Velocity
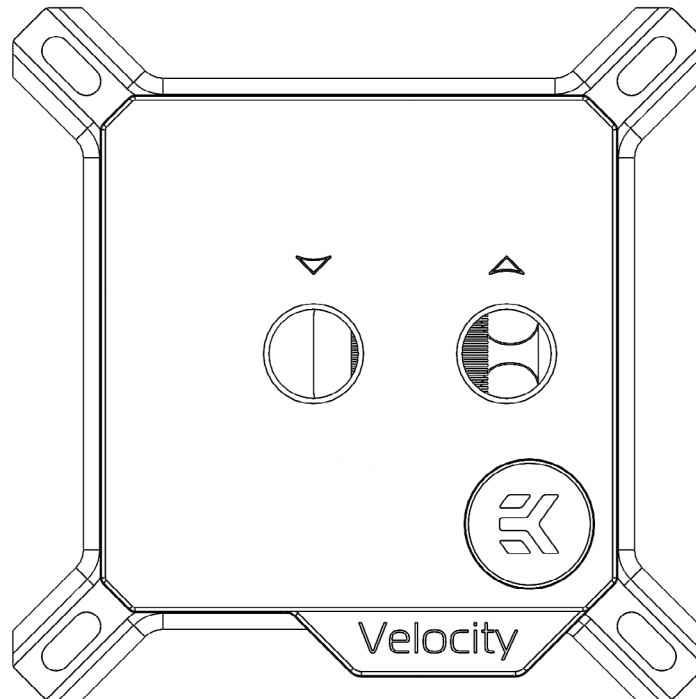
This product is intended for installation only by expert users. Please consult with a qualified technician for installation. Improper installation may result in damage to your equipment. EK Water Blocks assumes no liability whatsoever, expressed or implied, for the use of these products, nor their installation. The following instructions are subject to change without notice. Please visit our web site at www.ekwb.com for updates. Before installation of this product please read important notice, disclosure and warranty conditions printed on the back of the box.

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

Please carefully read the manual before beginning with the installation process!

Please remove your graphics card from the computer to assure safest mounting process in order to prevent any possible damages to your GPU and/or graphics card circuit board (PCB).

The EK-HFB and EK-ACF type 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 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 water block, or you will not reach optimal performance!
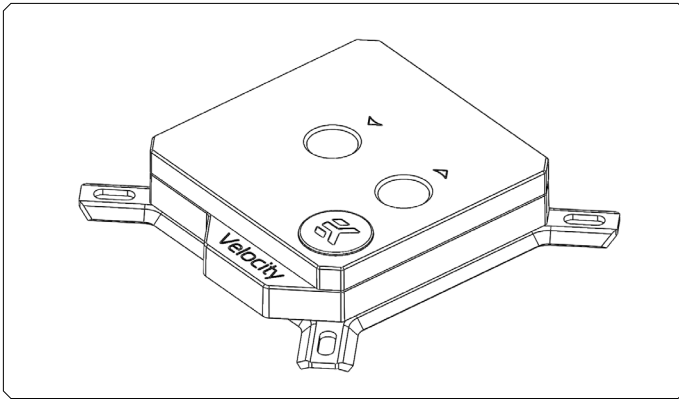
TABLE OF CONTENT

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® Socket LGA-115x
- Intel® Socket LGA-2011(-3) / 2066
-AMD® socket AMx and FMx

WHAT IS ENCLOSED

The following items are enclosed with each EK-Velocity water block:
- EK-Velocity universal CPU water block.
- PreciseMount universal CPU mounting mechanism:
  • M4 threaded thumb screws (4 pcs)
  • LGA-2011 M4 threaded mounting studs (4 pcs)
  • Springs (4 pcs)
  • M4 threaded thumb nuts (4 pcs)
  • Washers (4 pcs)
- EK-Velocity Backplate
  • Backplate rubber gasket
  • Backplate for Intel® LGA-115x socket motherboards
  • AMD® socket AMx and FMx

- Allen (hex) key 2.5mm
**- Additional Inserts and Jet plates:**
  • Jet J2 (0.8mm* thick)
**- Thermal Grizzly Hydronaut (EKWB 1.0g) thermal grease**

REPLACING THE JET PLATE PROCEDURE

- Water block top
- Frame
- JET Plate
- Gasket
- LED Light
- Mounting plate
- Copper base
- Screws

J1   J2

d= 1 mm   d= 0,8 mm

STEP 1

STEP 1

Please observe the table below to determine the optimal combination of insert and jet plate for your type of socket:

| Socket	Optimal Jet
AMD® AMx / FMx	J1
LGA-115x	J1
LGA-2011	J2
LGA-2066	J2

Labels: JET, Top, STEP 2
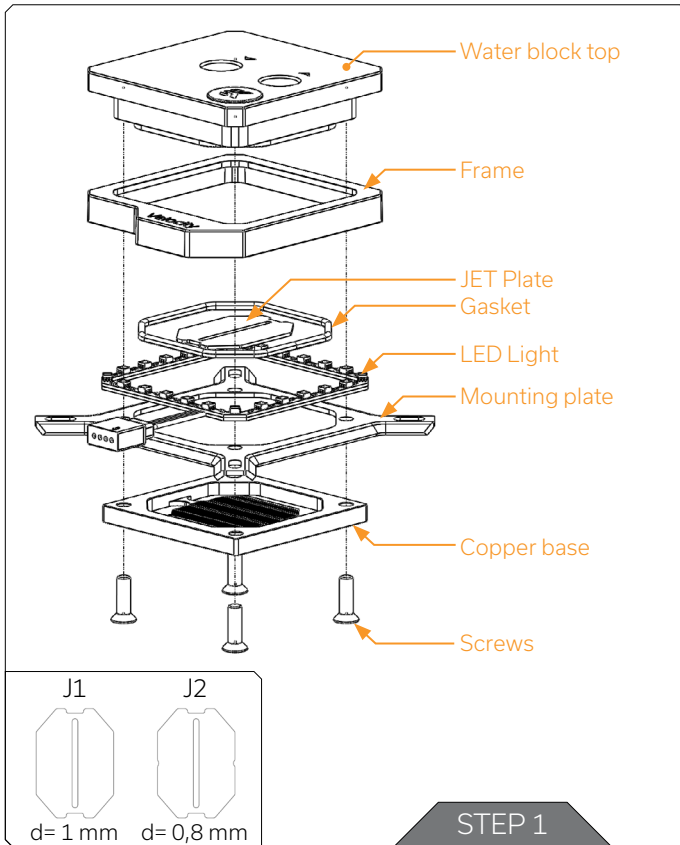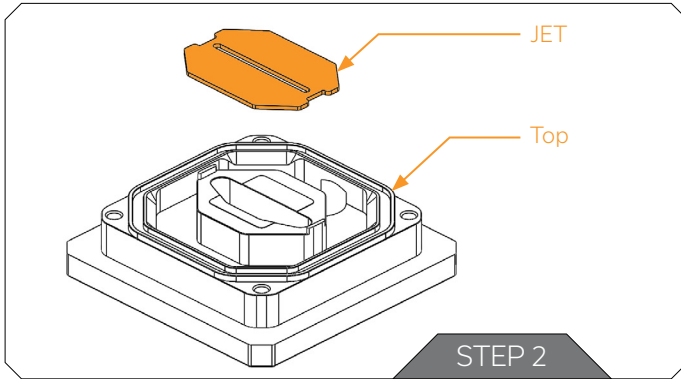
STEP 2

Unscrew the four M4 screws in counter-clock-wise direction from the bottom of the water block using enclosed 2,5mm Allen key to release the assembly, consisting of water block top and jet plate. Upon replacing the jet plate please reassemble the water block as shown on the in STEP 1 and STEP 2 pictures. Pay special attention to the insert orientation relative to the copper base and water block top!

⚠️ Before reassembly of the water block it is crucial that the preformed gasket (o-ring) is placed into the gap between the mounting plate and the water block top.

Screw the four screws back in but don't exaggerate with the force applied.

INSTALLING THE WATER BLOCK

Labels: LGA-2011 M3 Thumb Screw, LGA-2011 M3 Thumb Screw, STEP 1
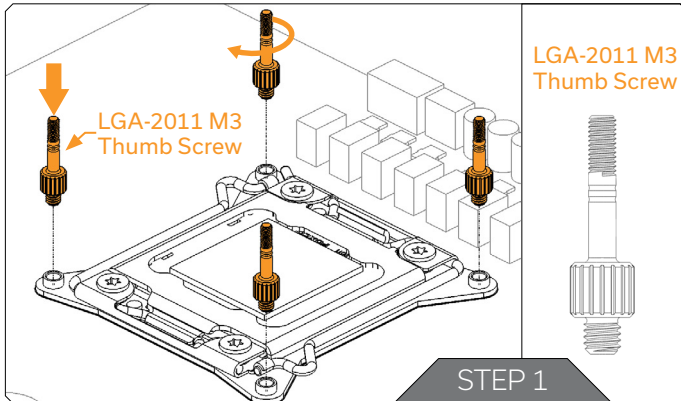
LGA-2011(-3) / 2066 SOCKET MOTHERBOARDS

STEP 1

Prepare the foil bag with mounting mechanism, which is enclosed with the CPU water block delivery.

Install four (4) specific LGA-2011 M4 thumb screws into four M4 threaded stubs on the LGA-2011 socket integrated latch mechanism (ILM). The screws are to be installed using no tools (i.e. pliers).

💡 It is recommended to remove the motherboard form the PC chassis before proceeding with installation of the CPU water block because of the space constraint limitations of various computer cases.
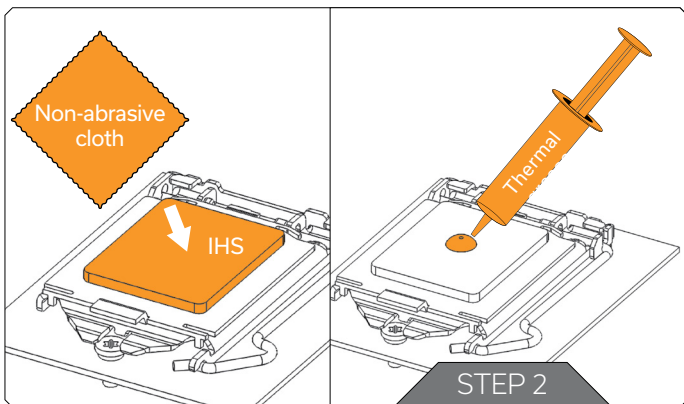
STEP 2

STEP 2

Cleaning the CPU: Wipe the CPU's contact surface (by using non–abrasive cloth or Q-tip, as shown on sample photo).

Applying thermal compound: EK recommends blob or line method of applying the enclosed thermal compound to the CPU heat spreader (IHS) - see sample photo on right.

> ⚠ The quantity of about two rice grains is just about right. There is no need to cover the whole IHS. Applying too much thermal grease will have negative impact on the cooling performance!


Thumb nut

Coiled spring
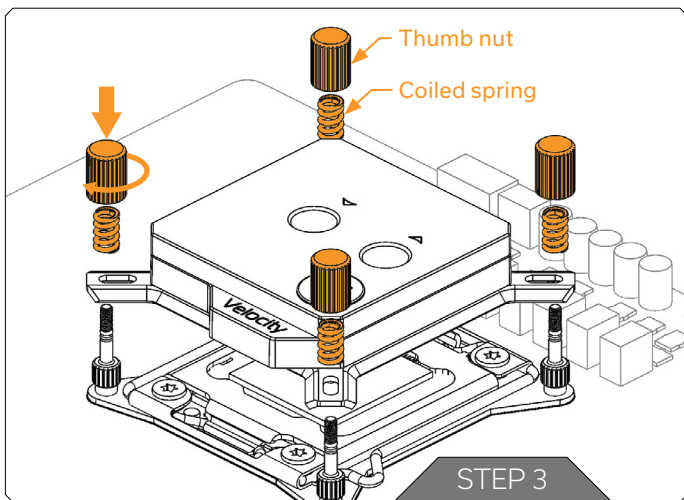
STEP 3

STEP 3

Align the water block over the mounting screws on the LGA-2011(-3) motherboard with pre-installed CPU.

> ☠ Before proceeding with the installation It is mandatory to remove the protective foil from the backside of the water block.

Place an enclosed compression spring and thumb nut over each M4 thumb screw. Start fastening two thumb nuts at a time, preferably in cross pattern and do not tighten them fully until all of them are partially screwed in. Then - using your fingers only - screw in all four thumb nuts until you reach the end of the thread.

Fitting Ring

Fitting Barb

Inlet port

Outlet port
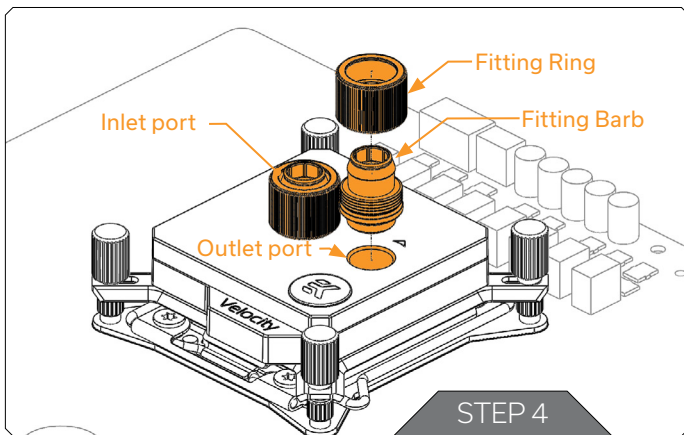
STEP 4

STEP 4

Tighten the fitting barbs in clockwise direction until the gasket underneath is compressed.

The installation of the CPU water block is now complete.

> ⚠ Before proceeding with the installation It is mandatory to remove the protective foil from the backside of the water block.

With EK-Velocity series water blocks it is mandatory to use the port that is nearest to the center of the water block as INLET port. Mixing the ports may result in less than ideal thermal performance of the water block.
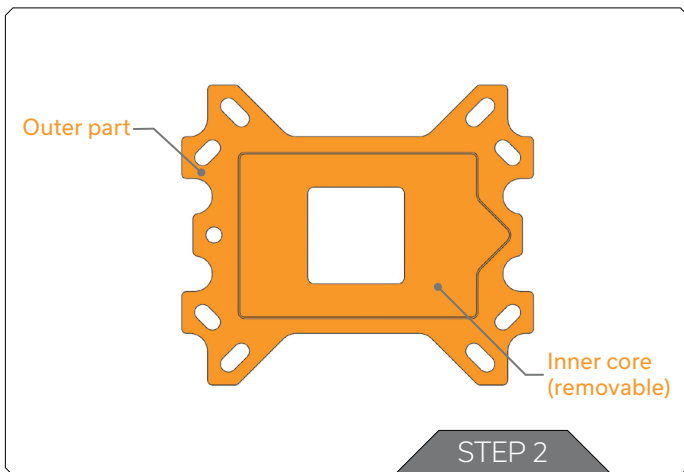
LGA-115x SOCKET MOTHERBOARDS

STEP 1

If already installed, please remove the motherboard from your computer and place it on an even surface with front facing down.

STEP 2
Preparing backplate rubber gasket

The enclosed rubber gasket is essential part of the backplate and mounting system and must be used every time you install this water block on your motherboard.

> ⚠ The rubber gasket has a partially cut inner part which needs to be removed when installed on Intel® LGA-115x motherboard. The rubber is held on four places and can be peeled away with hand.


Outer part

Inner core (removable)

STEP 2
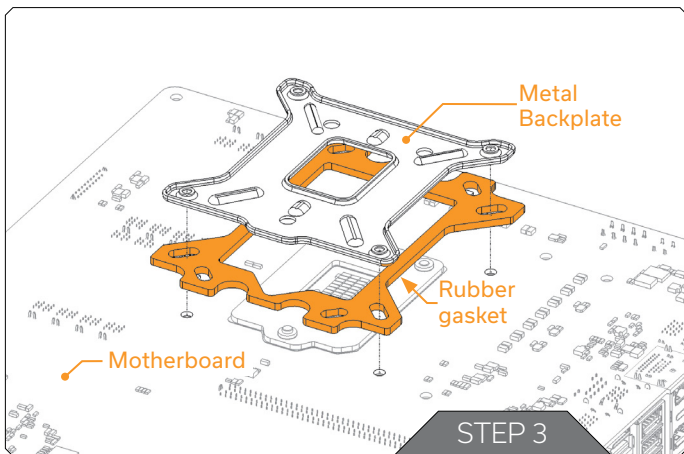
STEP 3

STEP 3

Install backplate rubber gasket and place metal backplate for Intel® LGA-115x socket to the back of your motherboard RIBBED SIDE UP! (facing away from the motherboard) Align the holes on the motherboard with holes on rubber gasket and backplate.

⚠️ Make sure to orientate the rubber gasket to fit past the CPU socket ILM backplate. On certain ITX form factor motherboards the rubber gasket may need to be trimmed using household scissors.

Carefully rotate motherboard assembly with front side facing up with one hand while holding the backplate and rubber in place with the other hand.
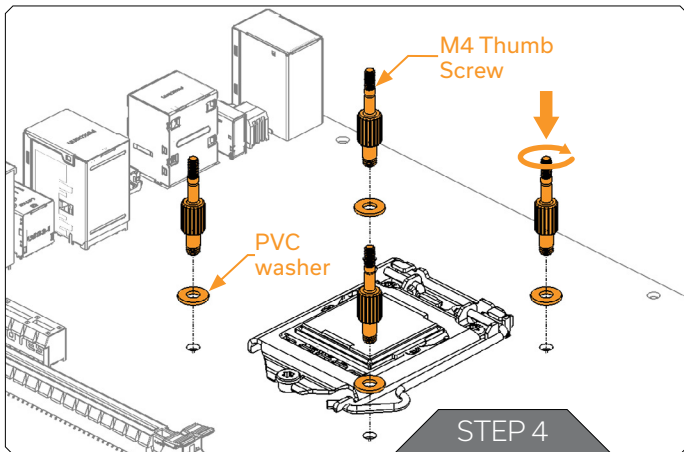
STEP 4

STEP 4

Install four (4) M4 thumb screws onto your motherboard. It is mandatory to put 0.7mm plastic washer underneath each of the M4 thumb screws. Tighten the screws to the metal backplate until you reach the end of the thread. Using tools (such as pliers) is not recommended.
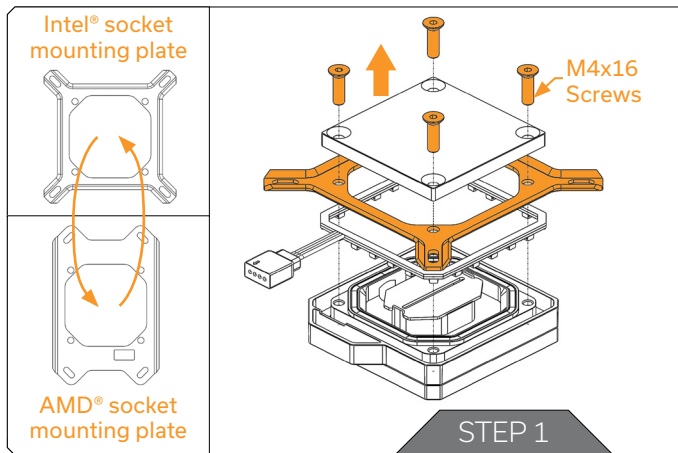
⚠️

Intel® socket mounting plate

AMD® socket mounting plate

M4x16 Screws

STEP 1

AMD® SOCKET MOTHERBOARDS

STEP 1
Replacing the mounting plate:
Place the water block on a even surface and remove the four M4x16 DIN 7991 screws attaching the copper base to the top using 2,5mm Allen key in counter-clockwise direction.

Orientation of the copper base

STEP 2

STEP 2
Replace the Intel® factory installed mounting plate with AMD® one. You will feel the mounting plate locking into the position when placed correctly on to the top.

Reseat the pre-formed gasket (o-ring) into the gap between the mounting plate and water block top.

⚠ Pay attention to the orientation of the copper base. Wrong assembly will lead to severe performance penalty!

Reinstall the M4x16 screws and tighten them using 2,5mm Allen key to screw them in clockwise direction.

STEP 3
If already installed, please remove the motherboard from your computer and place it on an even surface with front facing up.

UNC 6-32 Screws

AMD® factory backplate

Hold-down clamps
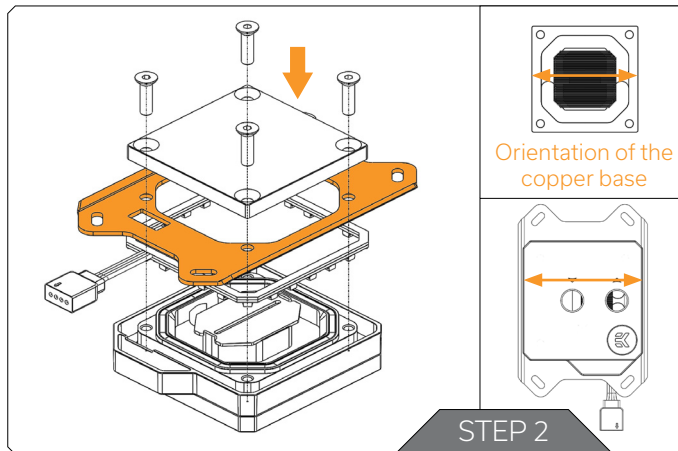
STEP 1

AMx AND FMx SOCKET MOTHERBOARDS

STEP 1
Removing of the original plastic hold-down clamps and the factory backplate:

Using Philips-head screwdriver remove the four UNC 6-32 screws securing the original plastic hold-down clamps around the socket as shown on the sketch. <u>Remove the original AMD® backplate and the hold-down clamps</u> and store them away. See sketch for further part identification.
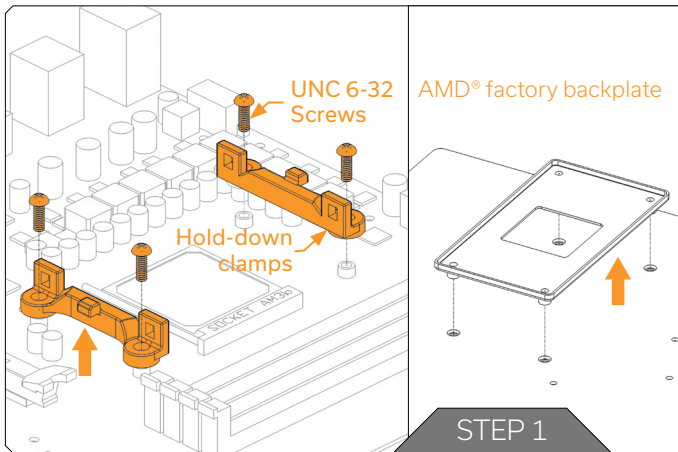

Outer part

Inner core (removable)

STEP 2

STEP 2
Preparing backplate rubber gasket

The enclosed rubber gasket is essential part of the backplate and mounting system and must be used every time you install this water block on your motherboard.

> ⚠ With AMD® Sockets you should use whole rubber backplate including the inner core.

AM3+/FM2+

Metal Backplate

Rubber gasket

Motherboard

AM4

Metal Backplate

Rubber gasket
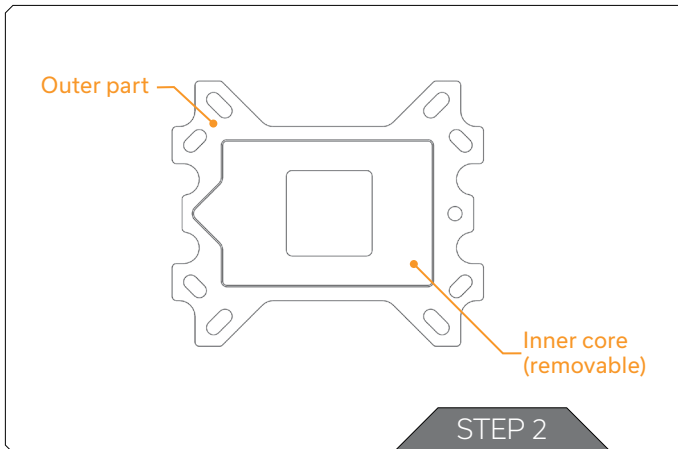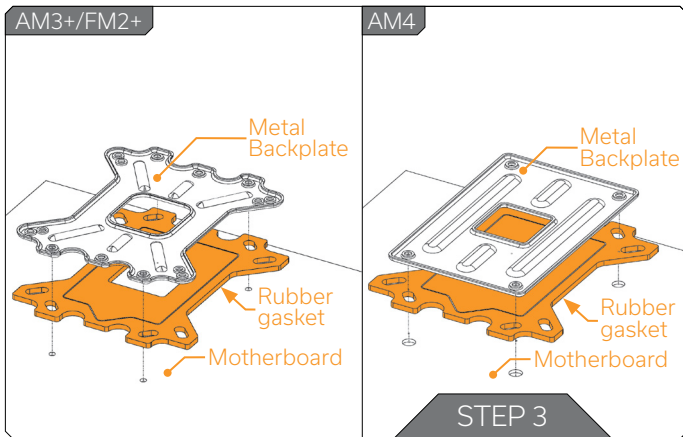
Motherboard

STEP 3

STEP 3

Install backplate rubber gasket and place metal backplate for AMD® socket to the back of your motherboard RIBBED SIDE UP! (facing away from the motherboard) Align the holes on the motherboard with holes on rubber gasket and backplate.

Carefully rotate motherboard assembly with front side facing up with one hand while holding the backplate and rubber in place with the other hand.


M4 Thumb Screw
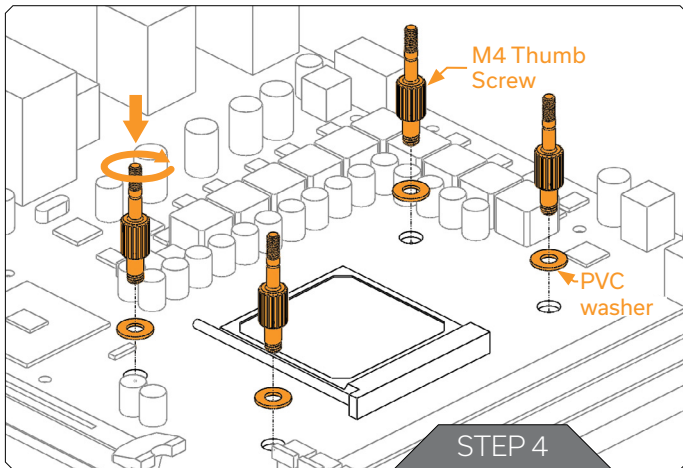
PVC washer

STEP 4

STEP 4

Prepare the foil bag with mounting mechanism, which is enclosed with the CPU water block delivery.

Install four (4) M4 thumb screws onto your motherboard. It is mandatory to put 0.7mm plastic washer underneath each of the M4 thumb screws. Tighten the screws to the metal backplate until you reach the end of the thread. Using tools (such as pliers) is not recommended.

⚠ Continue installation by following the instructions on page 6 from STEP 2

CONNECTING THE RGB LED STRIP (option)
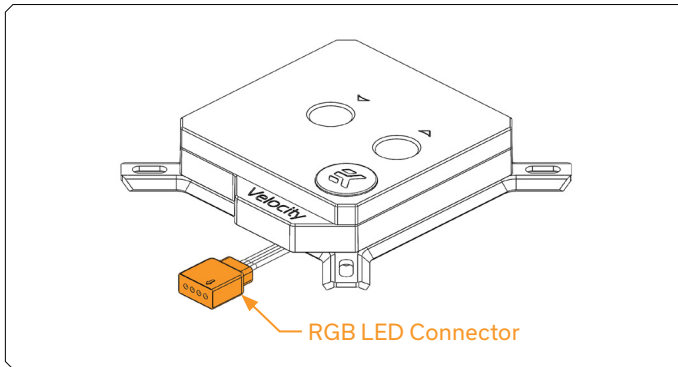
RGB LED Connector

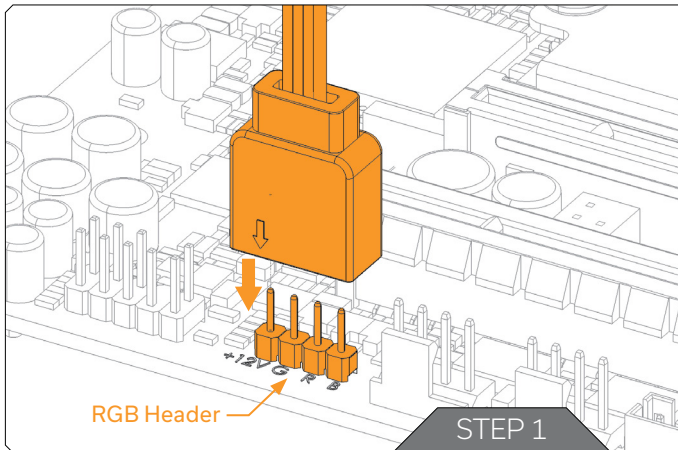## CONNECTING THE RGB LED STRIP

STEP 1
Plug the 4-pin connector from Water block's and Fan's RGB LED light to the RGB HEADER on the motherboard. The LED will work if the pin layout on the header is as follows: **+12V G R B**.

⚠️ Please ensure that the arrow indicated on the connector is plugged into the +12V line as indicated on your motherboard.

Failure to do so, will damage your motherboard or LED strip.

RGB Header

STEP 1

D-RGB Header

RGB Header

STEP 1

D-RGB LED Connector
Connector is same on D-RGB and RGB version but D-RGB version have cables from connector to Light. RGB version have 4 cables!!! If you connect D-RGB led to ordinary RGB header you will damage your motherboard or LED strip!!!!

CONNECTING THE D-RGB LED STRIP

STEP 1
Plug the 4-pin connector from 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 LED Diode to the 12V RGB HEADER you can damage the LEDs.

Failure to do so will damage your motherboard or LED strip.

⚠️ Connector is the same on D-RGB and RGB versions, but D-RGB version has 3 cables from connector to PCB; RGB version has 4 cables. If you connect D-RGB led to ordinary RGB header you can damage your motherboard or LED strip.
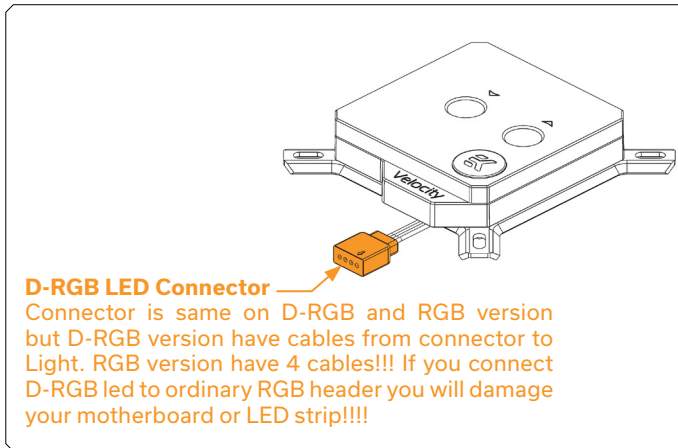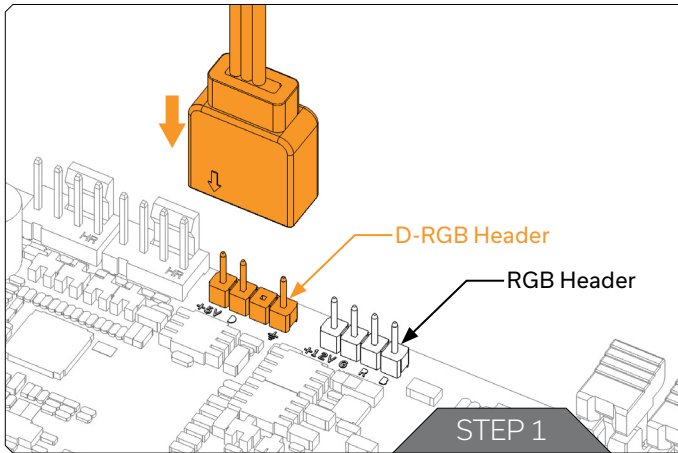
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