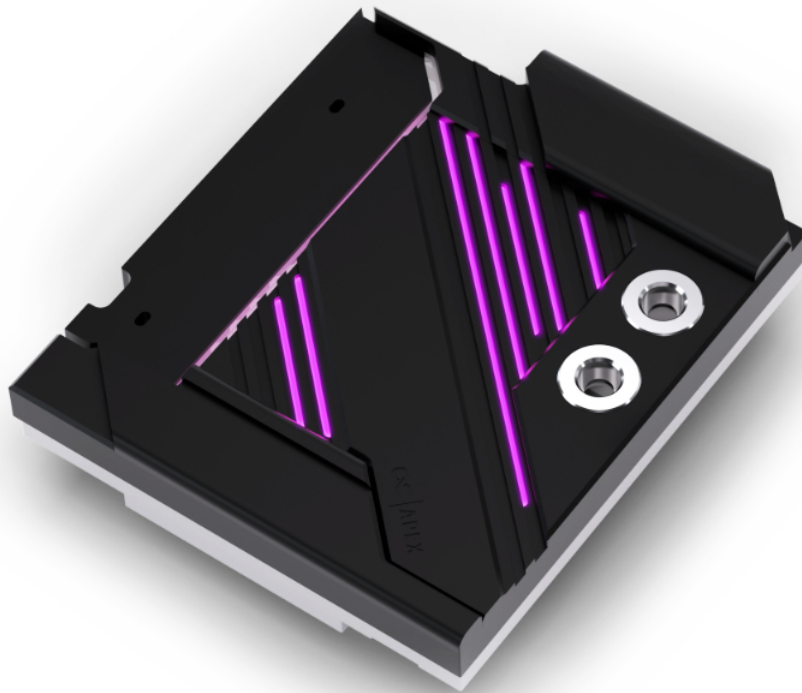


Alphacool Apex Monoblock ROG STRIX X870-F Gaming WIFI (AM5)

Alphacool article number: 14682



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

ASUS ROG Strix X870-F Gaming WiFi (AM5)

Scope of delivery

1x Apex Monoblock	1x Putty tool
2x M2x20mm Screw	4x AM5 Mounting Nut
4x 91x8x2mm Pad	7x Washer
1x 11x15x2mm Pad	7x M3x8mm Screw
1x 71x22x2mm Pad	1x ARGB Adapter
1x Thermal Grease	

Technical data

Dimensions (L x W x H) (in mm)	172,13 x 145,49 x 48,30
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
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
LED quantity (in pcs,)	7,00
LED lenght (in mm)	116,00
LED Voltage (in V DC)	5,00
LED Ampere (in A)	0,06
LED Power (in W)	2,10
Cooling technology	Düsen 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*10 ³ (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

Download links

Manual	14682_Alphacool_Apex_Monoblock_ROG_STRIX_X870-F_Gaming_WIFI_(AM5)_Manual.pdf
Product pictures	14682_Alphacool_Apex_Monoblock_ROG_STRIX_X870-F_Gaming_WIFI_(AM5)_pics.zip
EU-DoC / CE / RoHS	Alphacool_EuDoc_CE_RoHS_14682.pdf

Packaging dimensions per unit

L x W x H	290 x 250 x 105 mm
Weight	2330 g

Other data

Certificates	CE, FC, RoHS
EAN	4250197146821
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.

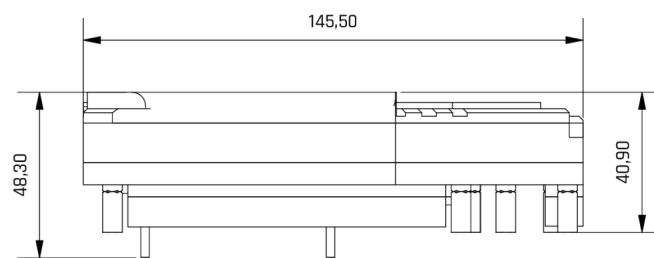
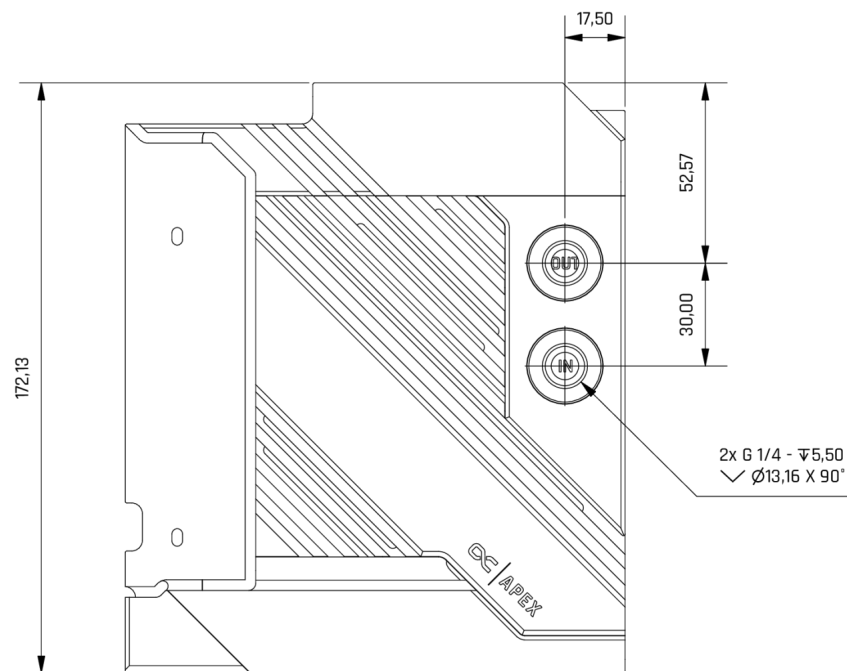
The cooler is milled from a solid block of copper. The G1/4" connection terminal is made of brass and, together with the copper base, ensures long durability as well as excellent thermal conductivity.

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

The original LED I/O cover of the motherboard remains fully intact and is complemented by the subtly integrated Apex-style aRGB lighting of the monoblock.

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

Figure (1)



aRGB
Connection



VCC 5V DC
DATA
GND

aRGB
Socket



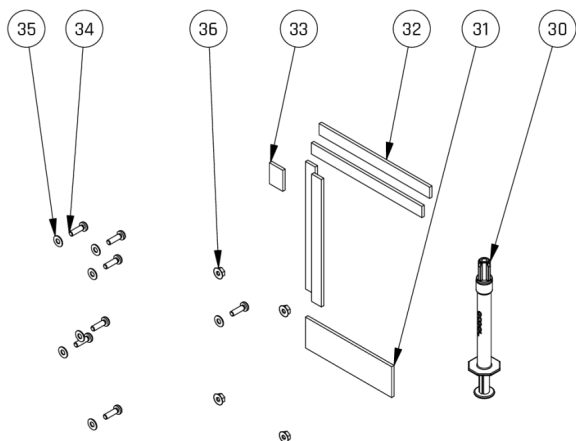
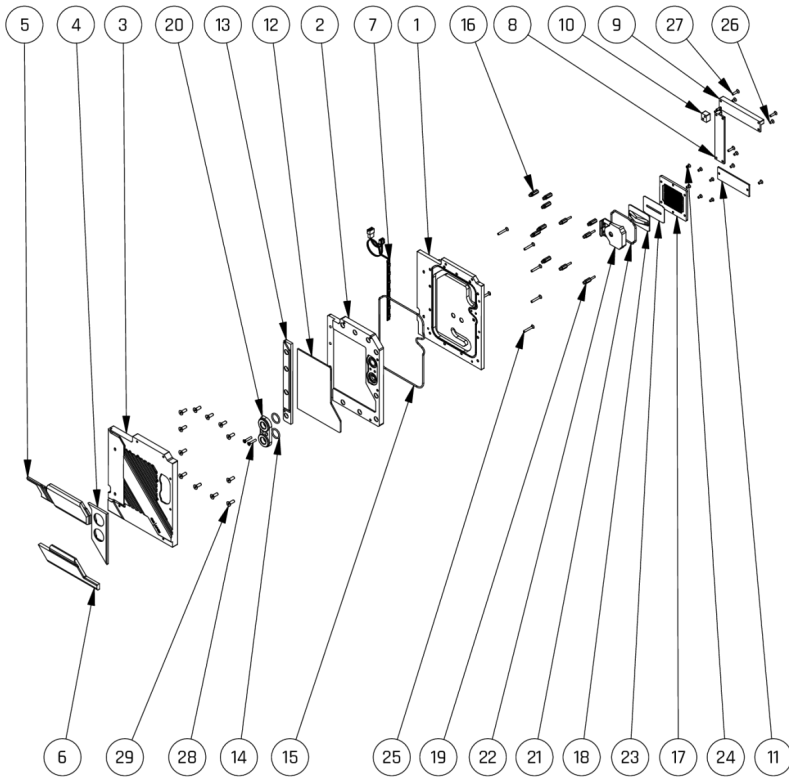
GND
DATA
VCC 5V DC

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

Figure (2)

Mechanical properties:

LED quantity and length	7,0pc. / L = 116 mmm	Minimum temperature t min =	-20°C	Maximum torque of G thread M max =	G1/4 = 1,0Nm
LED Voltage V =	5 V	Working temperature t =	20°C	ISO 228-1 Parallel Whitworth pipe thread BSPP (BB)	
LED Ampere A =	0,06 A	Maximum temperature t max =	60°C	Maximum torque of M max =	M2,5X0,45 = 0,27Nm
LED Power W =	2,1 W	Working pressure p =	0,0 - 1,0Bar	M thread	M3X0,5 = 0,48Nm
		Maximum pressure p max =	2,0Bar	DIN 13-1 Metric ISO standard thread	
					M4X0,7 = 1,12Nm



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AC Apex Monob ROG STRIX X870-F Gaming WIFI

Parts List

Number	Quantity	Description	Material
1	1	Copper V2	Cu-HCP
2	1	PMMA V2	LXN865
3	1	Cover V2	AlMg1SiCu
4	1	Deco01 V2	AlMg1SiCu
5	1	Deco02 V2	AlMg1SiCu
6	1	Deco03 V2	AlMg1SiCu
7	1	aRGB LED 116,2 mm (7 LEDs)	-
8	1	MosLeft V2	Cu-HCP
9	1	MosTop V2	Cu-HCP
10	1	WiFi Ex V2	Cu-HCP
11	1	SSD Ex V2	Cu-HCP
12	1	Difusor1 V2	DX001
13	1	Difusor2 V2	DX001
14	2	O-Ring 14 x 2 V2	NBR Shore 70
15	1	ORing 156 x 2 V2	NBR Shore 70
16	7	Spacer V2	X5CrNi18-10
17	1	Apex 1 LGA 1700 Copperplate V4 Rebuild Small	Cu-HCP
18	1	Apex 1 LGA 1700 V4 Jetplate PPS	PPS-GF30
19	4	Apex 1 AM5 Spacer 10,3mm SW5 M2,5	CuZn39Pb3
20	1	Core GPX Terminal TOP Part	CuZn39Pb3
21	1	Apex 1 ORing 55 x 2 NBR 70	VMQ Shore A 70
22	1	Apex 1 Rubberinlay	VMQ Shore A 70
23	1	Apex 1 Jet sealing	VMQ Shore A 70
24	6	ISO 70461 M3 x 6 4.8 H	X10CrNi18-8
25	6	M3 x 20 Countersunk screw	X10CrNi18-8
26	6	M3 x 6 Countersunk screw	X10CrNi18-8
27	6	M3 x 12 Countersunk screw	X10CrNi18-8
28	2	ISO 70461 M3 x 16 4.8 H	X10CrNi18-8
29	12	M4 x 12 Countersunk screw	X10CrNi18-8

Spare parts list

Number	Quantity	Description	Material
30	1	Alphacool Subzero Thermal grease 1g	-
31	1	PAD 71 x 22 x 2 V2	7W/mK - Shore-00 35
32	4	PAD 91 x 8 x 2 V2	7W/mK - Shore-00 35
33	1	PAD 11 x 15 x 2 V2	7W/mK - Shore-00 35
34	7	ISO 7045 - M3 x 12	X5CrNi18-10
35	7	ISO 7089 - 3 - PA66	PA 66,GF25 FR(V-2)
36	4	Apex 1 AM5 Mounting Nuts	X5CrNi18-10