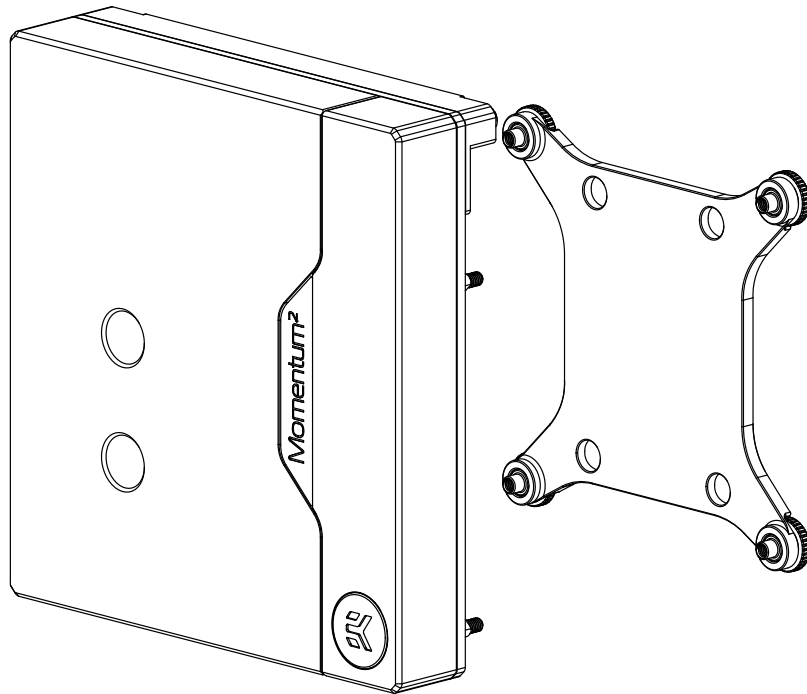


EK-Quantum Momentum² ROG Maximus Z790 Dark Hero

MONOBLOCK



Please note the installation of the product is intended to be undertaken by an adequately trained and experienced person. You are installing the product at your own risk. If you are not properly trained or experienced or feel unsure about the installation procedure, please refrain from installing the product yourself and contact our tech support for assistance. We disclaim our liability for any damages to the product as well as incidental, consequential, or indirect damages incurred due to improper or inappropriate installation.

Before you start using this product, please follow these basic guidelines:

Remove your motherboard from the computer for the safest mounting process to prevent any possible damage to your CPU or its circuit board (PCB).

The EK Fittings require only a small amount of force to screw them firmly in place since the liquid seal is ensured by the rubber O-ring gaskets.

The use of corrosion-inhibiting coolants is always recommended for liquid cooling systems and mandatory for nickel-plated water blocks!

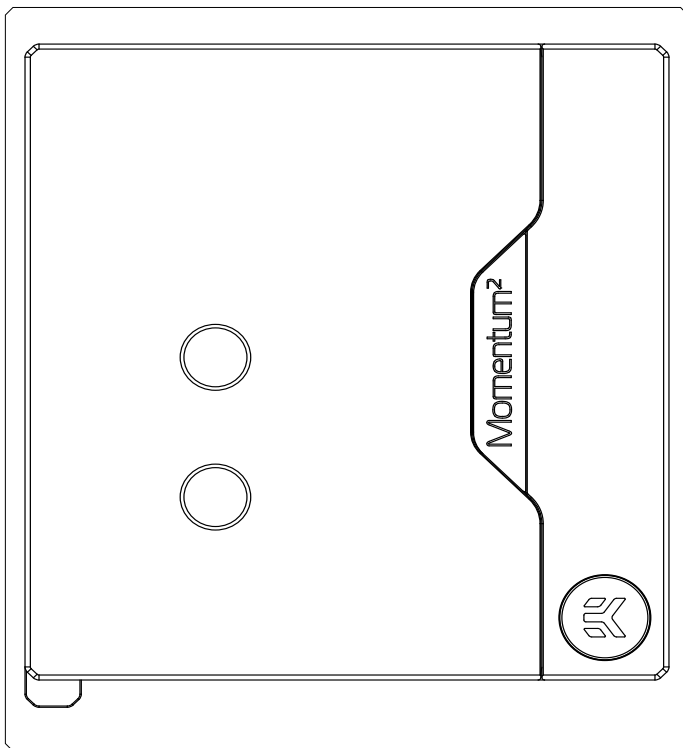
Do not use pure distilled water!

For best results, EK recommends the use of EK-CryoFuel coolants! To reach optimal performance, make sure to thoroughly bleed the air out of your water block!

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GENERAL INFORMATION ON WATER BLOCK COMPATIBILITY

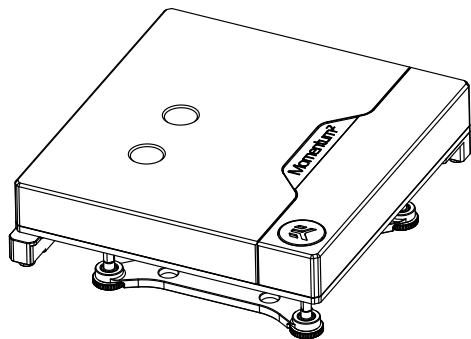


This CPU liquid cooling unit is pre-assembled for use with modern Intel desktop socket-type motherboards. By default (out of the box) this water block supports the following CPU sockets:

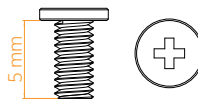
- **Intel LGA-1700**

BOX CONTENTS

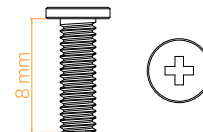
EAN: 100844



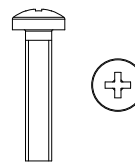
EK-Quantum Momentum² Maximus Z790 Dark Hero D-RGB



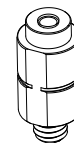
M2.5 x 5 AX1 Screw (8 pcs)



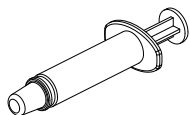
M2.5 x 8 AX1 Screw (2 pcs)



M2 x 12 Screw (2 pcs)



Standoff M4-M2.5 x 12 (1 pc)



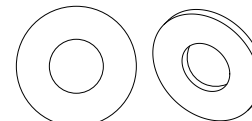
Thermal Paste (1 pc)



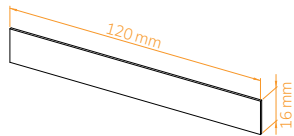
Allen key 2 (1 pc) (8901)



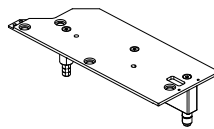
Allen key 2.5 (1 pc) (8902)



Polyamide Washer M2.5
0.5 mm (8 pcs)



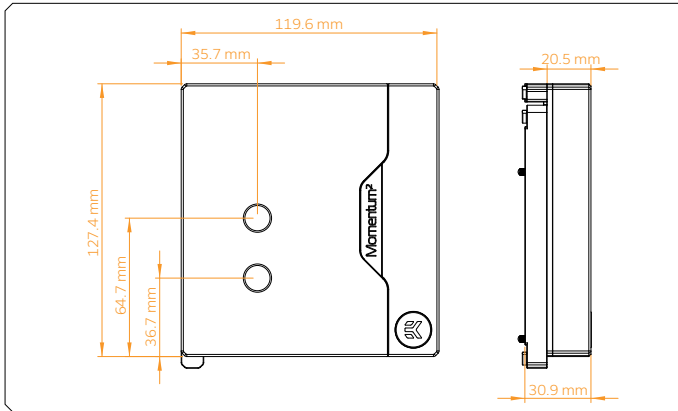
Thermal PAD F 1.0 mm (120 x 16 mm)
(4 pcs) (3830046996732)



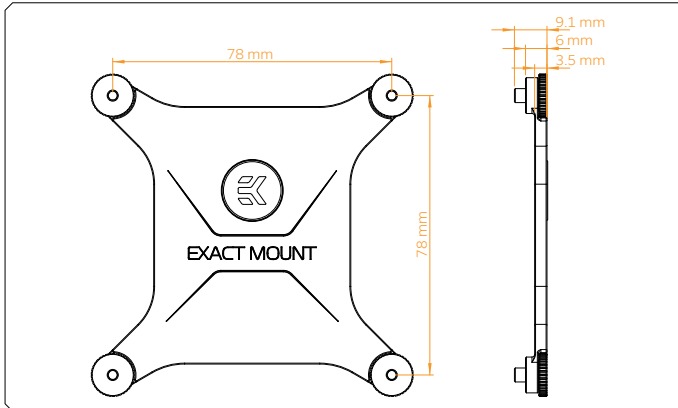
I/O Cover Assembly (1 pc)
(107489)

WATER BLOCK DIMENSIONS

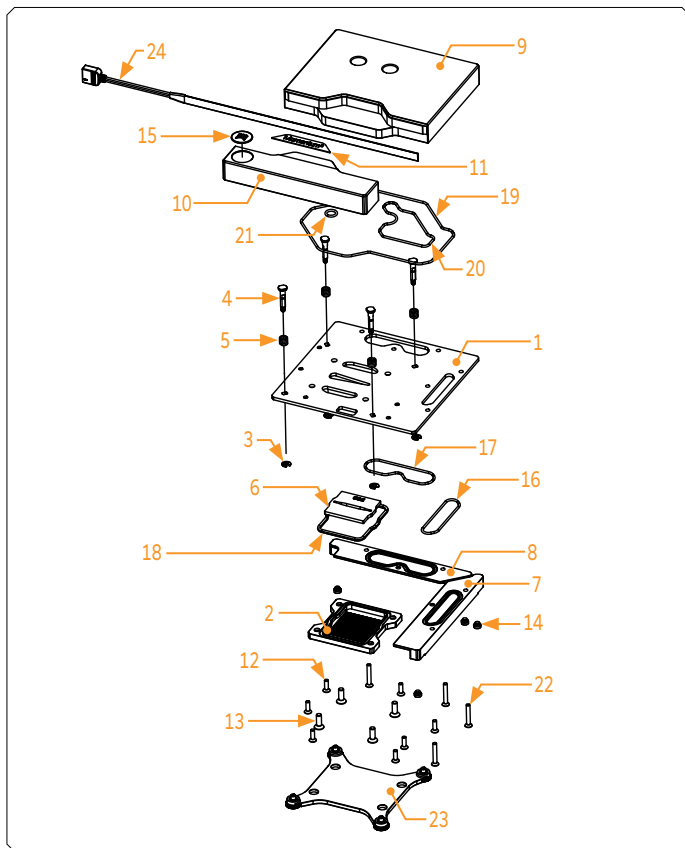
CPU WB:



Backplate:

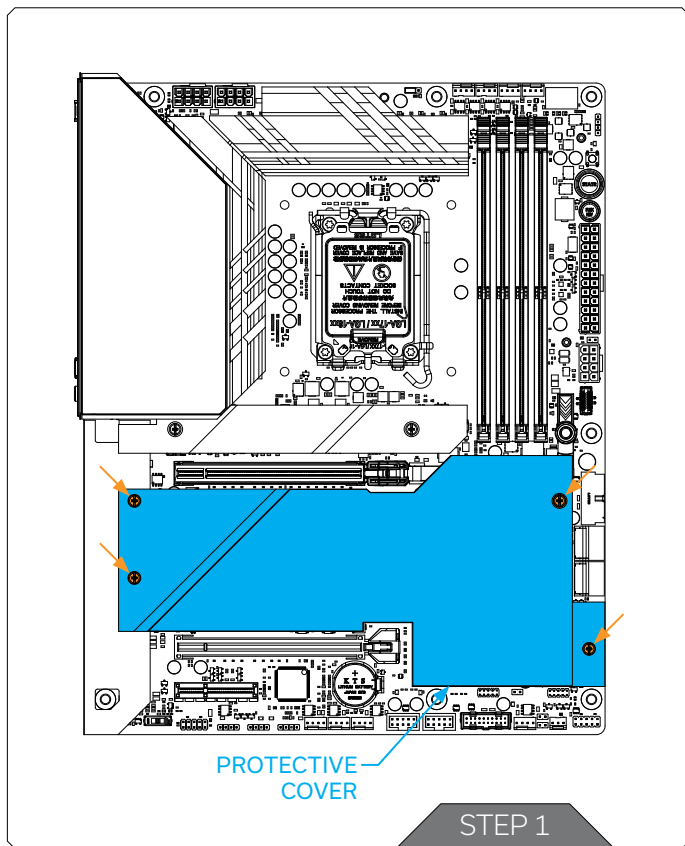


TECHNICAL SPECIFICATIONS AND WATER BLOCK PARTS



Position	EAN	Description	Quantity
1	104679	Monoblock	1
2	104028	Coldplate (Nickel)	1
3	104532	Lock Washer DIN6799	4
4	104913	Mounting Screw	4
5	100747	Spring M3 x 10 mm, 8 kg	4
6	104029	Jet Plate	1
7	104674	Coldplate Mosfet N (Nickel)	1
8	104676	Coldplate Mosfet W (Nickel)	1
9	104677	TOP Plexi	1
10	104678	TOP Acetal Stickout	1
11	104444	Mylar sticker	1
12	8252	Screw M3 x 10 DIN7991 Inox	7
13	100500	Screw M4 x 12	4
14	8521	Standoff M4/M2.5 x 2.1	4
15	100663	EK Badge	2
16	104777	OR - 36 x 1.5 mm	1
17	104778	OR - 43 x 1.5 mm	1
18	104773	OR - 53 x 2 mm	1
19	104683	OR - 133 x 2 mm	1
20	104776	OR - 55 x 2 mm	1
21	104774	OR - 6 x 2 mm	1
22	104771	Screw M3 x 20 DIN7991 Inox	4
23	104650	Exact Mount	1
24	101946	LED Strip	1

PREPARING THE MOTHERBOARD

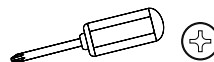


STEP 1

Remove four (4) marked screws and detach the protective cover from the motherboard. After installing the water block, the protective cover can be reused.

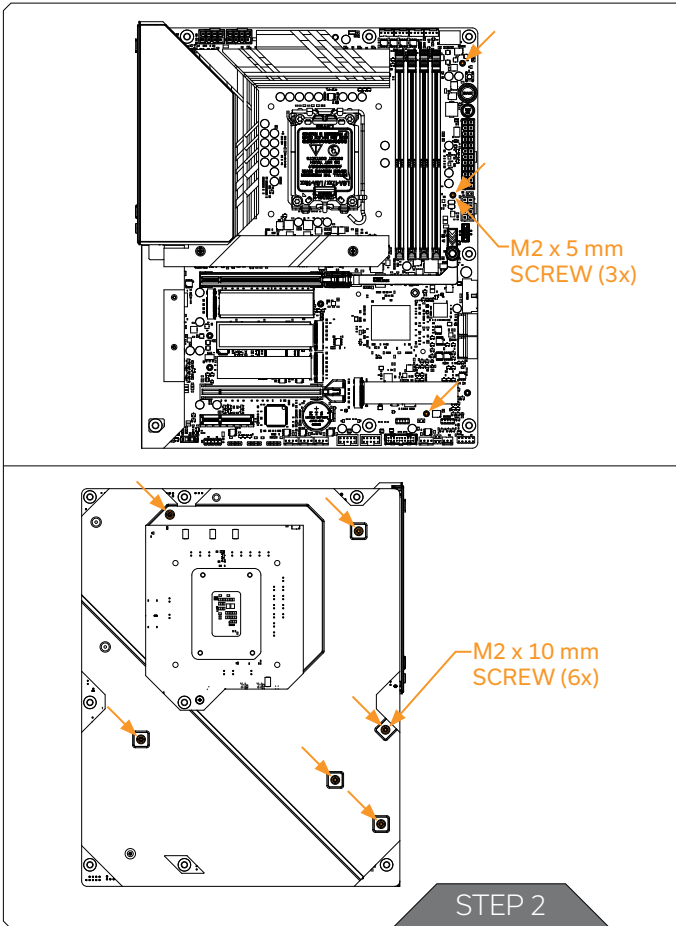
For this step, you will need:

Phillips Head Screwdriver



STEP 2

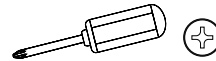
Remove three (3) screws M2 x 5 mm from the front of the motherboard.

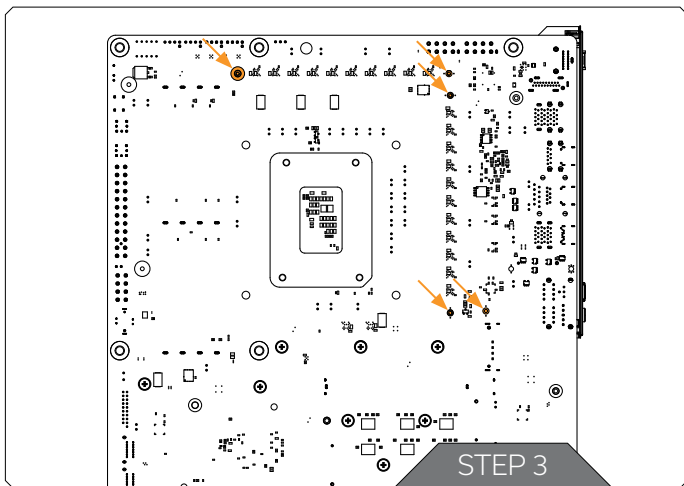


Rotate the motherboard and unscrew six (6) screws M2 x 10 mm. Remove the backplate and front audio cover. After installing the water block, the backplate can be reused.

For this step, you will need:

Phillips Head Screwdriver

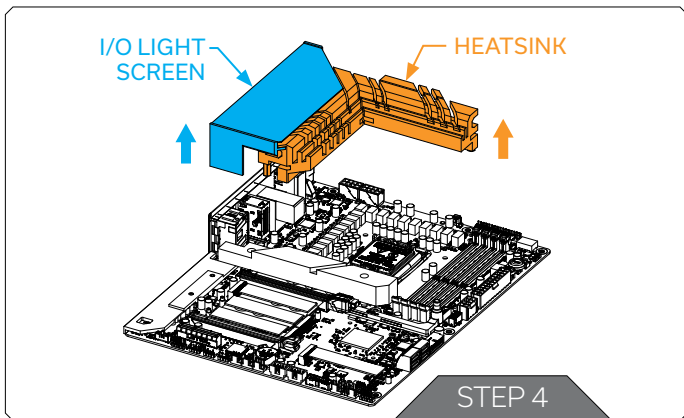
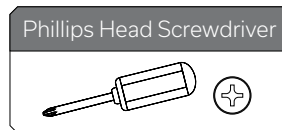




STEP 3

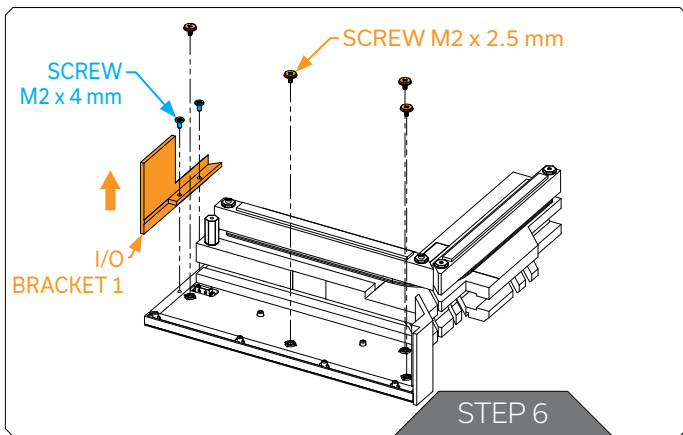
After removing the backplate, unscrew the additional five (5) screws.

For this step, you will need:



STEP 4

Disconnect the I/O Screen Light cable from the motherboard. Pull the Heatsink straight up. Put the Heatsink on a clean flat surface. Be careful not to damage the I/O Screen Light.



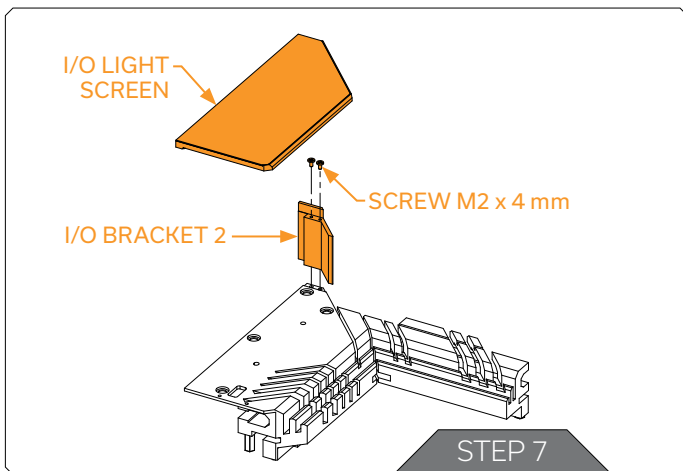
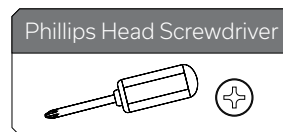
STEP 5

Remove all the remaining stock thermal pads from the motherboard.

STEP 6

Turn the Heatsink upside down. Unscrew four (4) M2 x 2.5 mm screws from I/O Light screen. To detach the I/O Bracket 1 unscrew two (2) M2 x 4 mm screws. Store all the screws and I/O Bracket 1 for later use.

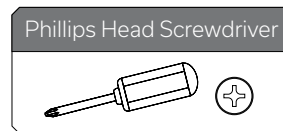
For this step, you will need:



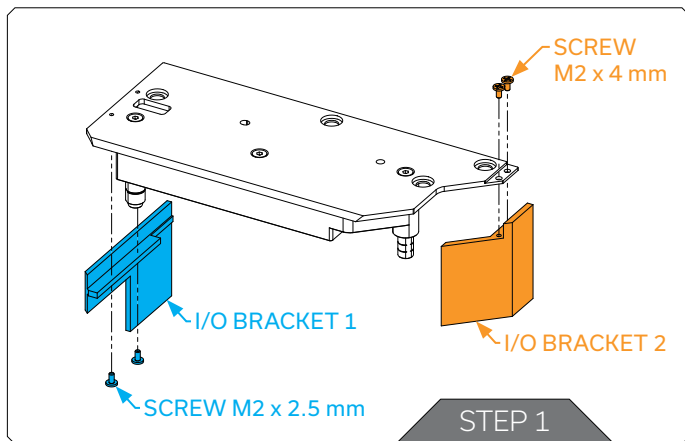
STEP 7

Pull the I/O Light screen straight up. Unscrew two (2) M2 x 4 mm Screws and detach the I/O Bracket 2. Store all the screws, I/O Light screen and I/O Bracket 2 for later use.

For this step, you will need:



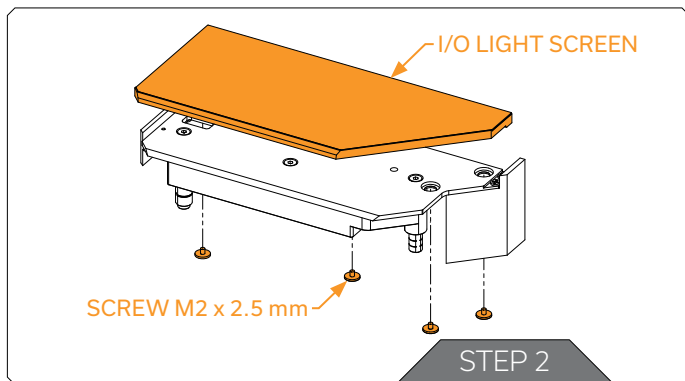
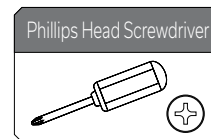
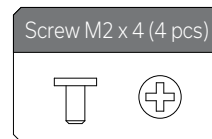
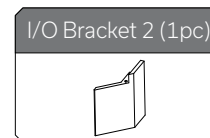
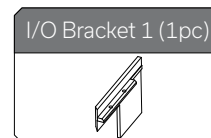
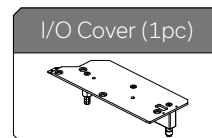
I/O COVER ASSEMBLY Z790 DARK HERO MOTHERBOARD



STEP 1

Tighten the I/O Bracket 1 and the I/O Bracket 2 on the replacement I/O Cover using four (4) M2 x 4 mm screws.

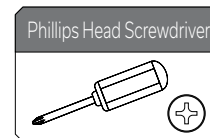
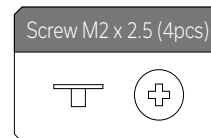
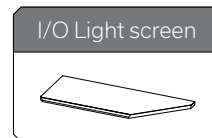
For this step, you will need:



STEP 2

Put the I/O Light screen onto the replacement I/O Cover and tighten it with four (4) M2 x 2.5 mm screws.

For this step, you will need:



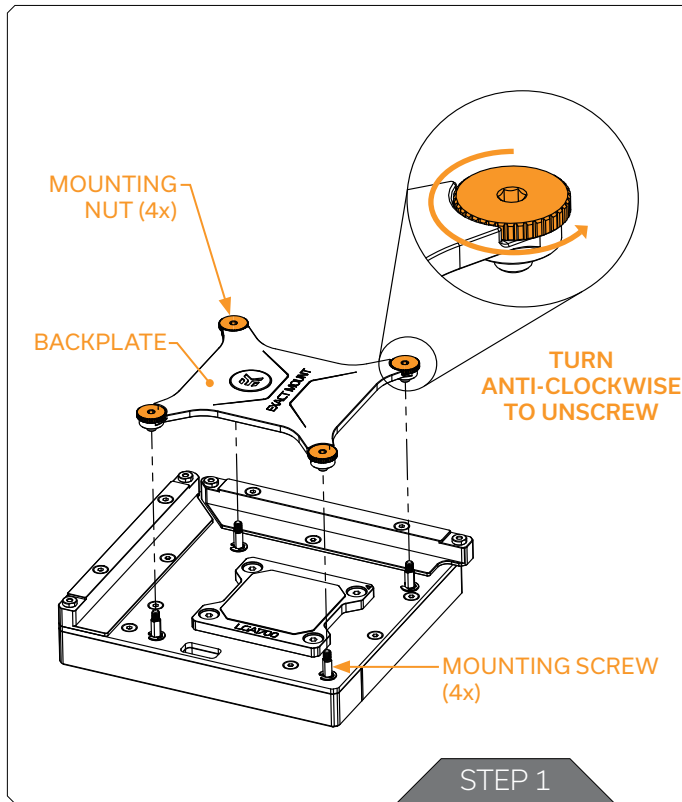
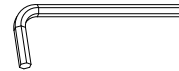
PREPARING THE WATER BLOCK FOR INSTALLATION

STEP 1

Unscrew four (4) mounting nuts (turn them in an anti-clockwise direction to unscrew). Remove the Backplate.

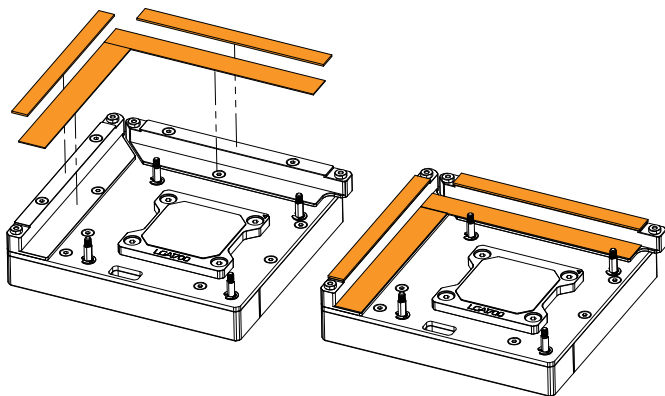
For this step you will need:

Allen Key 2.5mm



CUTTING AND PLACING THERMAL PADS

Thermal Pad F - 1.0 mm (120 x 16 mm)



F1 Thermal Pad - 120 x 16 x 1.0 mm

STEP 1

STEP 1

EK-Momentum² ROG Maximus Z790 Dark Hero D-RGB water block comes with thermal pads that have to be cut into smaller pieces to cover all the regulation areas (Mosfet) on the water block. EK made sure to provide you with more than an adequate quantity of thermal pads to complete this Step.



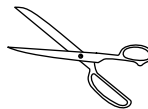
Please remove the protective foil from both sides of the thermal pads before installation!

Replacement thermal pads:

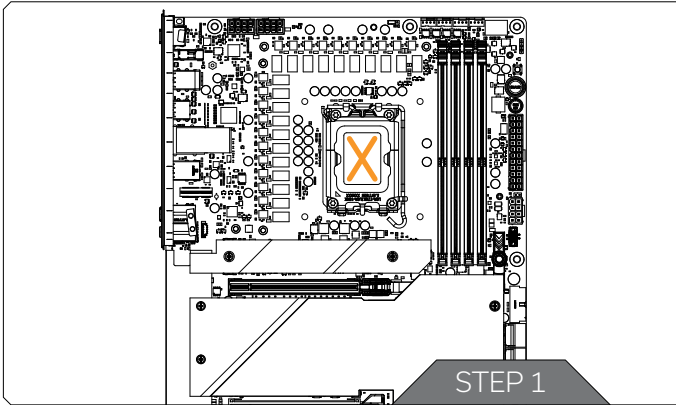
Thermal PAD F 1.0 mm - (120 x 16 mm) - 3830046996732

For this step, you will need:

Scissors



APPLYING THERMAL COMPOUND



STEP 1

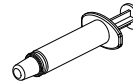
Install the CPU and Apply the enclosed thermal grease (thermal compound) on the CPU heat spreader - IHS - as shown in the image. The layer of the thermal compound must be thin and even in thickness over the entire surface of the IHS.



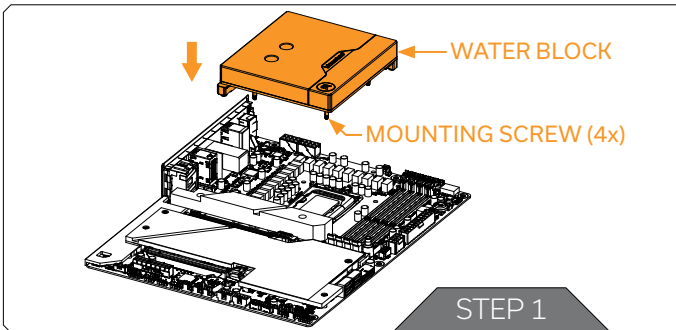
The excessive or uneven application of thermal grease may lead to poor performance!

For this step, you will need:

Thermal Grease

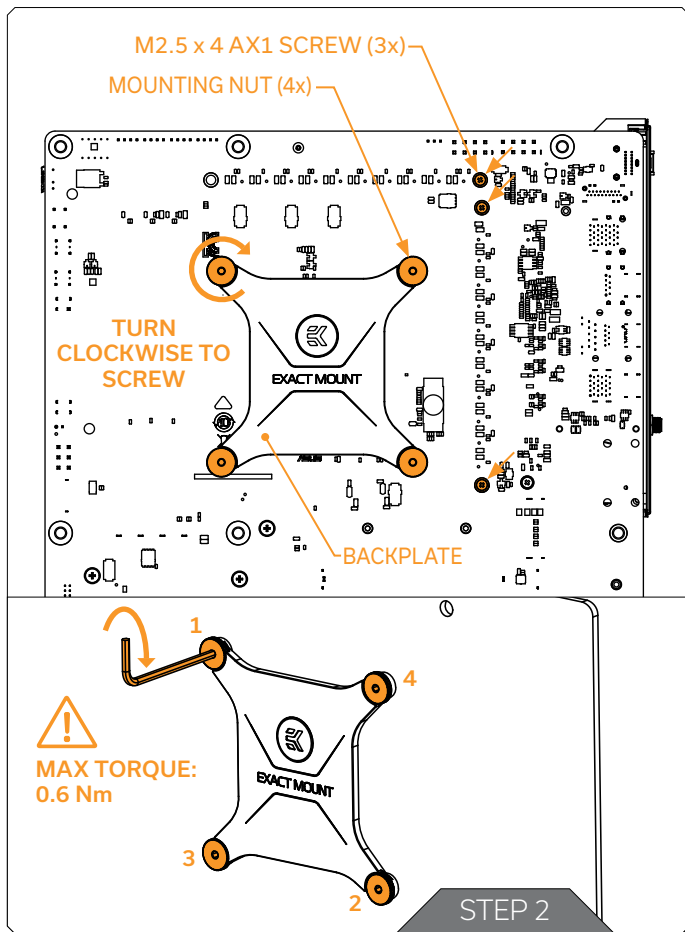


ATTACHING THE WATER BLOCK



STEP 1

Carefully place the water block onto the motherboard and align four (4) mounting screws with four (4) holes on the motherboard. Hold the water block and motherboard and turn them upside down.



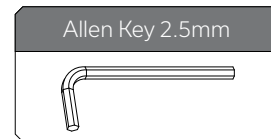
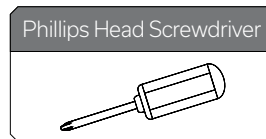
STEP 2

After placing the water block, the Backplate must be attached to the backside of the motherboard using Allen Key 2.5 mm (shown in the image).

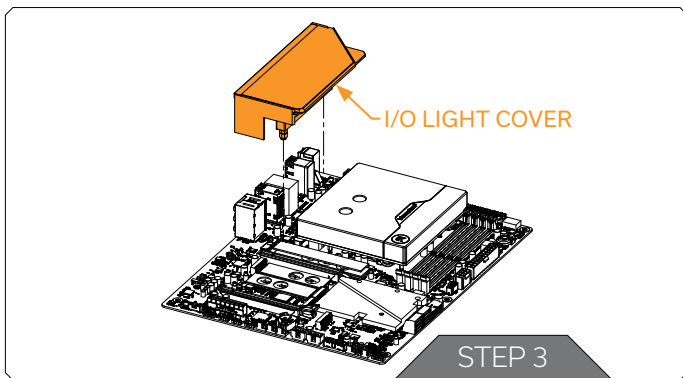
While holding the water block and the motherboard with one hand, align the Backplate with the Mounting Screws of the water block. Turn the mounting nuts using Allen Key 2.5 mm in the clockwise direction according to the numerical order shown in the image. Do not tighten fully until all of the nuts are partially screwed in. After the Backplate is tightened, put three (3) M2.5 x 4 AX1 screws in the holes of the water block and tighten them.

EK recommends using the EK-Loop Torque Screwdriver - 0.6Nm:
<https://www.ekwb.com/shop/ek-loop-torque-screwdriver-0-6nm>

For this step you will need:

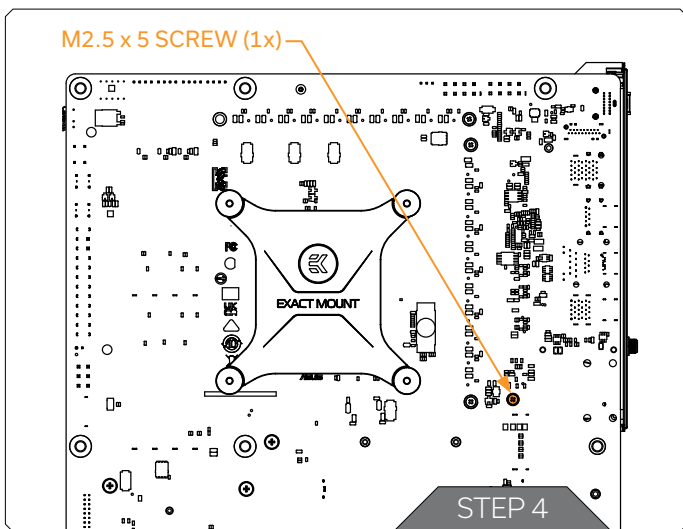


The Allen Key 2.5 mm must be used in standing position! Otherwise, the mounting screws may crack during tightening.



STEP 3

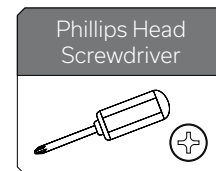
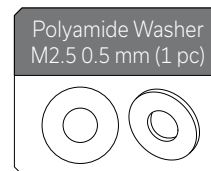
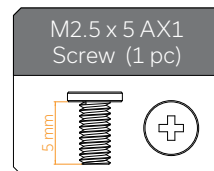
Carefully place the I/O Light Cover onto the motherboard. Align the I/O Light Cover standoff holes with the holes on the motherboard.

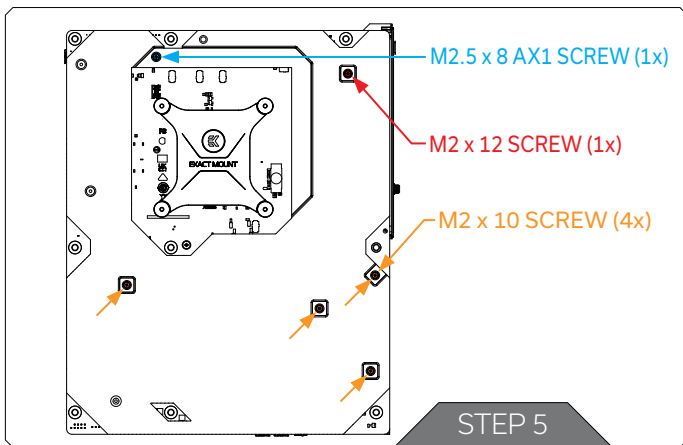


STEP 4

Tighten one (1) M2.5 x 5 AX1 screw and washer to secure the I/O Light cover onto the motherboard.

For this step, you will need:

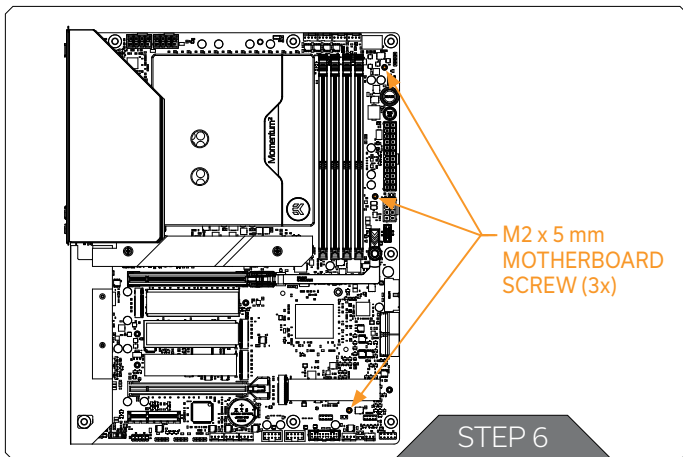
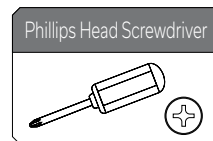
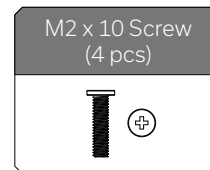
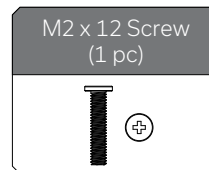
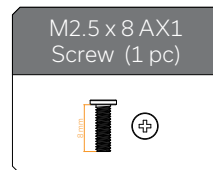




STEP 5

Place the backplate to the motherboard and screw one (1) M2.5 x 8 AX1 screw and one (1) M2 x 12 mm screw from the mounting bag. Tighten four (4) M2 x 10 mm screws that came with the motherboard to secure the backplate and front audio cover onto the motherboard.

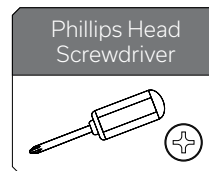
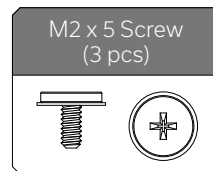
For this step, you will need:



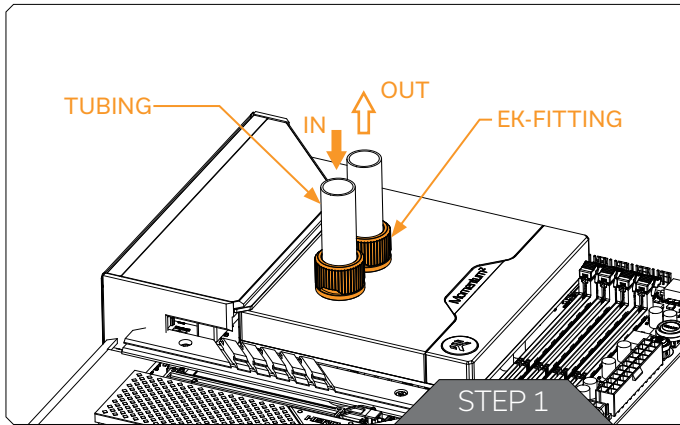
STEP 6

Rotate the motherboard and tighten three (3) screws M2 x 5 mm on the front of the motherboard. The protective cover can be reused and secured with four (4) saved screws.

For this step, you will need:



FITTINGS AND TUBING



STEP 1

Screw-in two (2) G1/4 threaded male fittings. Attach the liquid-cooling tubes and connect the water block to the cooling loop. Tighten the fittings in a clockwise direction until the gasket underneath is compressed.

EK recommends using EK fittings with all EK water blocks.



Do not forget to plug the remaining two openings with enclosed EK-Plug G1/4 or its equivalent.



CAUTION: When using connectors other than EK fittings, pay special attention to the length of the fittings' male G1/4" thread - 5 mm is the maximum G1/4" thread length allowed!

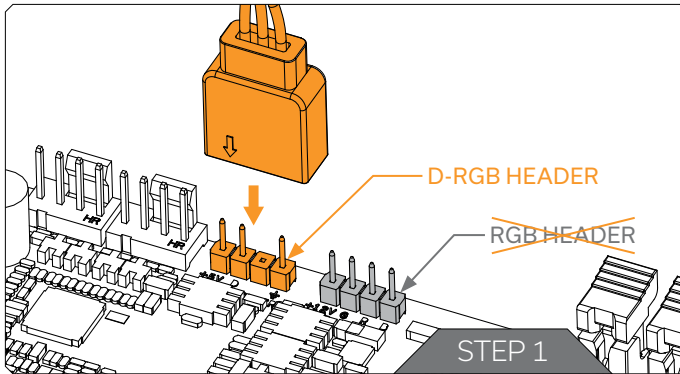
The installation of the water block is now complete.

For this step, you will need:

EK-Loop Multi Allen Key



CONNECTING THE D-RGB LED STRIP



STEP 1

Plug the **3-pin connector** of the distribution plate D-RGB LED light to the **D-RGB HEADER** on the motherboard. The LED will work if the pin layout on the header is as follows: **+5V, Digital, Empty, Ground**.



Please ensure that the arrow indicated on the connector is plugged into the +5V line as indicated on your motherboard. If you put the LED Diode to the 12V RGB HEADER you can damage the LEDs. Failure to do so will damage your motherboard or LED strip.

TESTING THE LOOP

To make sure the installation of EK components was successful, we recommend you perform a leak test for 24 hours. When your loop is complete and filled with coolant, connect the pump to a PSU outside of your system. Do not connect power to any of the other components. Turn on the PSU and let the pump run continuously. It is normal for the coolant level to drop during this process as air collects in the distribution plate. Inspect all parts of the loop, and in the eventuality that coolant leaks, fix the issue and repeat the testing process. Ensure that all hardware is dry before the system is powered on in order to prevent any damage.

WARRANTY

Our products are warranted against defects of materials and quality for a period of 24 months, starting with the date of delivery to the end-user. During this period, products will be repaired or have parts replaced at our discretion, provided that 1) the product is returned to the agent from whom it was purchased; 2) the product has been purchased by the end-user and has not been used for commercial purposes; 3) the product has not been misused, handled carelessly, or used in a manner other than the way described in the instructions manual. This warranty does not confer rights other than those expressly set out above and does not cover any claims for consequential loss or damage. This warranty is offered as an extra benefit and does not affect your statutory rights as a consumer. This warranty is voided if the product comes in contact with aggressive UV additives or other improper liquids. EK water blocks are sealed with a warranty-voiding circular label, proving the water block has withstood a pressure leak test. Removing the label will void the leak-free guarantee, but not the guarantee on the product itself. Any other RMA issues can be reported to EK Customer Support at www.ekwb.com/support for further analysis.

SUPPORT AND SERVICE

In case you need assistance or wish to order spare parts or a new mounting mechanism, please contact:

<https://www.ekwb.com/customer-support/>

For spare parts orders, refer to the page with "TECHNICAL SPECIFICATIONS AND WATER BLOCK PARTS" where you can find the EAN number of each part you might need.


Include the EAN number with quantity in your request. Mounting Mechanism EAN can be found under "BOX CONTENTS"

Thermal pads are readily available in the EK shop

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