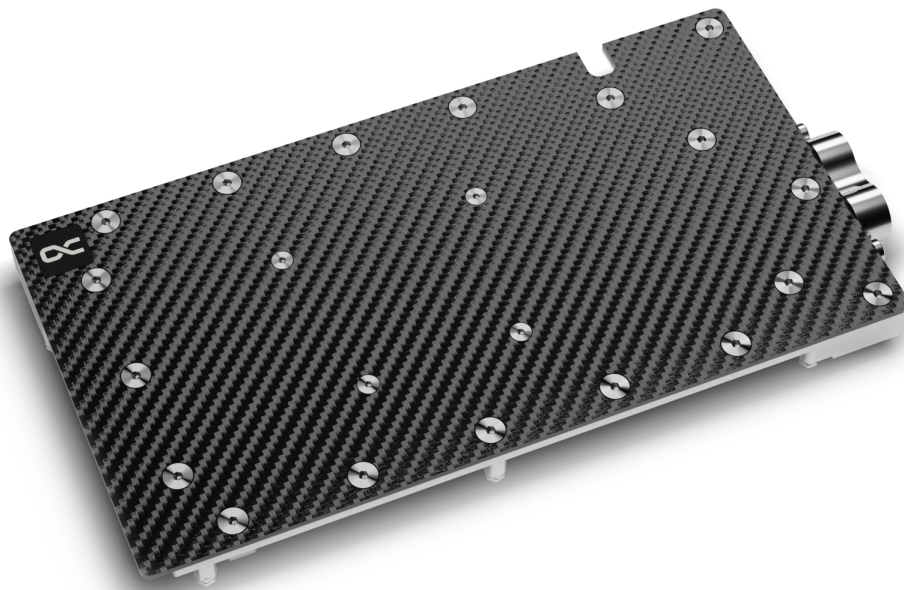


## Alphacool ES Geforce RTX 4090 Reference 1-Slot-Design

Alphacool article number: 13869



### Quick Info

The Alphacool ES Copper/Carbon water cooler with backplate was developed for the Alphacool Enterprise Series. Due to the positioning of the connections, the hosing of the cooler in the server rack is significantly simplified. The top and the Backplate of the cooler is made of carbon. This makes the water cooler lighter compared to Alphacool's Eisblocks with acetal or acrylic tops.

- Fullcover water cooler
- Chrome-plated copper bottom
- Noble cooler made of carbon & copper
- Form factor 1U

### Compatibility

- Inno3D GeForce RTX 4090 iCHILL Black, 24GB GDDR6X (C4090-246XX-18330005)
- Inno3D GeForce RTX 4090 iCHILL Frostbite, 24GB GDDR6X (C4090-246XX-1833FB)
- Inno3D GeForce RTX 4090 iCHILL X3, 24GB GDDR6X (C40903-246XX-1833VA47)
- Inno3D GeForce RTX 4090 X3 OC, 24GB GDDR6X (N40903-246XX-18332989)
- KFA² GeForce RTX 4090 SG (1-Click OC), 24GB GDDR6X (49NXM5MD6DSK)

## Scope of delivery

1x ES Geforce RTX 4090 Reference 1-slot design cooler	1x 40x15x1mm Pad
1x carbon Backplate	1x Thermal Grease
7x M2x10mm Screw	1x Putty tool
4x 8x8x1mm Pad	4x M2x5mm Screw
1x 15x15x1mm Pad	4x EVA Washer
2x 105x8x1mm Pad	1x PCI Bracket
2x 51x15x1mm Pad	

## Technical data cooler

Dimensions (L x W x H)	234,21 x 119,69 x 19,29mm
Backplate height	1mm
Weight (total)	1120g
Material cooler	Chome-plated copper
Material cooler top	carbon
Threads	2 x G1/4"
Maximum working temperature	60 °C
Pressure tested	8 Bar
Color	Black/carbon

## Download links

Manual	<a href="#">13869_Alphacool_ES_Geforce_RTX_4090_Reference_1-Slot-Design_Manual.pdf</a>
Product pictures	<a href="#">13869_Alphacool_ES_Geforce_RTX_4090_Reference_1-Slot-Design_pics.zip</a>

## Packaging dimensions per unit

L x W x H	355 x 170 x 50 mm
Weight	1450 g

## Other data

Certificates	CE, FC, RoHS
EAN	4250197138697
Customs code	84195080900
Guarantee	3 years

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### **This cooler is 1U compatible!**

### **More performance!**

Alphacool manages to position the cooler as close as possible to the components to be cooled. For this purpose, the heat conducting pads used are reduced to a thickness of 1mm. The maximum possible reduction in the thickness of the copper block and the optimization of the water flow inside the cooler allow all important components such as GPU, voltage converters and VRAMs to be cooled by water much better and more effectively. All of this provides a significant increase in cooling performance.

### **Chrome-plated copper**

The cooler is made entirely of chrome-plated copper. A chrome plating is much harder than a nickel plating and therefore less sensitive to acids, scratches and damage. It completely eliminates the risk of chipping nickel plating. Additionally, chrome plating looks much more homogeneous and provides a shine that cannot be achieved by nickel plating.

### **Connections on the back?**

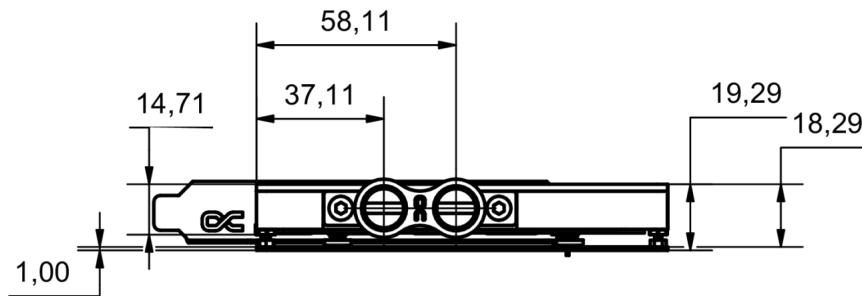
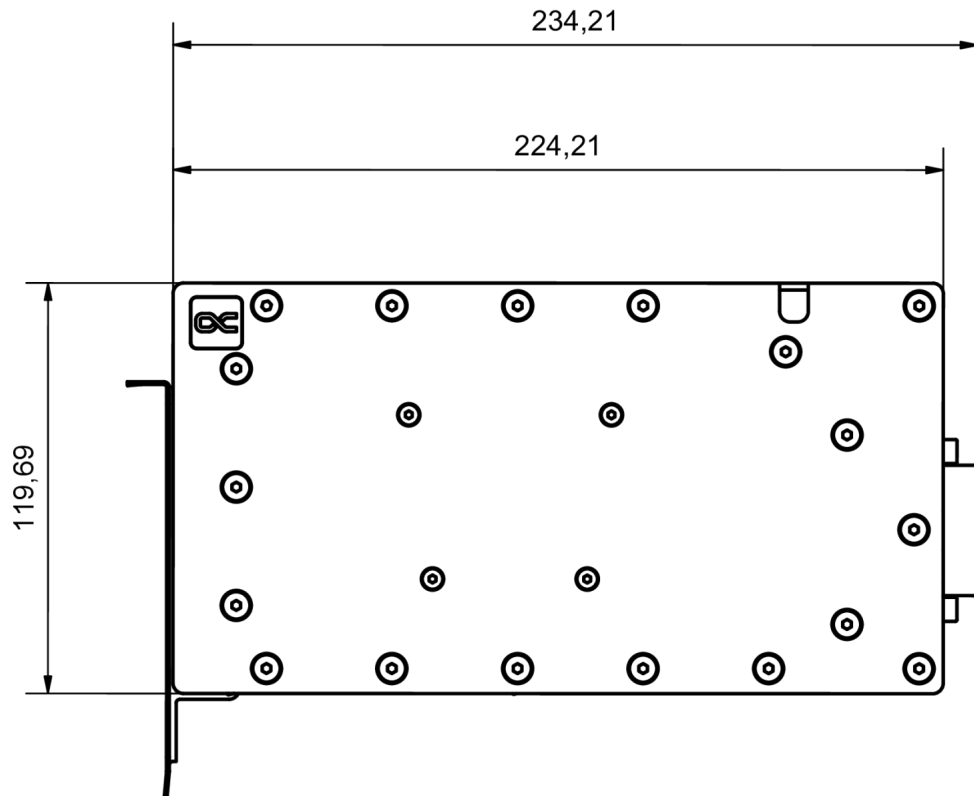
In order to save space in the width and height during installation, the water input and output have been moved to the back of the cooling block. This positioning of the connections makes hosing much easier. It enables easy integration of the GPU cooler into the water circuit even in the tightest server housings.

### **Copper or aluminum?**

Alphacool uses only copper for all water-bearing parts. Copper has almost twice the thermal conductivity of aluminum and is therefore clearly the better choice of material for water cooling. The chrome-plated copper base is highly resistant to acid, which means that chipping of the chrome plating can be ruled out.

### **Thermal paste & thermal pads**

The electrically non-conductive thermal paste is particularly well suited for high contact pressures, but can still be perfectly applied due to its viscosity of 850000 TF. For the thermal pads, Alphacool uses soft pads that fit perfectly to the components to be cooled and are very durable.



General tolerance:  $\pm 0,25$ mm  
Dimension in millimeter