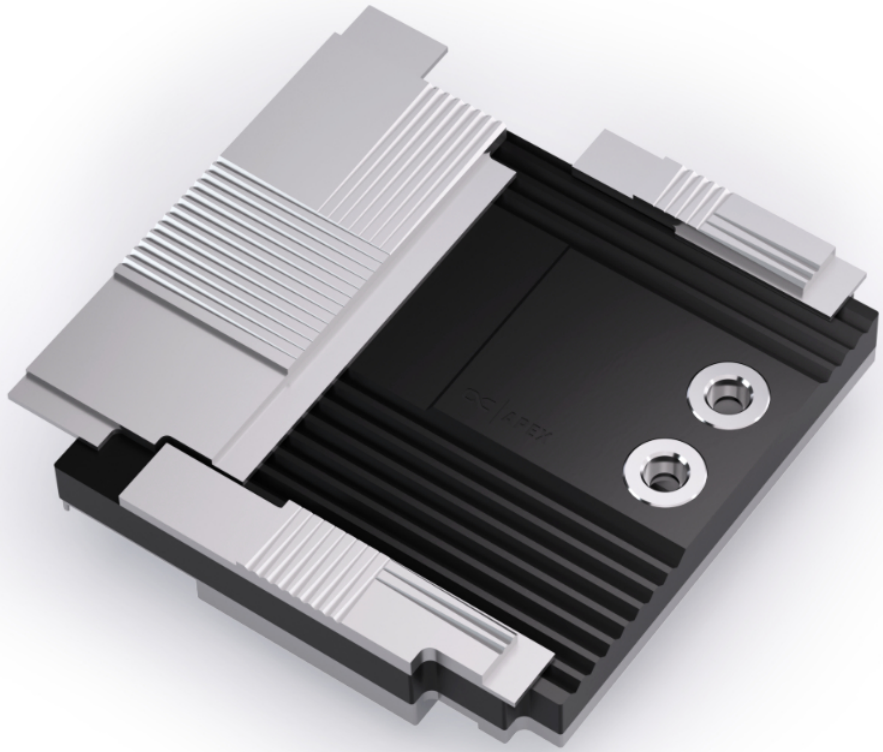
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Alphacool Apex Monoblock PRO X870-P WIFI (AM5)

Alphacool article number: 14721



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
- Signature PRO design

Compatibility

MSI PRO X870-P WIFI AM5

Scope of delivery

1x Alphacool Apex Monoblock PRO X870-P WIFI (AM5)
6x ISO 7045 M3 x 8 4.8 H Screw
6x Washer
2x 79 x 8 x 2mm thermal pad
1x 70 x 22 x 2mm thermal pad
1x 12 x 11 x 2mm thermal pad
2x 70 x 8 x 2mm thermal pad
1x Thermal grease
1x Putty tool
4x AM5 Mounting Nuts

Technical data

Dimensions (L x W x H) (in mm)	172,85 x 174,46 x 48,10
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
Recommended working pressure (in bar)	0,00 - 1,00
Thickness of cooling fins (in mm)	0,40
Distance between cooling fins (in mm)	0,40
Cooling technology	Jet engine

Technical data thermalpads

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

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	14721_Alphacool_Apex_Monoblock_PRO_X870-P_WIFI_(AM5)_Manual.pdf
Product pictures	14721_Alphacool_Apex_Monoblock_PRO_X870-P_WIFI_(AM5)_pics.zip
EU-DoC / CE / RoHS	Alphacool_EuDoc_CE_RoHS_14721.pdf

Packaging dimensions per unit

L x W x H	290 x 250 x 105 mm
Weight	2740 g

Other data

Certificates	CE, FC, RoHS
EAN	4250197147217
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.

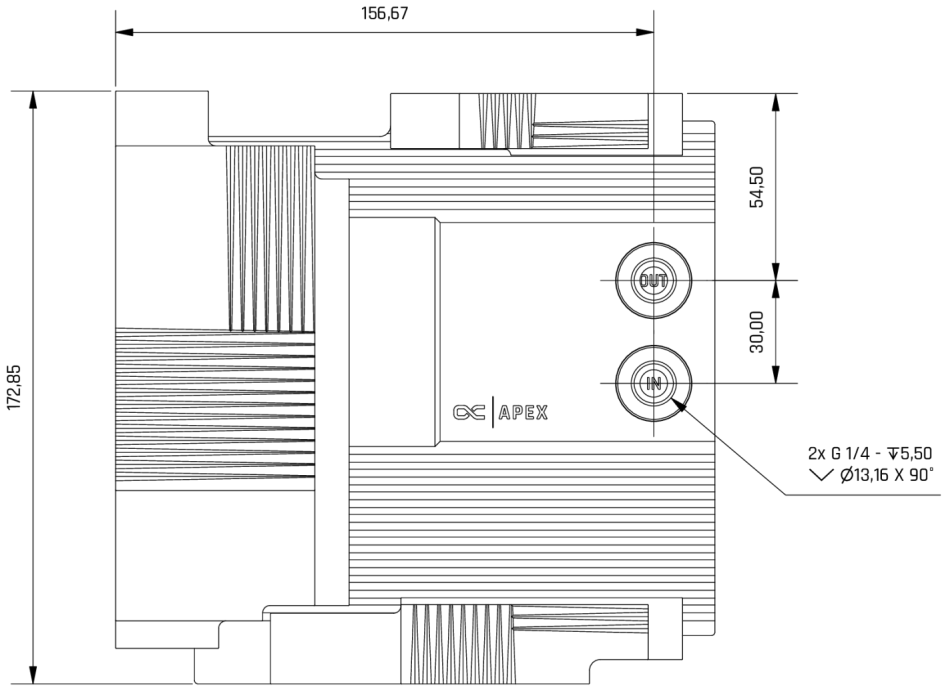
The cooler is milled from a solid block of copper. The G1/4" connection terminal is made of brass and, together with the copper base, ensures long durability as well as excellent thermal conductivity.

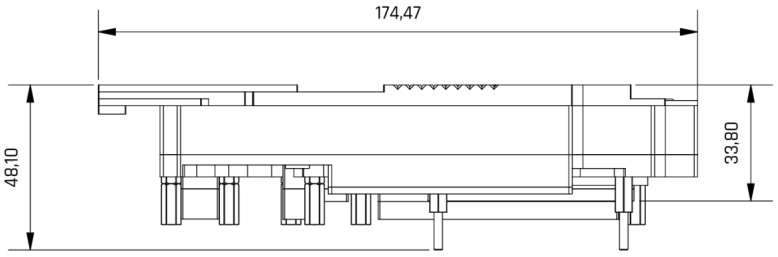
The Apex Monoblock design, tailored to the respective motherboard, not only delivers optimal cooling performance but also integrates seamlessly into the motherboard's appearance.

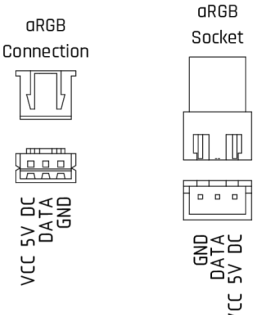
It features an integrated I/O cover, creating a clean and cohesive look that blends perfectly with the motherboard's design.

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

Figure (1)





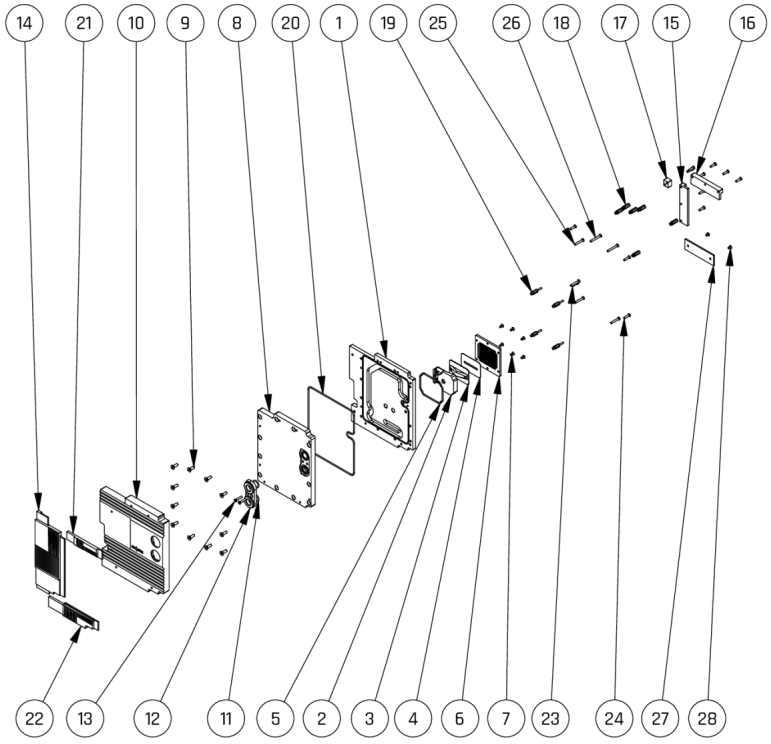


General tolerance: ±0,25mm
Dimension in millimeter

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Figure (2)

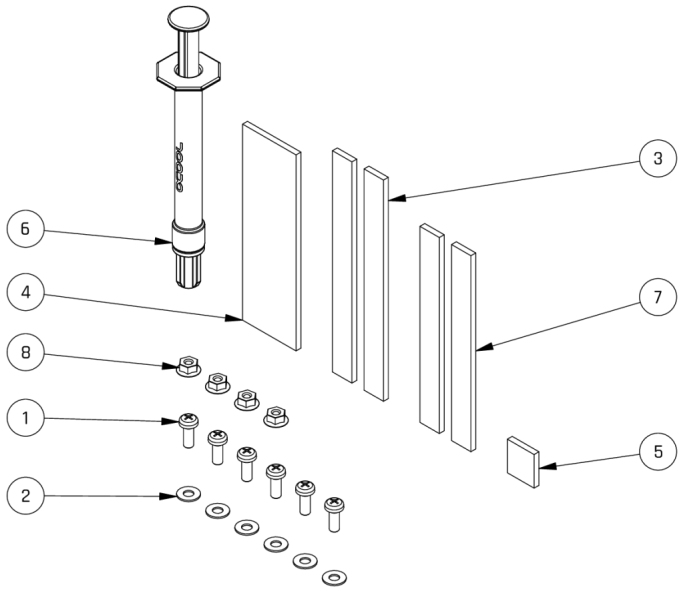
Mechanical properties:					
		Working pressure p =	0,0 - 1,0Bar	Maximum torque of M thread DIN 13-1 Metric ISO standard thread	M max = M3X0,5 = 0,48Nm M4X0,7 = 1,12Nm
Minimum temperature t min =	-20°C	Maximum pressure p max =	2,0Bar		
Working temperature t =	20°C	Maximum torque of G thread ISO 228-1 Parallel Whitworth pipe thread BSPP (GB)	M max = G1/4 = 1,0Nm		
Maximum temperature t max =	60°C				



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Alphacool Apex Monoblock PRO X870P WIFI (AM5)

Spare parts list

Number	Quantity	Description	Material
1	1	copper	Cu-HCP
2	1	Apex 1 Rubberinlay	VMQ Shore A 70
3	1	Apex 1 Jetplate PPS	PPS-GF30
4	1	Apex 1 Jet sealing	VMQ Shore A 70
5	1	Apex 1 ORing 55 x 2 NBR 70	VMQ Shore A 70
6	1	Apex 1 LGA 1700 Copperplate V4 Rebuild Small	Cu-HCP
7	6	ISO 70461 M3 x 6 4.8 H	X10CrNi18-8
8	1	pmma	LXN865
9	11	ISO 10642 M4 x 12	X10CrNi18-8
10	1	cover	AlMg1SiCu
11	2	O-Ring 11 x 2	NBR Shore 70
12	1	Core GPX Terminal TOP Part	CuZn39Pb3
13	2	ISO 70461 M3 x 16 4.8 H	X10CrNi18-8
14	1	deco 01	AlMg1SiCu
15	1	Extension 79 x 7 x 8,89 mm	Cu-HCP
16	1	Extension 70 x 7 x 8,89 mm	Cu-HCP
17	1	Extension Wifi	Cu-HCP
18	6	Distance Bolts 13,80mm M4 x 3 M3 x 7	CuZn39Pb3
19	4	Apex 1 AM5 Spacer 10,3mm SW5 M2,5	CuZn39Pb3
20	1	O-Ring 163 x 2	NBR Shore 70
21	1	deco 02	AlMg1SiCu
22	1	deco 03	AlMg1SiCu
23	10	M3 x 12	X10CrNi18-8
24	2	M3 x 13	X10CrNi18-8
25	4	M3 x 20	X10CrNi18-8
26	2	M3 x 25	X10CrNi18-8
27	1	SSD Extension	Cu-HCP
28	2	M3 x 5 Countersunk screw	X10CrNi18-8
29	4	Apex 1 AM5 Mounting Nuts	X5CrNi18-10



Spare parts list

Number	Quantity	Description	Material
1	6	ISO 7045 M3 x 8 4.8 H	X10CrNi18-8
2	6	ISO 7089 - 3 - PA66	PA 66,GF25 FR(V-2)
3	2	PAD 79 x 8 x 2	7W/mK - Shore-00 35 - 2.00 mm
4	1	PAD 70 x 22 x 2	7W/mK - Shore-00 35 - 2.00 mm
5	1	PAD 12 x 11 x 2	7W/mK - Shore-00 35 - 2.00 mm
6	1	Alphacool Subzero Thermal grease 1g	-
7	2	PAD 70 x 8 x 2	7W/mK - Shore-00 35 - 2.00 mm
8	4	Apex 1 AM5 Mounting Nuts	X5CrNi18-10