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Alphacool Eisbaer Pro Aurora 420 CPU AIO

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Quick Info

The Alphacool Eisbaer Pro Aurora CPU AIO water cooler is a special development for processors with particularly large CPU dies. These include the AMD Threadripper and Epyc processors and the Intel CPUs for the LGA 3647 and LGA 4189 socket.

- Full copper radiator, Nickel-plated copper cooler
- Virtually silent DC-LT 2 pump
- Tube length 40 cm
- Digital RGB illuminated cooler and 140 mm fan

Compatibility

AMD: AM4 / AM5 / SP3 / SP6 / sTR5 / sWRX8 / TR4

Intel: LGA 1700 / LGA 1851 / LGA 2011 / LGA 2011-3 / LGA 2066 / LGA 3647 / LGA 4189 (optional) / LGA 4677 (optional) / LGA 4710 (optional)

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

Scope of delivery

1 x Mounting set for AMD TR4 / sTRX4 / SP3
1 x Mounting set for AMD AM4
1 x Mounting set for Intel 2011 / 2011-3 / 2066
1 x Mounting set for Intel 3647 Narrow & Square
1 x Mounting set for Intel LGA 4189
1 x Mounting set for Intel LGA 1700
12 x M3x5 case mounting screws
12 x M3x30 fan screws
3 x 140 mm Aurora Rise fans
1 x Y-Adaptor 4-Pin PWM
1 x Digital RGB Controller
1 x 3-Pin JST to 3-Pin 5V adaptor
1 x Thermal compound
1 x Screw plug Tool
1 x Allen key

Technical data radiator

L x W x H	460 x 144 x 30 mm (±3 % in the range of the pre-chambers)
Material cooling fins	copper
Material chambers	copper
Material cooling channels	copper
Material threads	brass
Material outer housing	stainless steel
Threads	2x G 1/4
For fan size	140 mm
Fan mounting options	3 x one-sided / 6 x both-sided

Technical data cooler and pump

L x W x H	64 x 79 x 54.3 mm
Material cooler bottom	Nickel plated copper
Material cooler top	PMMA
Threads	2 x G 1/4 (+ 1x Fillport G 1/4)
Pump typ	DC-LT 2
Pump speed	2600 rpm (±10 %)
Head of delivery	1 m
Maximum flow rate	72 L/h
Voltage	6-13.5 V DC
Power consumption	3.2 W
MTBF	50.000 h
Number of aRGB Digital LED	10

Technical data tube

Length	40 cm
Material tube	TPV (EPDM/PP)
Color	black matt
Tube size	12.7 / 7.6 mm
Hardness grade	35 Shore A to 50 Shore D
Working temperature	-50 to +155 °C

Technical data fittings

L x D straight fitting	24 x 18 mm
Quantity straight fittings	4x
For tube size	12.7 / 7.6 mm
Material fittings	nylon

Technical data quick fasteners

L x D	95 x 27 mm
Material	nylon
For tube size	12.7 / 7.6 mm
Color	black

Technical data fan

Speed	0-2000 rpm
Static pressure	2.20 mmH_2O
Air flow rate	154.1 m^3/h
Bearings	Sleeve bearing
Fan connector	4-Pin PWM
Number of aRGB Digital LED	Frame: 16 / Hub: 8
Connection Digital aRGB	3-Pin JST + 3-Pin 5 V
Dimensions	140 x 140 x 25 mm
Max working temperature	60 °C

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Manual	11774_Alphacool_Eisbaer_Pro_Aurora_420_CPU_AIO_Manual.pdf
Safety data sheet	11774_Alphacool_Eisbaer_Pro_Aurora_420_CPU_AIO_SDS.pdf
Product pictures	11774_Alphacool_Eisbaer_Pro_Aurora_420_CPU_AIO_pics.zip
EU-DoC / CE / RoHS	Alphacool_EuDoc_CE_RoHS_11774.pdf

Packaging dimensions per unit

L x W x H	500 x 250 x 165 mm
Weight	3740 g

Other data

Certificates	CE, FC, ROHS
EAN	4250197117746
Customs code	84195080900
Guarantee	3 years

Article text

The Alphacool Eisbaer Pro Aurora CPU AIO water cooler is a special development for processors with particularly large CPU dies. These include the AMD Threadripper and Epyc processors and the Intel CPUs for the LGA 3647 and LGA 4189 socket.

Large cooling surface

The cold plate bottom covers the entire surface of the respective processors. The area of the cooling fins exceeds all known processor cores with an area of around 55 x 42 mm. This ensures that all hotspots of a CPU are directly covered and thus optimally cooled. The cooling fins are 0.4 mm thick and also have an optimal distance of 0.4 mm between them. In total there are 58 cooling fins on the bottom of the cooler. The bottom of the cooler is only 3 mm thick, which allows the heat to reach the water and be dissipated as quickly as possible.

Copper radiator

As per usual with Alphacool, the radiators are made of copper. Alphacool is the first manufacturer worldwide to use copper for all water bearing components such as the antechambers, the cooling fins and the cooling channels to which the fins are soldered. The connection threads are made of brass for strength reasons. In addition, the cooling fins are only lightly painted. On closer inspection the copper shimmers through a little. A thick lacquer coating would result in a reduction of the cooling capacity. The fin density is at optimal 15FPI. Therefore the radiator works perfectly even at low airflow. A too high fin density would require fans with higher speed to achieve the same cooling capacity. A lower fin density would no longer benefit from fast rotating fans. So the golden mean was chosen.

Real water cooling

The Eisbaer Pro Aurora consists almost entirely of actual water cooling components. The extremely robust and durable TPV hoses are used in the enterprise products for servers and workstations. The hose connections also come from the Enterprise series from Alphacool and use the standard G1/4". This makes the Eisbaer Pro Aurora fully compatible with all common water cooling products. The quick-release fastener allows easy expansion of the AIO with additional components. The most important of these are the prefilled radiators and the Eiswolf GPU AIO water cooling system.

Fan and lighting

The entire Eisbaer Aurora Pro cooler is equipped with addressable digital RGB LEDs. This gives a real eye-catcher in the Case. The fan used is the Aurora Rise with 140mm. Due to the special blade design, the fan is extremely quiet and the addressable RGB LEDs provide brilliant illumination. The Alphacool Aurora Rise fan convinces with a max. statistical pressure of 2.20 mm/H2O and offers a max. air flow of 154.1 m^3/h. The PWM control allows the fan to be controlled over a wide speed range. In addition, it offers a zero control. It can therefore be regulated down to 0 rpm and then starts with approx. 350 rpm. Of course all Digital RGB LEDs can be controlled at will. Depending on the controller almost all effects are possible.

How to connect everything

The fans are normally controlled via a 4-pin PWM connector. An included Y-adapter for the fans makes it easy to connect them to the mainboard. This allows all fans to be controlled and regulated via one connector. Each fan has a 3-pin JST connector including Y-adapter for the LED illumination. This allows the fans to be connected directly together and can also be controlled simultaneously via a controller. For the connection to a typical 3-pin 5V connector a corresponding adapter is included. Alternatively, the included Digital RGB controller can be used. The pump of the Eisbaer Aurora uses a 3-pin Molex connector. This can also be connected to the mainboard.

The Eisbaer Pro Aurora is a true multi-talent. Expandable, fully compatible with DIY water cooling components and it is the optimal solution for the most powerful processors on the market.

With the Alphacool LGA 4677 Mounting Bracket (article no.: 13764), this cooler is also compatible with the Intel socket LGA 4677.