V. 1.010 // 09.2026

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Alphacool Apex Monoblock X870 AORUS ELITE WIFI7 ICE

Alphacool article number: 14683



Quick Info

The Apex Monoblock is the ideal cooling solution for maximum performance, combined with an elegant design that is perfectly matched to the motherboard. Developed specifically for the motherboard, the monoblock cools the CPU, the voltage regulators (VRMs), as well as the M.2 NVMe SSD located below the CPU socket. All key motherboard components are actively cooled through the monoblock's water block.

- Processors hotspot optimized
- Fullcover M.2, VRM and CPU Cooler
- Stunning aRGB illumination

Compatibility

Gigabyte X870 AORUS ELITE WIFI7 ICE (AM5) (Rev. 1.0/1.1)

Scope of delivery

1x Apex Monoblock
1x 15x15x2mm Pad
2x 73x8x2mm Pad
1x 91x15x2mm Pad
1x 91x8x2mm Pad
1x 70x22x2mm Pad
1x Thermal Grease
1x Putty tool
4x AM5 Mounting Nut
5x Washer
5x M3x8mm Screw
1x ARGB Adapter

Technical data

Dimensions (L x W x H) (in mm)	175,50 x 173,50 x 54,30
Material cooler	Chome-plated copper (Cu-HCP)
Material cover	Aluminium (AlMg0,7Si)
Material cooler top	Plexi (LXN865)
Material terminal	Brass (CuZn39Pb3)
Threads	2x G 1/4
Material connection thread	Brass (CuZn39Pb3)
Maximum torque G1/4 thread (in Nm)	1,00
Maximum torque M3 thread (in Nm)	0,48
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)	2,00
Maximum tested pressure (in bar)	0,00 - 1,00
Thickness of cooling fins (in mm)	0,40
Distance between cooling fins (in mm)	0,40
LED quanitity (in pcs,)	9,00
LED lenght (in mm)	149,40
LED Voltage (in V DC)	5,00
LED Ampere (in A)	0,06
LED Power (in W)	2,70
Cooling technology	Jet engine

Technical data thermalpads

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

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Technical data thermalpaste

Evaporation rate	Less than 0,5
Density (g/cm3)	3,2 (Test method ASTM D2196)
Viscosity	150~200*10³ (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)	1g
Color	Grey

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Manual	14683_Alphacool_Apex_Monoblock_X870_AORUS_ELITE_WIFI7_ICE_Manual.pdf
Product pictures	14683_Alphacool_Apex_Monoblock_X870_AORUS_ELITE_WIFI7_ICE_pics.zip
EU-DoC / CE / RoHS	Alphacool_EuDoc_CE_RoHS_14683.pdf

Packaging dimensions per unit

L x W x H	290 x 250 x 105 mm
Weight	2480 g

Other data

Certificates	CE, FC, RoHS
EAN	4250197146838
Customs code	84195080900
Guarantee	5 years

Article text

The Apex Monoblock is the ideal cooling solution for maximum performance, combined with an elegant design that is perfectly matched to the motherboard. Developed specifically for the motherboard, the monoblock cools the CPU, the voltage regulators (VRMs), as well as the M.2 NVMe SSD located below the CPU socket. All key motherboard components are actively cooled through the monoblock's water block.

Like the Apex 1 CPU cooler, the Apex Monoblock uses an offset cold plate. This allows the coolant flow to hit the thermal hotspot of the AM5 CPU directly. In combination with the proven cross-slot structure and the 3D Jetplate 2.0, this design generates high water pressure, enabling particularly efficient heat dissipation. Ideal for overclocking or continuous operation.

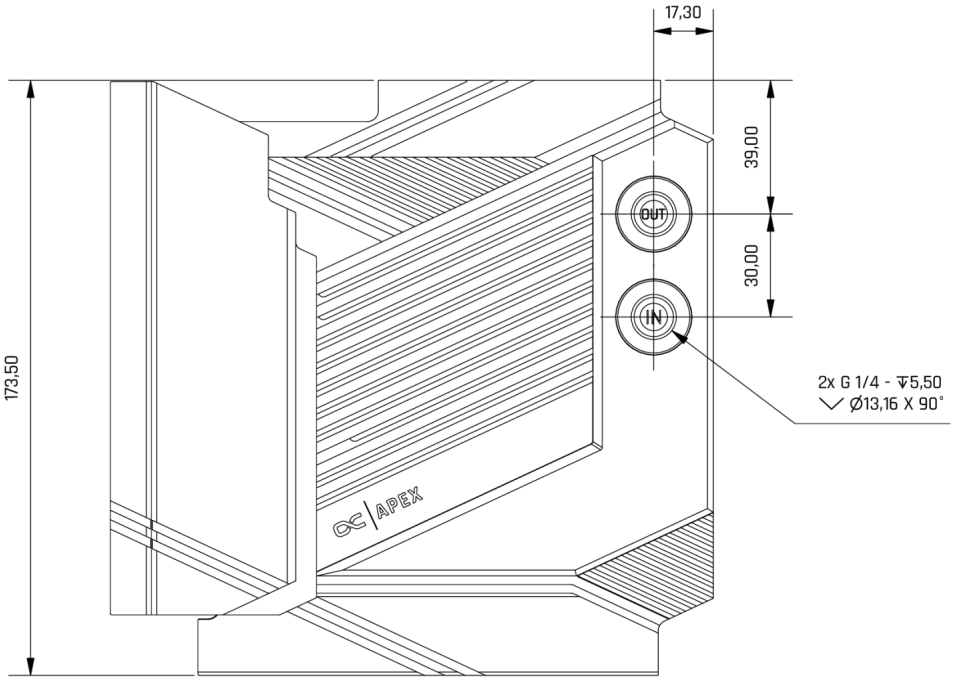
The cooler is milled from a solid block of copper. The G1/4" connection terminal is made of brass and, together with the copper base, ensures long durability as well as excellent thermal conductivity.

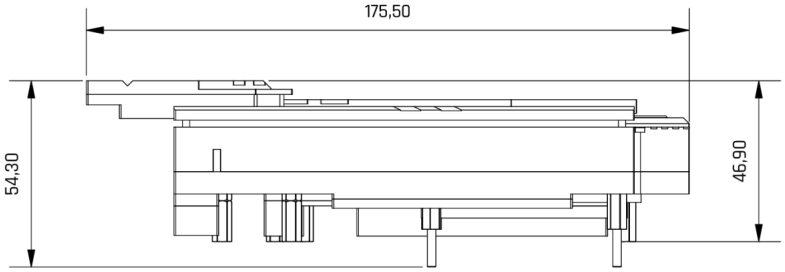
The Apex Monoblock design, tailored to the respective motherboard, not only delivers optimal cooling performance but also integrates seamlessly into the motherboard's appearance.

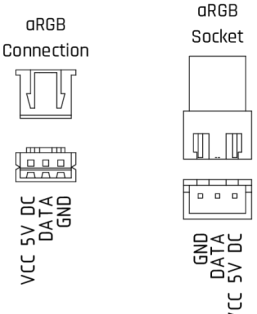
It features an integrated I/O cover, creating a clean and cohesive look that blends perfectly with the motherboard's design.

The monoblock combines performance, design, and functionality, making it a highlight of any custom water-cooling setup.

Figure (1)





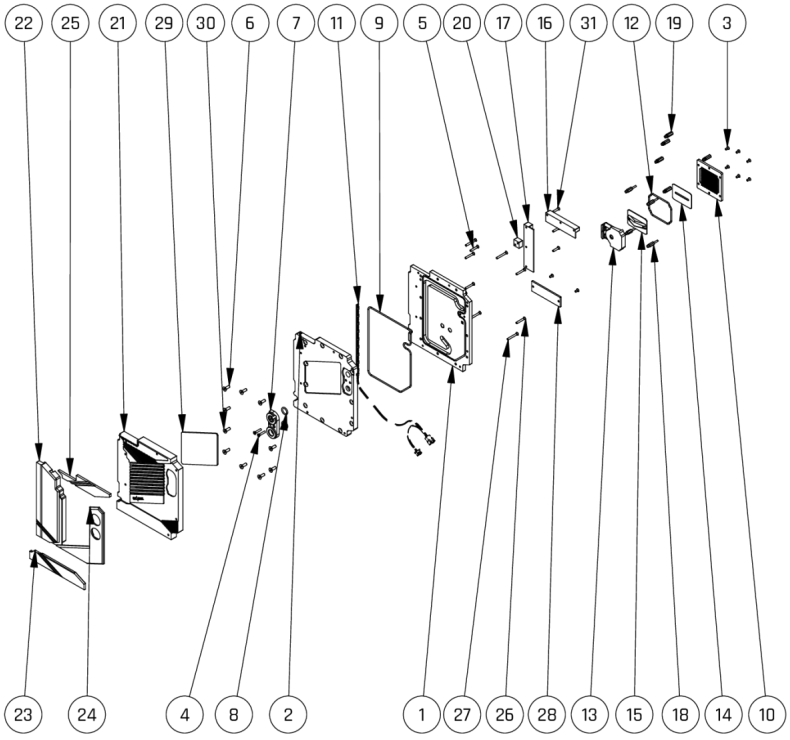


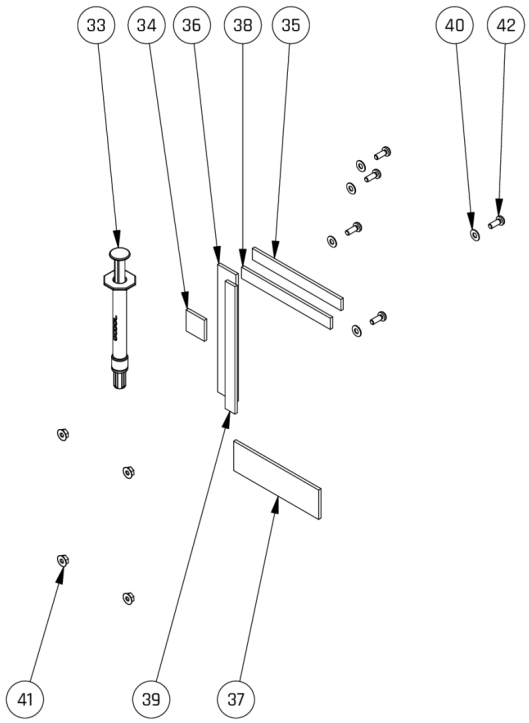
General tolerance: ± 0,25mm
Dimension in millimeter

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Figure (2)

Mechanical properties:				
LED quantity and length	9pc. / L =149,4mm	Minimum temperature t min =	-20°C	Maximum torque of G thread M max = G 1/4 = 1,00Nm ISO 228-1 Parallel Whitworth pipe thread BSPP (GB)
LED Voltage V =	5 V	Working temperature t =	20°C	
LED Ampere A =	0,06 A	Maximum temperature t max =	60°C	Maximum torque of M thread M max = DIN 13-1 Metric ISO standard thread M3X0,5 = 0,48Nm M4X0,7 = 1,12Nm
LED Power W =	2,7 W	Working pressure p =	0,0 - 1,0Bar	
		Maximum pressure p max =	2,0Bar	





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Apex Monoblock AM X870 Aorus Elite WIFI7 Ice

Spare parts list

Number	Quantity	Description	Material
1	1	Coolingplate	Cu-HCP
2	1	PMMA part	LXN865
3	8	ISO 70461 M3 x 6 4.8 H	X10CrNi18-8
4	2	ISO 70461 M3 x 16 4.8 H	X10CrNi18-8
5	1	ISO 70461 M3 x 18 4.8 H	X10CrNi18-8
6	9	ISO 10642 M4 x 12	X10CrNi18-8
7	1	Monoblock Terminal TOP Part	CuZn39Pb3
8	2	O-Ring 12,5 x 2	NBR Shore 70
9	1	O-Ring 160 x 2	NBR Shore 70
10	1	Apex 1 LGA 1700 Copperplate V4 Rebuild Small	Cu-HCP
11	1	LED Strip	Generisch
12	1	Apex 1 ORing 55 x 2 NBR 70	VMQ Shore A 70
13	1	Apex 1 Rubberinlay	VMQ Shore A 70
14	1	Apex 1 Jet sealing	VMQ Shore A 70
15	1	Apex 1 Jetplate PPS	PPS-GF30
16	1	Extension 73 x 7 x 10,26 mm	Cu-HCP
17	1	Extension 91 x 11,49 x 10,26 mm	Cu-HCP
18	4	Apex 1 AM5 Spacer 10,3mm SW5 M2,5	CuZn39Pb3
19	5	Spacer	CuZn39Pb3
20	1	Extension 13 x 13 x 8,56 mm	Cu-HCP
21	1	Cover1	AlMg0,7Si
22	1	Desincover1	AlMg0,7Si
23	1	Designcover SSD	AlMg0,7Si
24	1	Cover Terminal	AlMg0,7Si
25	1	Top design cover	AlMg0,7Si
26	4	ISO 70461 M3 x 20 4.8 H	X10CrNi18-8
27	4	ISO 70461 M3 x 20 4.8 H	X5CrNi18-10
28	1	Extension 70 x 20 x 2,66 mm	Cu-HCP
29	1	PMMA insert	DX001
30	2	M4 x 12	X10CrNi18-8
31	6	M3 x 14	X10CrNi18-8
32	2	M3 x 13	X10CrNi18-8

Spare parts list

Number	Quantity	Description	Material
33	1	Alphacool Subzero Thermal grease 1g	-
34	1	PAD 15 x 15 x 2	7W/mK - Shore-00 35 - 2.00 mm
35	1	PAD 73 x 8 x 2	7W/mK - Shore-00 35 - 2.00 mm
36	1	PAD 91 x 15 x 2	7W/mK - Shore-00 35 - 2.00 mm
37	1	PAD 70 x 21 x 2	7W/mK - Shore-00 35 - 2.00 mm
38	1	Pad 73 x 8 x 2	7W/mK - Shore-00 35 - 2.00 mm
39	1	Pad 91 x 8 x 2	7W/mK - Shore-00 35 - 2.00 mm
40	5	ISO 7089 - 3 - PA66	PA 66,GF25 FR(V-2)
41	4	Apex 1 AM5 Mounting Nuts	X5CrNi18-10
42	5	ISO 7045 M3 x 8 4.8 H	X10CrNi18-8

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