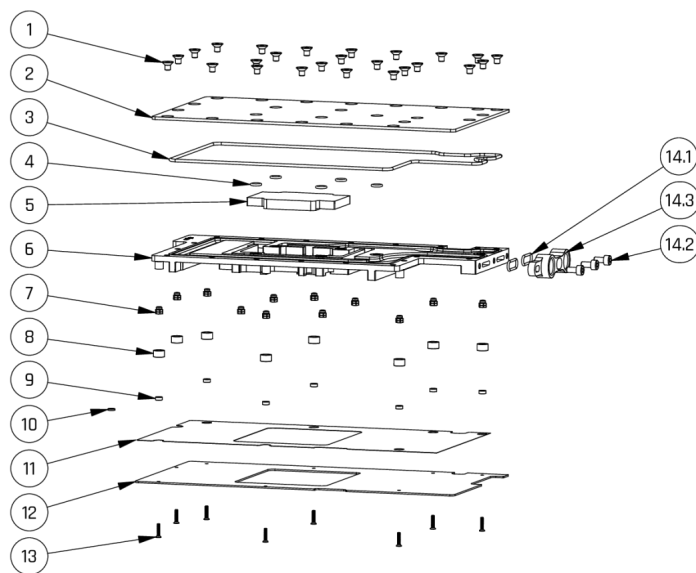
General tolerance: $\pm 0,25\text{mm}$
 Thickness with graphics card (PCB)
 Dimension in millimeter

Figure (2)

Mechanical properties:

Minimum temperature t min = -20°C	Working pressure p = 0,0 - 1,0Bar	Maximum torque of M max =
Working temperature t = 20°C	Maximum pressure p max = 2,0Bar	M thread M2X0,4 = 0,13Nm
Maximum temperature t max = 60°C	Maximum torque of G thread M max = G1/4 = 1,0Nm	DIN 13-1 Metric ISO standard thread M4X0,7 = 1,12Nm

ISO 228-1 Parallel Whitworth pipe thread BSPP (GB)



Cooler - Spare parts list

Number	Quantity	Description	Material
1	25	ISO 10642 - M4 x 6	X5CrNi18-10
2	1	Top	CFRP_
3	1	ORing 208 x 2	NBR Shore 70
4	5	ORing 5 x 1,5	NBR Shore 70
5	1	Jet V3	POM-C 4520
6	1	Copper	Cu-HCP
7	12	GPX Spacer SW5 M4X0,7-M2X0,4 x 3	CuZn39Pb3
8	8	PCB Spacer	PA 66,GF25 FR(V-2)
9	7	ES Spacer 2,00 mm	PA 66,GF25 FR(V-2)
10	1	ES Spacer 1,00 mm	PA 66,GF25 FR(V-2)
11	1	Isolation	PI Tape
12	1	Backplate	CFRP_
13	8	M2 x 10 Thread	X10CrNi18-8
14	1	ES GPX Terminal 3 hole block	
14.1	2	ORing 13,5 x 1,5	NBR Shore 70
14.2	3	M4 x 8	X5CrNi18-10
14.3	1	Alphacool Universal GPU Terminal Straight	CuZn39Pb3

Cooler accessories - Spare parts list

Number	Quantity	Description	Material
15	1	GPX Flat head screw M2X0,4 x 5	X10CrNi18-8
16	2	PAD 110 x 8 x 1	7W/mK - Shore-00 35
17	2	PAD 68 x 15 x 1	7W/mK - Shore-00 35
18	8	PAD 8 x 8 x 1	7W/mK - Shore-00 35
19	1	PAD 54 x 15 x 1	7W/mK - Shore-00 35
20	1	Putty Tool	-
21	1	Alphacool Subzero Thermal grease 1g	-
22	2	PAD 12 x 15 x 1	7W/mK - Shore-00 35
23	4	GPX Flat head screw M2X0,4 x 6	X10CrNi18-8
24	1	ISO 7089 - 3 PA66	PA 66,GF25 FR(V-2)
25	1	ISO 4035 M2	X10CrNi18-8
26	1	Slot Bracket	Cr01