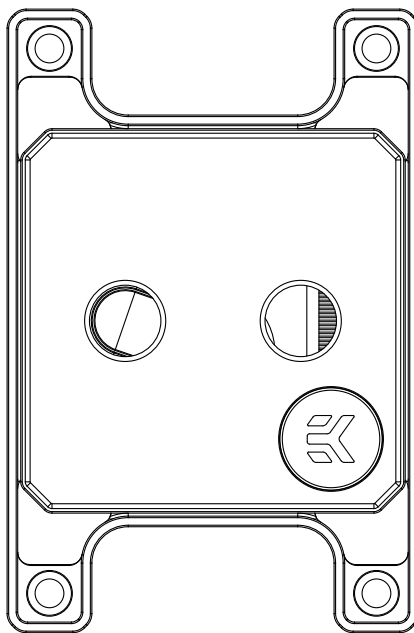


# EK-Quantum Magnitude D-RGB - AM5

CPU WATER BLOCK



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:

**Carefully read the manual before beginning with the installation process.**

**Please remove your motherboard from the computer to ensure the safest possible mounting process and to prevent the possibility of damage to your GPU or any printed circuit boards (PCB's).**

**EK-Quantum Torque fittings require only a small amount of force to screw them firmly in place since the liquid seal is ensured by compression of the rubber O-ring gaskets and not the thread itself.**

**Only G1/4 fittings with a parallel thread should be used (1/4" BSPP), maximum thread engagement is strictly 5.75mm!**

**The use of corrosion-inhibiting coolants are always recommended for any liquid cooling system. Do not use pure distilled water!**

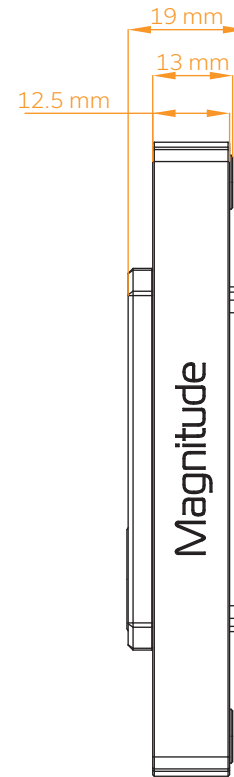
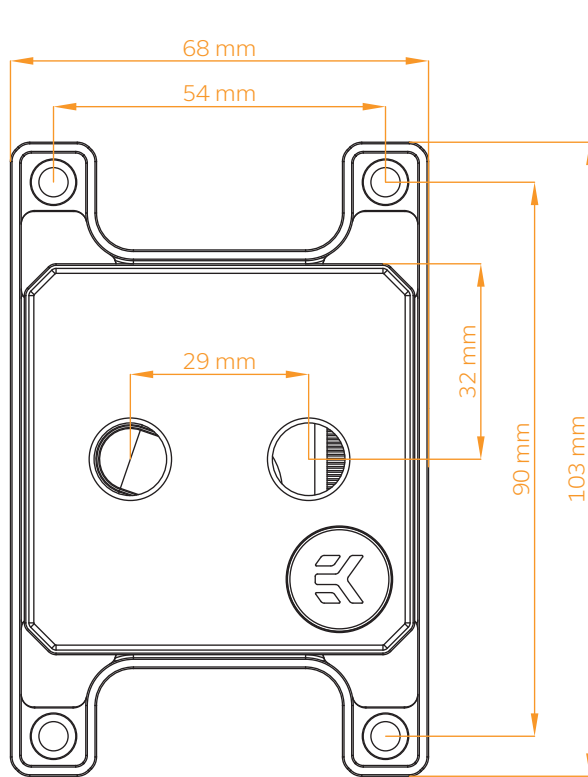
**For best results, EK recommends the use of EK-CryoFuel coolants!**

**Make sure to thoroughly bleed air out of your CPU Water Block or you will not achieve optimal performance!**

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## WATER BLOCK DIMENSIONS



## PARTS AND TERMINOLOGY

The following page shows every individual part of an assembled Magnitude CPU Water Block, all of the terminology labelled is used throughout this manual. In addition, there is a list of every physical variation of these parts and which versions they are used in. While some parts may be physically cross compatible between different Magnitude CPU Water Blocks, they should be assembled as stated for optimal performance. Material, finish and color variations are not listed as it does not affect fitment or performance.

Magnitude CPU Water Blocks which do not feature a D-RGB LED Strip are assembled with a fourth O-Ring between the Top and Accent, this is not used to seal the assembly! It may be exchanged with an LED Strip when adding the D-RGB Accent. Note that the LED Strip connector does not fit through the hole in the Frame!

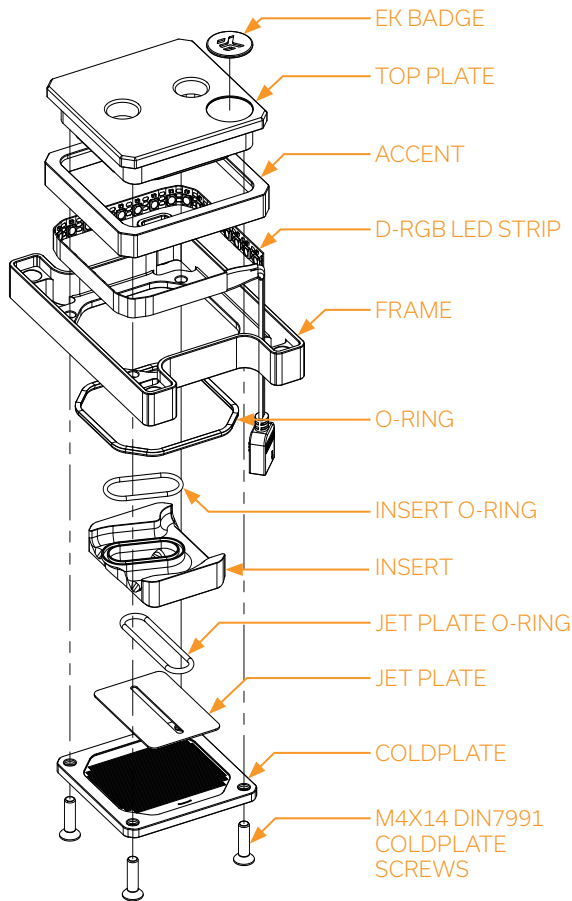
## COMPATIBILITY

EK-Quantum Magnitude AM5 CPU Water Block is compatible with two (2) sockets:

- **AMD AM4**
- **AMD AM5**

## WHAT IS ENCLOSED

- EK-Quantum Magnitude - AM4/AM5 CPU Water Block
- Mounting Mechanism - 115x/1700/AM4/AM5:
  - Screws M3x9 mm (4 pcs)
  - Springs M3x10mm 8kg (4 pcs)
  - Mounting standoffs (4 pcs)
  - Plastic Washers M4 0.8mm (4 pcs)
  - Allen (hex) key - 2.5mm
- Rubber Gasket
- AMD Backplate
- Additional Jet Plate - 0.6P
- Thermal Grease



#### - EK Badge

#### - Top

#### - Accent

#### - LED Strip

#### - Frame

- Frame - 75x75 (115X)
- Frame - 80x80 (20XX)
- Frame - 54x90 (AM4, AM5)
- Frame 78x78 (1700)

#### - O-Ring

#### - Inlet O-Ring

#### - Insert

- Insert - 115X
- Insert - 20XX
- Insert - (AM4, AM5)

#### - Jet Plate O-Ring

#### - Jet Plate

- Jet Plate - 0.5P (20XX, AM4, AM5 (default))
- Jet Plate - 0.6P (20XX and AM4 (optional))
- Jet Plate - 0.5C (115X (Coldplate - Flat))
- Jet Plate - 0.6C (115X, 1700 ( default))
- Jet Plate - 0.7C (115X (optional))

#### - Coldplate

- Coldplate - Flat (115X, 20XX and AM4 (optional))
- Coldplate - Minor Curve (20XX, AM4, AM5)
- Coldplate - Major Curve (115X)

#### - Screw (x4)

#### - Screw (x4)

#### - Spring (x4)

#### - Standoff (x4)

- Standoff - M4 x 21mm (115X and AM4)
- Standoff - M4 x 14mm (20XX)
- Standoff - AM5

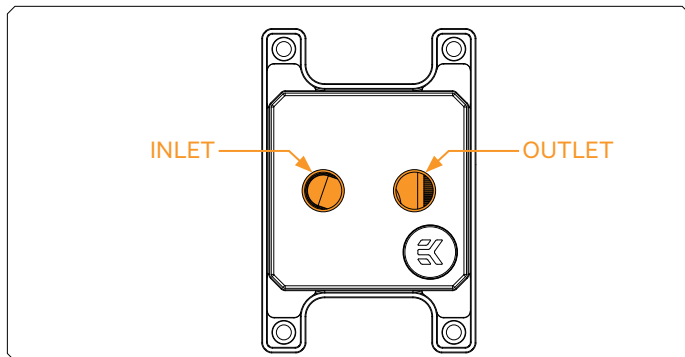
#### - Plastic Washer (x4)

#### - Backplate

- Rubber Gasket (115x,1700,AM4)
- Backplate - 115X
- Backplate - AM4

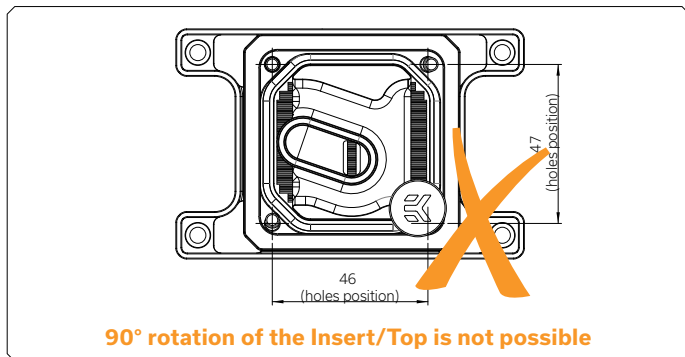
MOUNTING MECHANISM

## FLOW DIRECTION



The prescribed flow direction is applicable for AM4 and AM5 versions.

## REVERSING THE FLOW DIRECTION

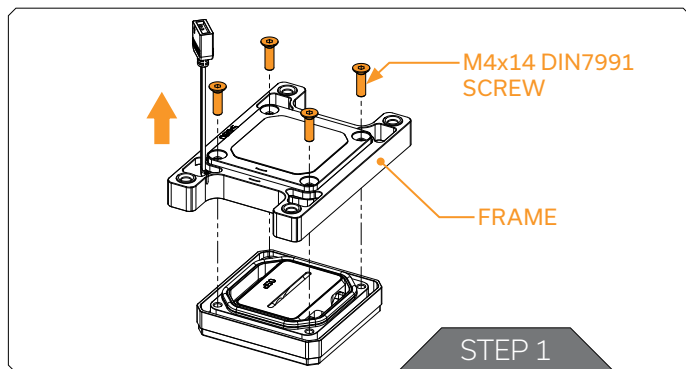


For AM4/AM5 versions it is not recommended to rotate the Insert relative to the CPU socket due to its asymmetrical design.



To prevent any possible incorrect assemblies the Screw hole pattern is not square. Consequently, the Top, Frame, Insert, Jet Plate, and Coldplate can only be rotated by 180° otherwise it will not be possible to install the Screws. The Accent, O-Ring, and LED Strip may be installed in any orientation.

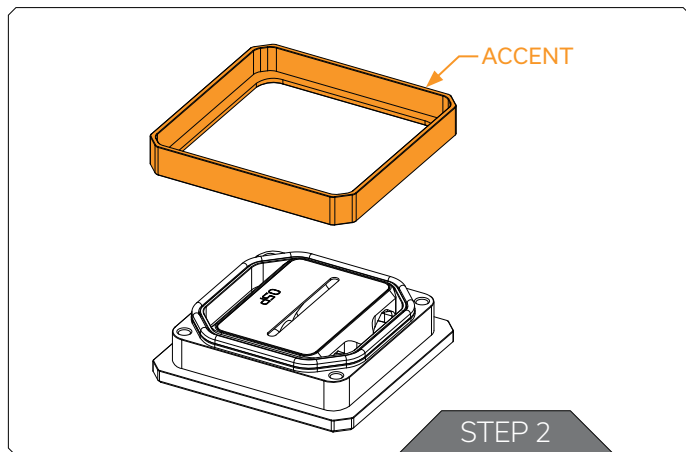
## CHANGING THE ACCENT



It is possible to exchange the Accent on any Magnitude CPU Water Block for an Accent with a different color or material finish. A translucent D-RGB Accent can also be used to add lighting to any version of Magnitude with an opaque Top.

### STEP 1

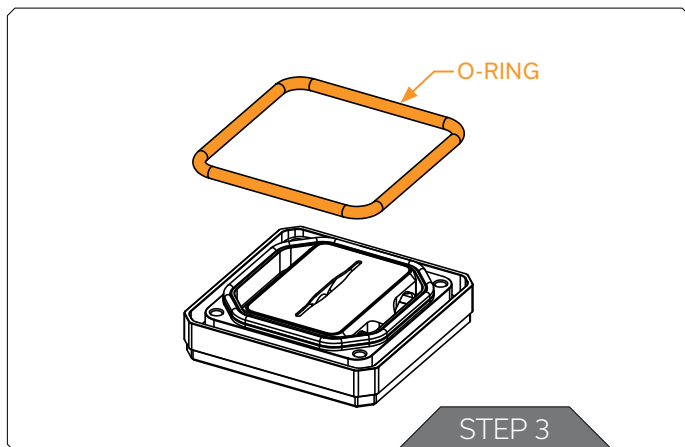
Unscrew the four Screws from the bottom of the CPU Water Block in an anticlockwise direction, and remove the Frame, Coldplate, and LED Strip if installed. A 2.5 mm Allen (hex) key is supplied for this. If an LED Strip is already installed and you do not wish to change where the cable exits then it does not need to be removed from the Frame.



### STEP 2

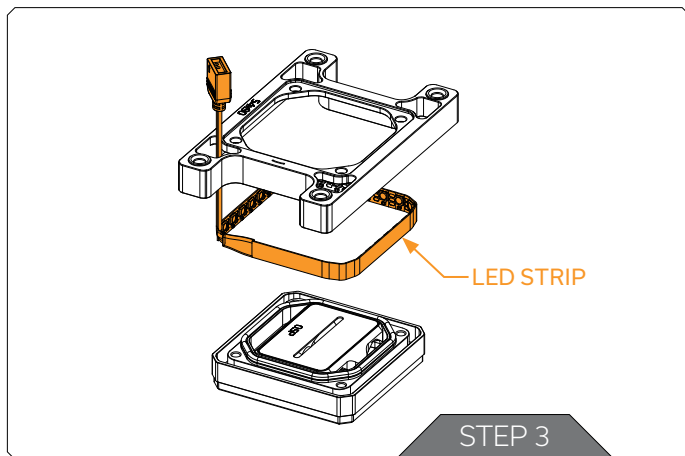
Remove and replace the Accent. The Accent can fit in any orientation.





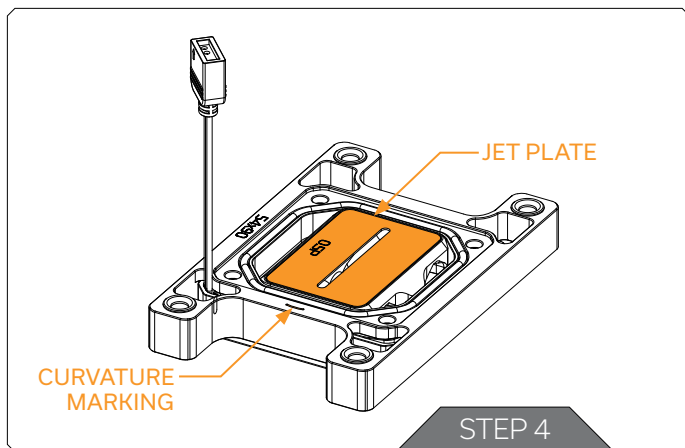
### STEP 3 (WITHOUT LED STRIP)

If applicable refit the O-Ring between the Top and Accent. This is not required for the operation of the block but ensures the Accent is tightly fitted without an LED Strip.



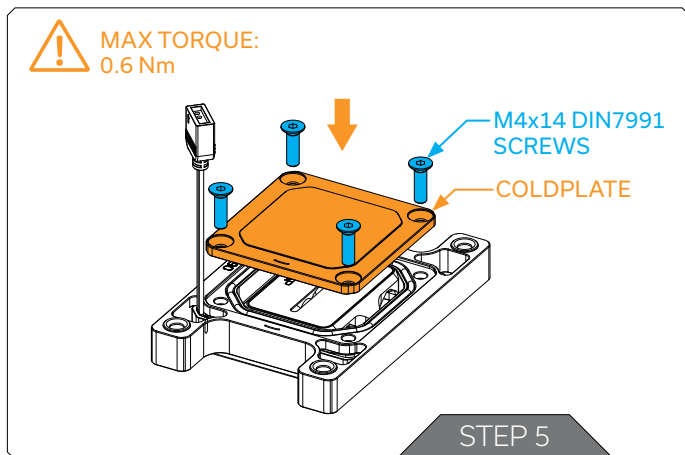
### STEP 3 (WITH LED STRIP)

First insert the LED Strip through the desired corner of the Frame and then fit the LED Strip between the Top and Accent. When using a Plexi Top the LED Strip should face inwards. When using an Acetal or Nickel Top the LED Strip should face outwards.



#### STEP 4

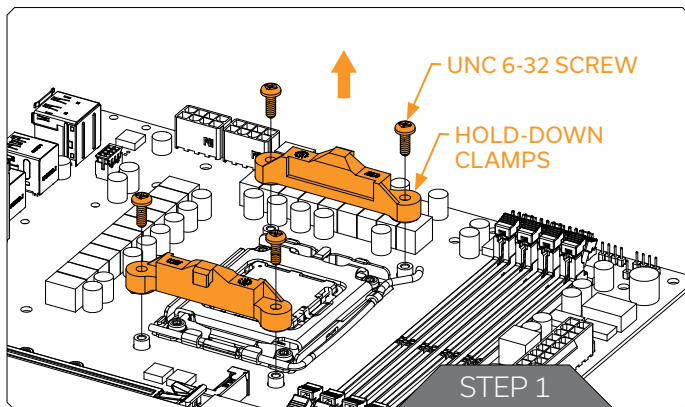
Position the Frame on the Top paying attention to the orientation, failure to do so will prevent the installation of the Screws. The curvature marking should be in line with the Jet Plate opening as illustrated. Ensure that the Jet Plate is still aligned in the Insert and the O-Rings remain in position.



#### STEP 5

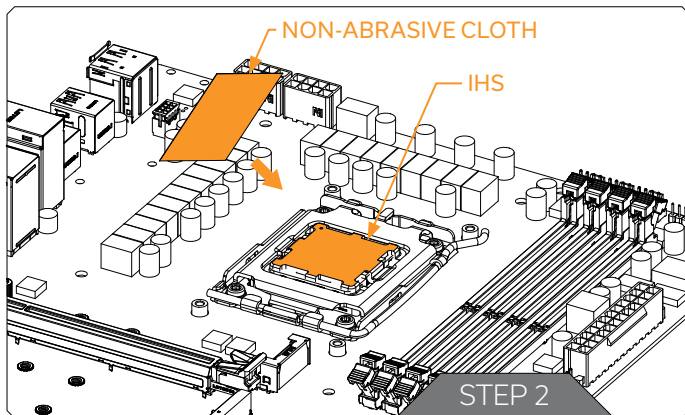
Place the Coldplate, pay attention to the orientation, failure to do so will prevent the installation of the Screws. The curvature marking should be on the same side as the curvature marking of the Frame. Lastly, screw in the four Screws, do not use excessive force!

## PREPARING THE AM5 MOTHERBOARD



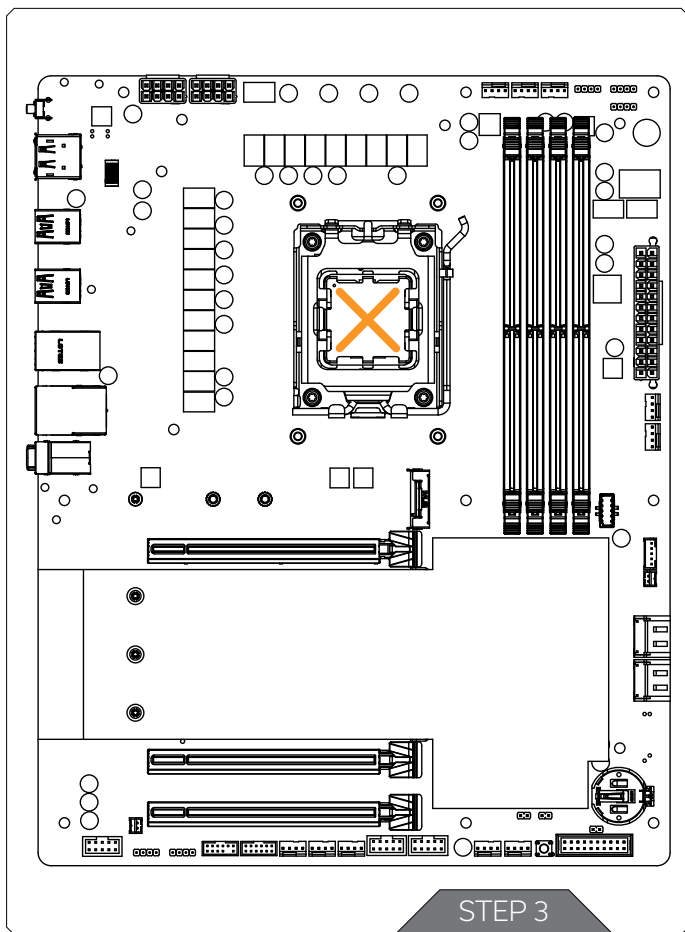
### STEP 1

Using a Philips-head screwdriver remove the four UNC 6-32 screws securing the original plastic hold-down clamps around the socket as shown in the illustration. Remove the hold-down clamps and store them away.



### STEP 2

**Cleaning the CPU:** Wipe the IHS clean using a non-abrasive cloth or Q-tip as shown in the illustration.



### STEP 3

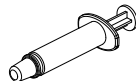
**Applying thermal compound:** Apply the enclosed thermal grease (thermal compound) on the CPU heat spreader – IHS – as shown in the image. The layer of the thermal compound must be thin and even in thickness over the entire surface of the IHS.



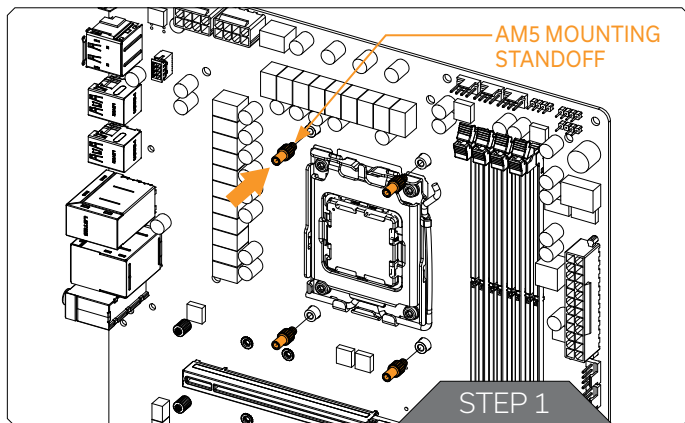
The excessive or uneven application of thermal grease may lead to poor performance!

For this step, you will need:

Thermal Grease

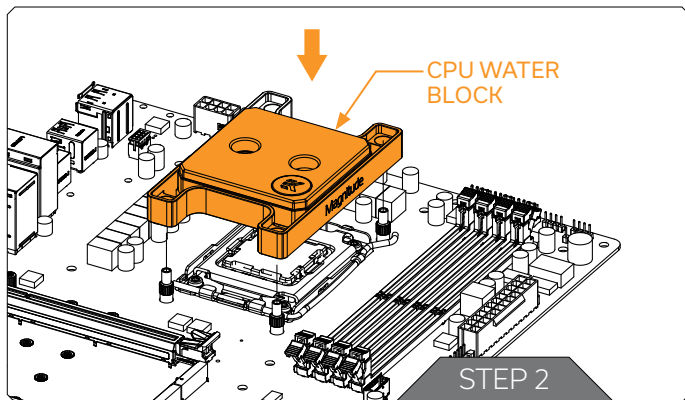


## INSTALLING THE WATER BLOCK



### STEP 1

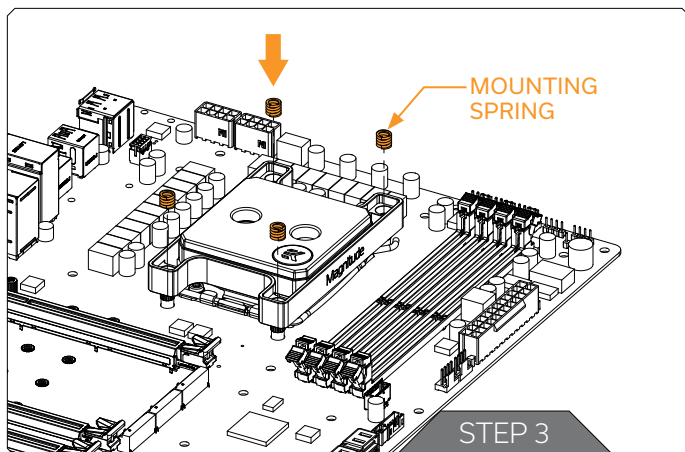
Loosely install all four (4) provided AM5 Mounting Standoffs before proceeding to tighten them completely. Using pliers or similar tools is not recommended.



### STEP 2

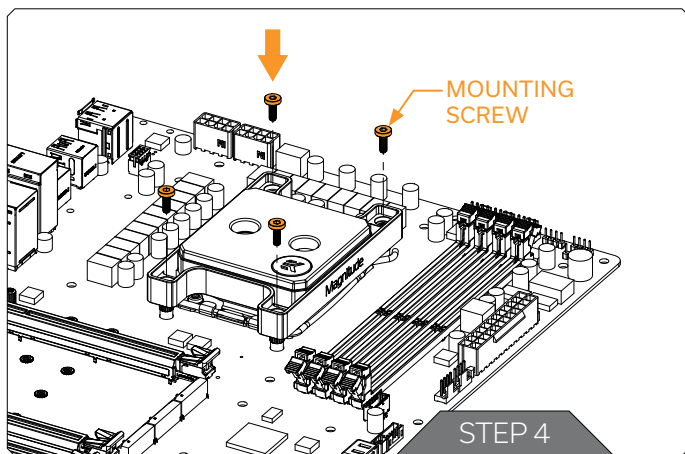
Position the CPU Water Block onto the AM5 Mounting standoffs. Make sure to align the holes (as shown in the picture).

**Make sure to double-check the layer of the Thermal Grease before placing the water block onto the motherboard.**



### STEP 3

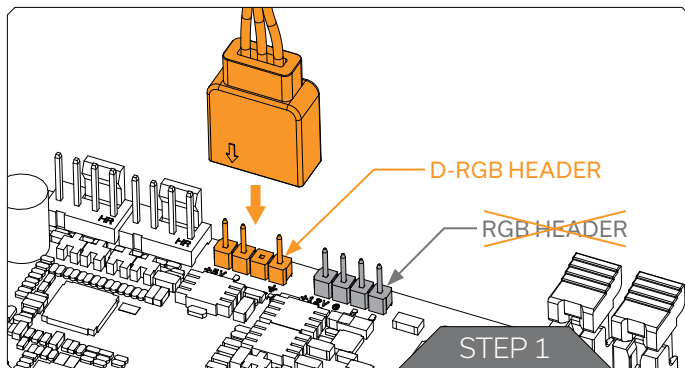
Insert all four (4) saved Springs inside the Frame.



### STEP 4

Loosely insert all four (4) saved Screws before proceeding to tighten them (using Allen Key 2.5 mm) two revolutions at once in a cross pattern. Stop when every Screw is flush with its hole inside the Frame!

## CONNECTING THE D-RGB LED STRIP



### STEP 1

Plug the 3-pin connector from the water block's D-RGB LED light to the DRGB 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\*\*](http://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/>**

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## SOCIAL MEDIA

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