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Alphacool Core 2 XT 420mm CPU AiO

Alphacool article number: 14713

Quick Info

The Alphacool Core 2 XT CPU AIOs expand the Core series with powerful all-in-one liquid cooling solutions for CPUs. The CPU water block is based on the proven Core 1 cooling technology from the custom water-cooling segment. A high-quality aluminum housing and subtle aRGB lighting give the water block a modern and compact design.

- Premium aluminium cooler housing
- Full copper HPE radiator
- New Core DC-LT 3 pump included
- Right to Repair Friendly
- Subtle aRGB illumination

Compatibility

AMD: AM4 / AM5
Intel: LGA 1700 / LGA 1851

Scope of delivery

1x Core 2 XT 420mm CPU AiO
1x Thermal Grease
1x Putty tool
4x Threaded bolt AMD
1x CPU Brackets AMD Set
4x Screw sleeve
1x CPU Brackets INTEL Set
1x CPU Backplate
4x Threaded bolt INTEL
4x Washer
1x ARGB Adapter
1x PWM Extension cable (50cm)
3x Apex Stealth Metal Aurora fan (140x140x25mm)
1x aRGB Extension (50cm)
12x M3 Screw
12x M3x5mm Screw
1x Plug tool

Technical data

Material cooler	Chrome-plated copper (Cu-HCP)
Material cover	Aluminium (AlMg0,7Si)
Maximum torque G1/4 thread (in Nm)	1,00
Maximum torque M2 thread (in Nm)	0,13
Maximum torque M2,5 thread (in Nm)	0,27
Maximum torque M3 thread (in Nm)	0,48
Maximum torque M4 thread (in Nm)	1,12
Maximum operating temperature (in °C)	60
Minimum operating temperature (in °C)	-20
Maximum tested pressure (in bar)	2,00
Recommended working pressure (in bar)	0,00 - 1,00
LED quantity and length	12 Stk / 145,7 mm
LED voltage (in V DC)	5
LED power (in W)	3,6
LED current (in A)	0,06

Technical data Pump

Rated Voltage (V - DC)	12V
Operating Voltage (V - DC)	8 - 13.5
Input Current (Filled with water) (A)	0.30(Max.0.36)
Input Current (No water) (A)	0.06(Max.0.10)
Input Current (When measuring the flow rate) (A)	0.40(Max.0.48)
Power (W)	3.6(Max.4.32)
Speed (At Zero Water Head) (RPM)	3800±10%
Max . Flow Capacity (At Zero Water Head) (ml/Min)	2100±10%
Max . Water Head (At Zero Flow Capacity) (m - Water)	1.4±10%
Acoustical Noise (dB(A))	25(Max.30)

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Technical data Fan

Dimensions (L x W x H)	140 x 140 x 25mm
Material (Frame)	Die-cast zinc
Material (Impeller)	Plastic
Weight	350g
Speed	300~2000±10% rpm
Bearing	Sleeve Bearing
Connection	4-Pin PWM
Cable length PWM / aRGB	40±8 mm (+ 50cm extension cable)
Cable length (daisy chain)	110±10 mm
Start-up Voltage	6 V DC
Rated Volt	12 V DC
Power Consumption	5.28 W
Air Flow	75.12 CFM
Static Air Pressure	2.36 mmH2O
Noise Level	32.8 dBA
MTBF	100,000h
PWM control	Yes
Zero RPM control	Yes
Tacho Signal	Yes
Auto-restart	Yes
aRGB	Yes
LED type	5V aRGB
aRGB connection	3-Pin JST
LED quantity	12
Color	black

Technical data Thermal paste

Volatilization Rate (24H@200°C)%	less than 0.5
Density (g/cc)	3.2 (Test method ASTM D792)
Viscosity (mPa.s)	150~200*10³ (Test method ASTM D2196)
Continuous Using 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)
Max. working pressure (psi)	40
Quantity	1g
Color	gray

Technical data Radiator

L x W x H	455,5 x 144 x 30mm (+/- 3%)
Quantity of cooling channels	16
Material cooling fins, pre-chambers & channels	copper
Material threads	brass
Material outer housing	stainless steel
Threads	"4x G1/4"" IN/OUT & 1x Fill-/Drainport G1/4"" (max. 5mm thread length)"
Possible fan size	140mm
Possible fan assembly	3x one-sided / 6x both-sided
Thread size fan mounting	M3
Pressure tested	0,8 Bar
Maximum working temperature	60°C
Fin density	18 FPI
Weight	984g
Color	black

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Manual	14713_Alphacool_Core_2_XT_420mm_CPU_AiO_Manual.pdf
Safety data sheets	14713_Alphacool_Core_2_XT_420mm_CPU_AiO_SDS(1).pdf 14713_Alphacool_Core_2_XT_420mm_CPU_AiO_SDS(2).pdf 14713_Alphacool_Core_2_XT_420mm_CPU_AiO_SDS(3).pdf
Product pictures	14713_Alphacool_Core_2_XT_420mm_CPU_AiO_pics.zip
EU-DoC / CE / RoHS	Alphacool_EuDoc_CE_RoHS_14713.pdf

Packaging dimensions per unit

L x W x H	557 x 250 x 160 mm
Weight	4352 g

Other data

Certificates	CE, FC, RoHS
EAN	4250197147132
Customs code	84195080900
Guarantee	3 years

Article text

The Alphacool Core 2 XT CPU AIOs expand the Core series with powerful all-in-one liquid cooling solutions for CPUs. The CPU water block is based on the proven Core 1 cooling technology from the custom water-cooling segment. A high-quality aluminum housing and subtle aRGB lighting give the water block a modern and compact design.

The Core 2 XT CPU AIO follows a classic layout with a CPU water block and integrated pump, robust and flexible TPV tubing, as well as a radiator and fans. Heat dissipation is handled by a NexXxoS HPE Full Copper radiator. Made entirely of copper, the radiator enables efficient heat transfer and provides the foundation for high cooling performance. The Apex Stealth fans deliver the airflow required through the radiator while also adding visual accents with their aRGB lighting.

Proven technology is also used for the CPU water block. The cooling structure is based on Core 1 technology and ensures efficient heat transfer from the CPU to the cooling loop. The new Core DC-LT 3 pump, operating at up to 3800 rpm, provides the necessary coolant flow. It is integrated directly into the CPU water block and is designed for powerful yet quiet operation. The aluminum housing gives the water block a premium appearance without coming into contact with the coolant. Subtle aRGB lighting completes the look of the CPU water block.

In addition to cooling performance, the Core 2 XT places particular emphasis on serviceability and longevity. To achieve this, it uses components from the traditional DIY water-cooling segment and supports the right-to-repair approach. The AIO can be serviced when required, allowing it to remain flexible and usable over the long term. Compared with fully sealed AIO systems, this provides a clear advantage.

The Core 2 XT is aimed at users looking for a powerful AIO liquid cooler while placing value on high-quality materials, proven cooling technology, and ease of maintenance. With the NexXxoS HPE Full Copper radiator, Core 1 cooling technology, and the Core DC-LT 3 pump, this CPU AIO combines easy handling with many of the features of a traditional custom water-cooling system.

Figure (1)

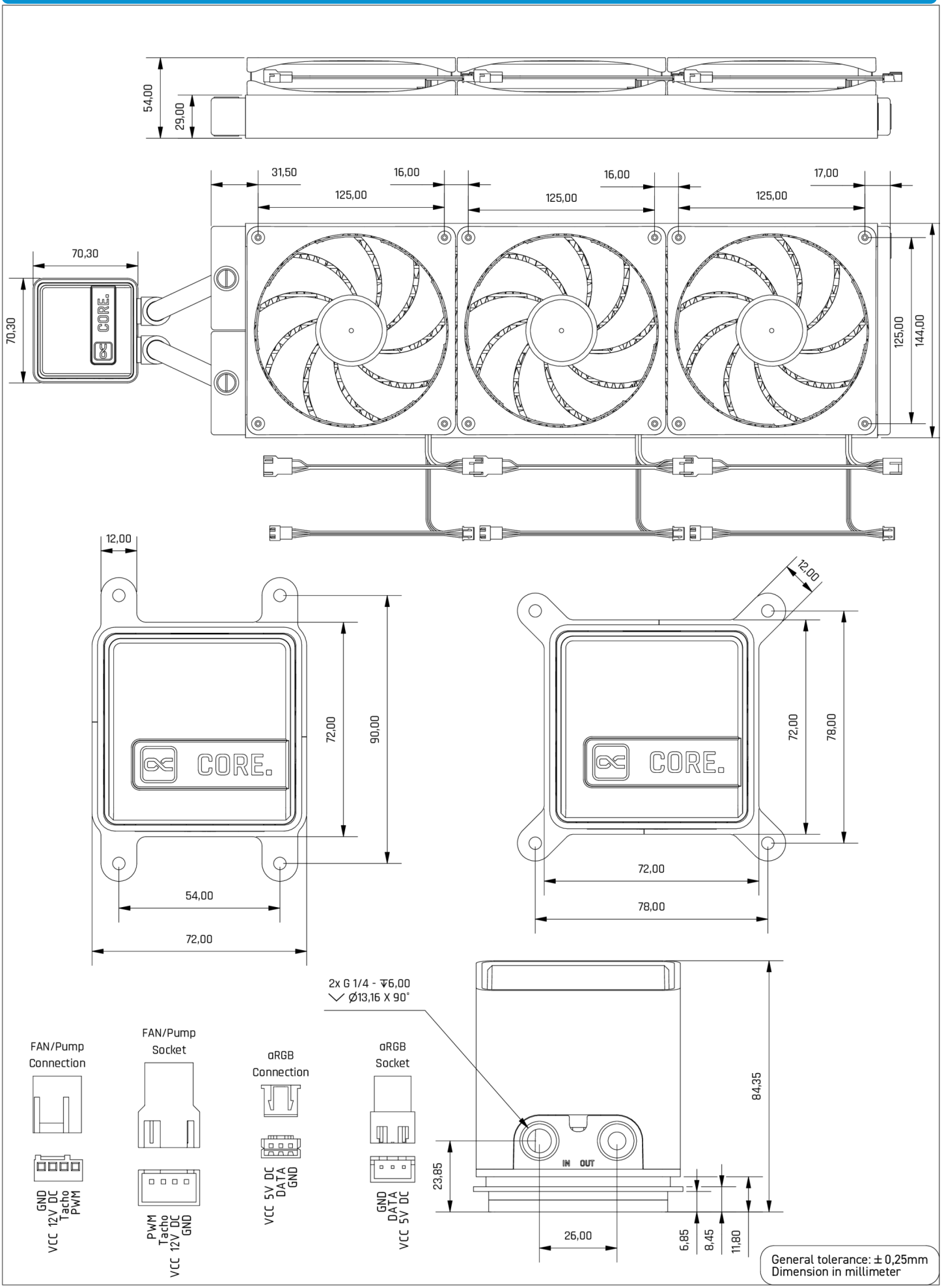

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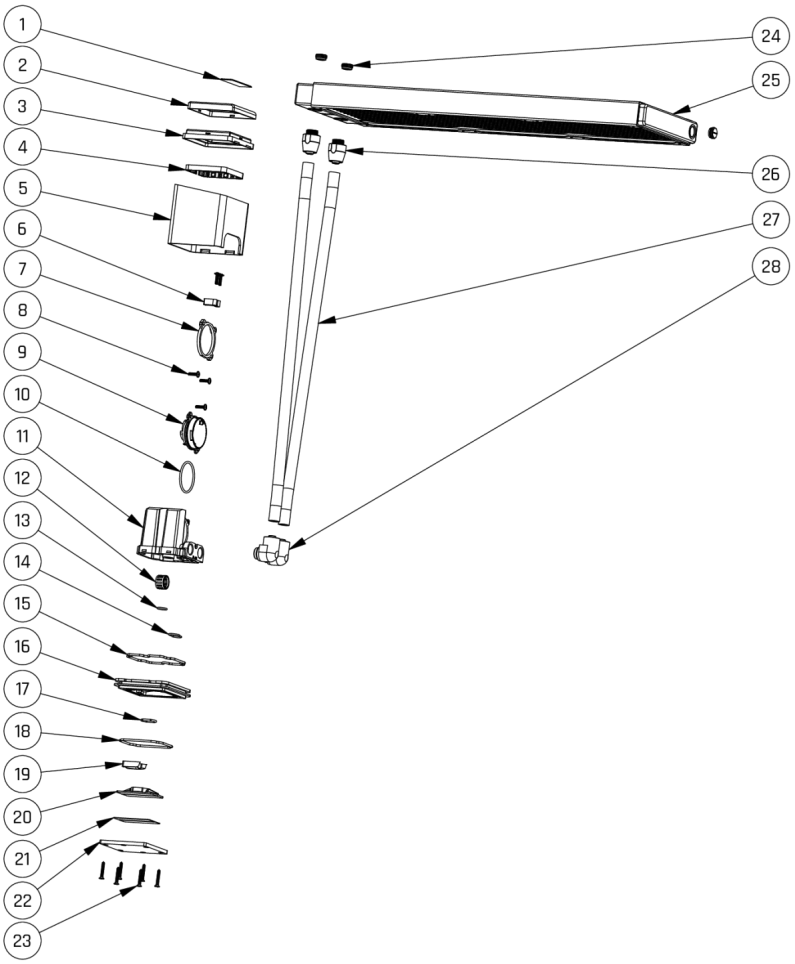
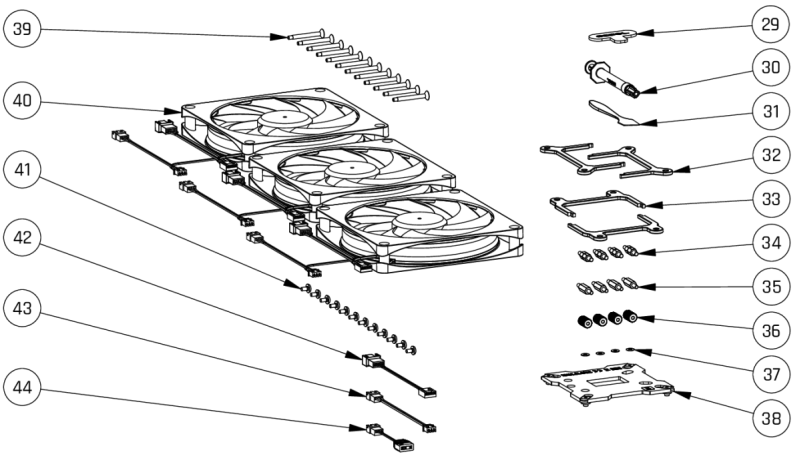
Figure (2)

Mechanical properties:					
LED quantity and length	12pc. / L =145,7mm	Maximum filling volume ml =	395	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 = ,48Nm M4X0,7 = 1,12Nm
LED Voltage V =	5 V	Working pressure p =	0,0 - 1,0Bar		
LED Ampere A =	0,06 A	Maximum pressure p max =	2,0Bar		
LED Power W =	3,6 W	Maximum torque of G thread M max = G1/4 = 1,0Nm ISO 228-1 Parallel Whitworth pipe thread BSPP (GB)			
Minimum temperature t min =	-20°C				
Working temperature t =	20°C				
Maximum temperature t max =	60°C				





AiO - Spare parts list			
Number	Quantity	Description	Material
1	1	Logo inlay	DX001
2	1	Cap Cover	PA 66,GF25 FR(V-2)
3	1	Cap Defusor	DX001
4	1	LED Strip 145,7 mm	-
5	1	Hull	AlMg0,7Si
6	1	Pump clamp	PA 66,GF25 FR(V-2)
7	1	Pressure clamp	PPS-GF30
8	5	PT-Screw WN1411	X10CrNi18-8
9	1	DC-LT 2	-
10	1	ORing 33 x 2	NBR Shore 70
11	1	AGB 2	PA 66,GF25 FR(V-2)
12	1	Filter	PA MACM12 + PA 12, GHLT, 18-020
13	1	ORing 9 x 1,5	NBR Shore 70
14	1	ORing 18 x 1,5	NBR Shore 70
15	1	ORing 77 x 2	NBR Shore 70
16	1	Middleplate	Cu-HCP
17	1	Core 1 O-Ring 13 x 2	NBR Shore 70
18	1	O-Ring 55 x 2	VMQ Shore A 70
19	1	Core 1 Jet compensation	PA 66,GF25 FR(V-2)
20	1	Core 1 Jet	PA 66,GF25 FR(V-2)
21	1	Core 1 Jet sealing	VMQ Shore A 70
22	1	Apex 1 LGA 1700 Copperplate	Cu-HCP
23	6	ISO 7046 - M3 x 20 self screws	X10CrNi18-8
24	3	Alphacool Eiszapfen screw plug V2 G1/4 deep black	CUZn39Pb3
25	1	Alphacool NexXxos HPE-30 Full Copper 420 Radiator	CU-HCP
26	2	Alphacool HF srew-on nozzle TPV metal - 12,7-7,6mm straight - Black	CuZn39Pb3
27	2	Tube 12,7-7,6 x 420mm	TPV
28	2	CORE-TPV-Fitting 90°	-

Accessories - Spare parts list			
Number	Quantity	Description	Material
29	1	Plug Tool	PA 66,GF25 FR(V-2)
30	1	Alphacool Subzero Thermal grease 1g	-
31	1	Putty Tool	-
32	2	LGA1817xx Bracket	AlMg0,7Si
33	2	AM4AM5 Bracket	AlMg0,7Si
34	4	12mm spacer AMD	CuZn39Pb3
35	4	14mm spacer Intel	CuZn39Pb3
36	4	Screw Top	X5CrNi18-10
37	4	ISO 7089 - 3 PA66	PA 66,GF25 FR(V-2)
38	1	Core 1 Backplate	-
39	12	ES Stealth Metal Screw M3 X 28	Zinc Z410
40	3	Alphacool Apex Stealth metal Aurora Fan black (140x140x25mm)	-
41	12	Radiator screw M3 x 6	Cr01
42	1	Alphacool Apex Stealth HDB Black Fan 3000rpm without Cover - 4.5mm wall Extension cable 500,00 mm	-
43	1	Alphacool Core Stealth Sleeve White Fan 2500rpm without Cover - 2.5mm wal - Cable + aRGB	-
44	1	Alphacool Core Stealth Sleeve White Fan 2500rpm without Cover - 2.5mm wal - aRGB Adapter	-