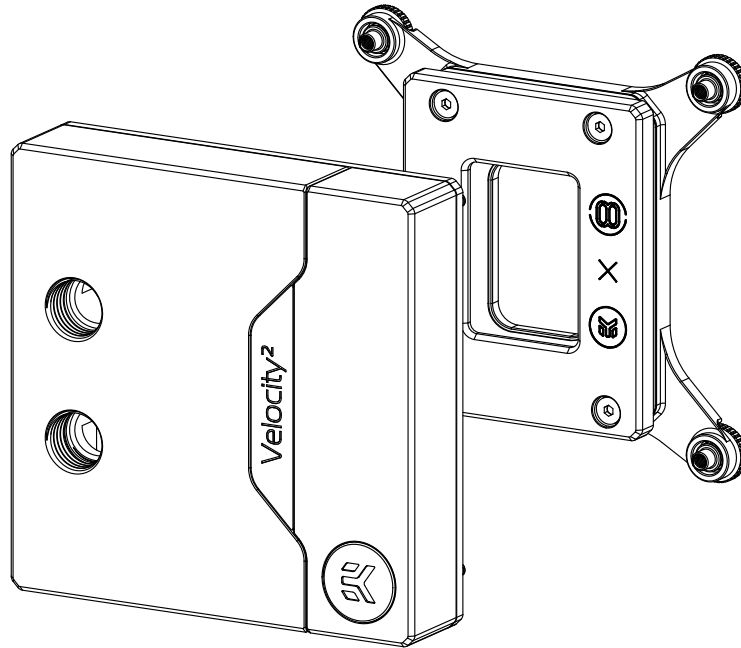


# EK-Quantum Velocity<sup>2</sup> Direct Die D-RGB - LGA 1700



Please note the installation of the product is intended to be undertaken by an adequately trained and experienced professional. 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. You are installing the product at your own risk.

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

**Please carefully read the manual before beginning the installation process.**

**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-Cryo Fuel coolants.**

**Make sure to thoroughly bleed air out of your water block, or you will not reach optimal performance.**

**Delidding entails a very risky modification of the CPU and may, even if properly performed, result in damage to the processing unit.**

**Delidding a CPU voids Intel warranty**

**We disclaim all our liability for any damages to the product or the CPU as well as incidental, consequential, or indirect damages incurred during or as a consequence of delidding.**

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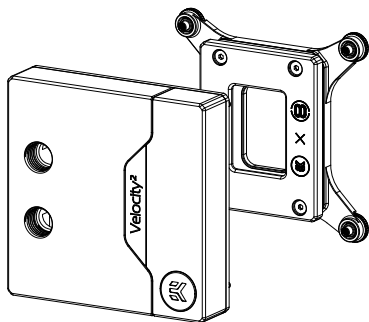
## GENERAL INFORMATION ON WATER BLOCK COMPATIBILITY

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

- For delidded 12<sup>th</sup> generation and 13<sup>th</sup> generation CPUs!

## BOX CONTENTS



EK-Quantum Velocity² Direct Die D-RGB - LGA 1700

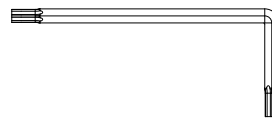
### Mounting Mechanism



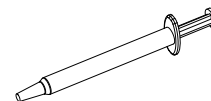
Allen Key 2 mm (1 pc)



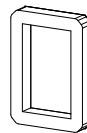
Allen Key 2.5 mm (1 pc)



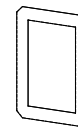
TX20 L-Shaped Wrench (1 pc)



Thermal Grizzly Conductonaut  
(1 pc)



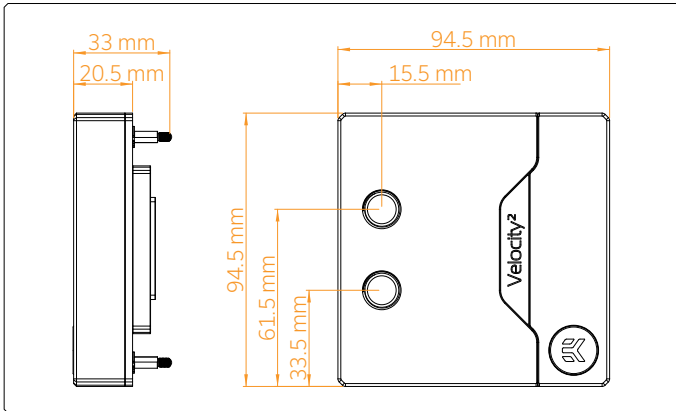
Protective Foam 5 mm (1 pc)



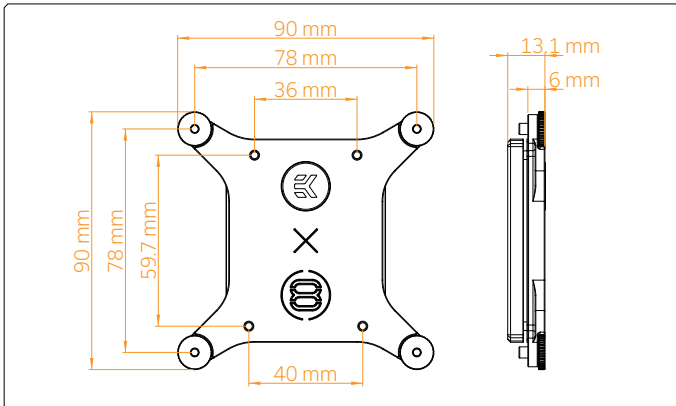
Protective Sticker (1 pc)

## WATER BLOCK DIMENSIONS

### CPU WB:



### Backplate:



## TECHNICAL SPECIFICATIONS AND WATER BLOCK PARTS

### NICKEL PLEXI

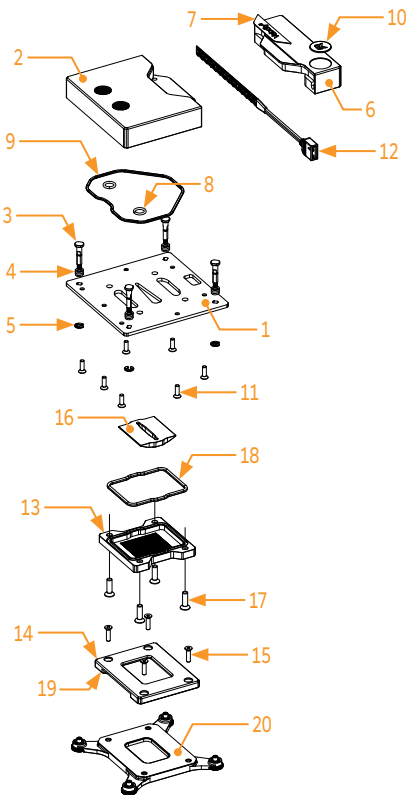
#### Technical Specification:

Dimensions (L x H x W): 94.5 x 94.5 x 33 mm

D-RGB cable length: 500 mm

D-RGB LED count: 14

D-RGB connector standard 3-pin (+5V, Data, Blocked, Ground)



Position	EAN	Description	Quantity
1	104030	Velocity <sup>2</sup> Midplate	1
2	104034	Top plate - plexi	1
3	104913	Mounting Screw	4
4	100747	Spring	4
5	104532	Seager Ring	4
6	104050	Stand Out	1
7	103952	Mylar Sticker	1
8	104774	OR 6.5 x 1.5	2
9	104772	OR 243 x 1.5	1
10	100663	EK Badge	1
11	8252	Screw M3 x 10 DIN7991	7
12	103006	LED Strip	1
13	105574	Coldplate Direct Die	1
14	105584	Die Guard	1
15	8202	Screw M3 x 12 DIN7991	4
16	105575	Jet Plate	1
17	104686	Screw M4 x 14 DIN7991	4
18	104773	OR Coldplate	1
19	106307	Sticker ILM Protection	1
20	3831109897874	Exact Mount Velocity <sup>2</sup> Direct Die	1

## LIMITED EDITION

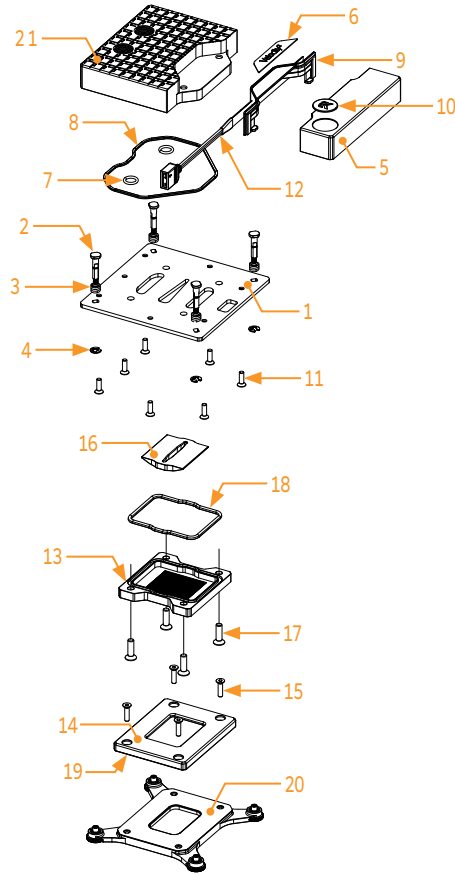
### Technical Specification:

Dimensions (L x H x W): 94.5 x 94.5 x 33 mm

D-RGB cable length: 500 mm

D-RGB LED count: 14

D-RGB connector standard 3-pin (+5V, Data, Blocked, Ground)

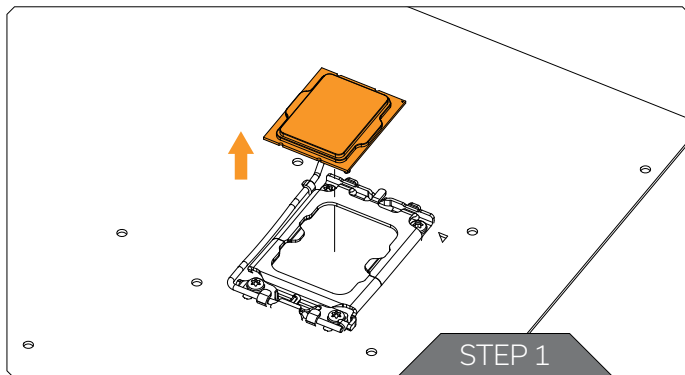


Position	EAN	Description	Quantity
1	104030	Velocity² Midplate	1
2	104913	Mounting Screw	4
3	100747	Spring	4
4	104532	Segear Ring	4
5	104051	Stand Out	1
6	103952	Mylar sticker	1
7	104774	OR 6.5 x 1.5	2
8	104772	OR 243 x 1.5	1
9	104049	Light Guide	1
10	100663	EK Badge	1
11	8252	Screw M3 x 10 DIN7991	7
12	103006	LED Dense Strip	1
13	105574	Coldplate Naked	1
14	105584	Die Guard	1
15	8202	Screw M3 x 12 DIN7991	4
16	105575	Jet Plate	1
17	104686	Screw M4 x 14 DIN7991	4
18	104773	OR Coldplate	1
19	106307	Sticker ILM Protection	1
20	3831109897874	Exact Mount Velocity² Direct Die	1
21	105577	Top Wafer Gold	1

## PREPARING THE MOTHERBOARD

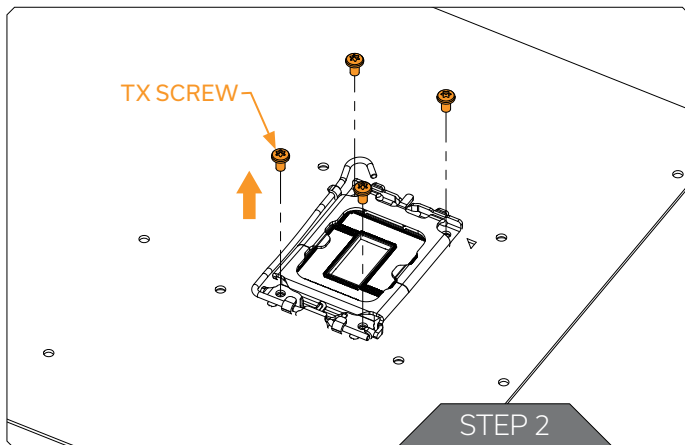
### STEP 1

If the CPU is installed remove it from the socket.

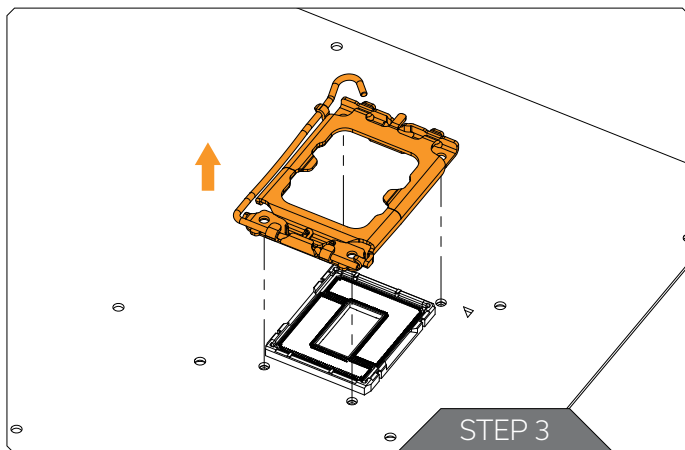


### STEP 2

Remove the stock Torx screws from the motherboard. For this step, you must use TX20 Key (included in the mounting bag)

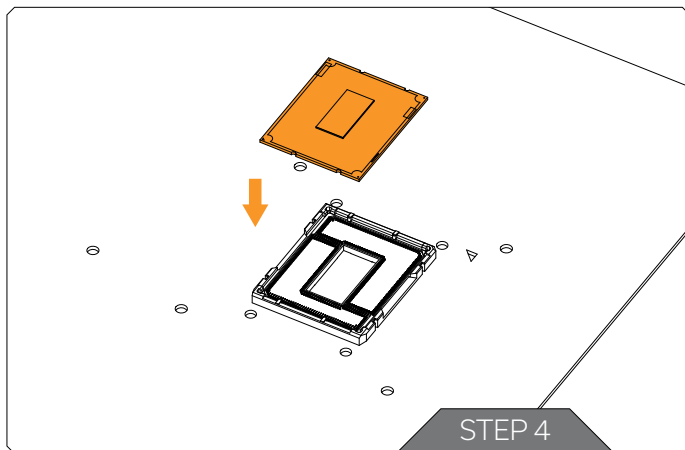






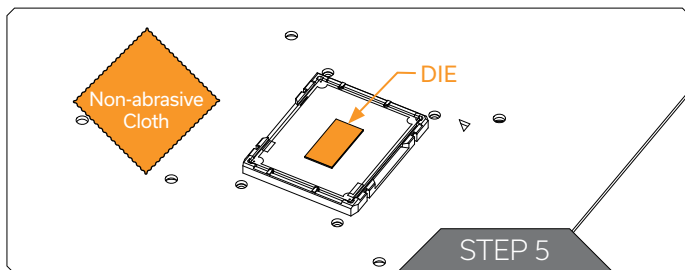
### STEP 3

Remove the stock mounting mechanism from the motherboard to remove the stock motherboard backplate.



### STEP 4

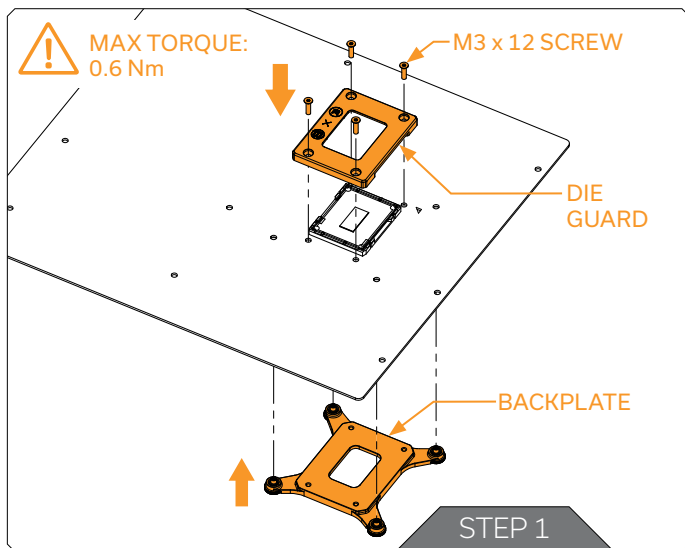
Install the Delidded CPU in the socket.



## STEP 5

**Cleaning the CPU:** Wipe the DIE clean using a non-abrasive cloth or Q-tip.

# INSTALLING THE DIE GUARD AND APPLYING THE PASTE



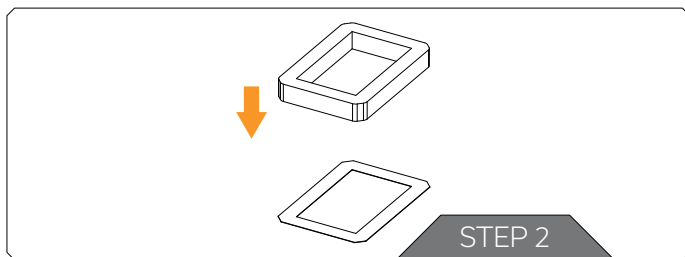
## STEP 1

Place the DIE GUARD on the motherboard and align it with the holes. On the back of the motherboard place the BACKPLATE. Then use the M3 x 12 screw to mount the DIE GUARD to the BACKPLATE.

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



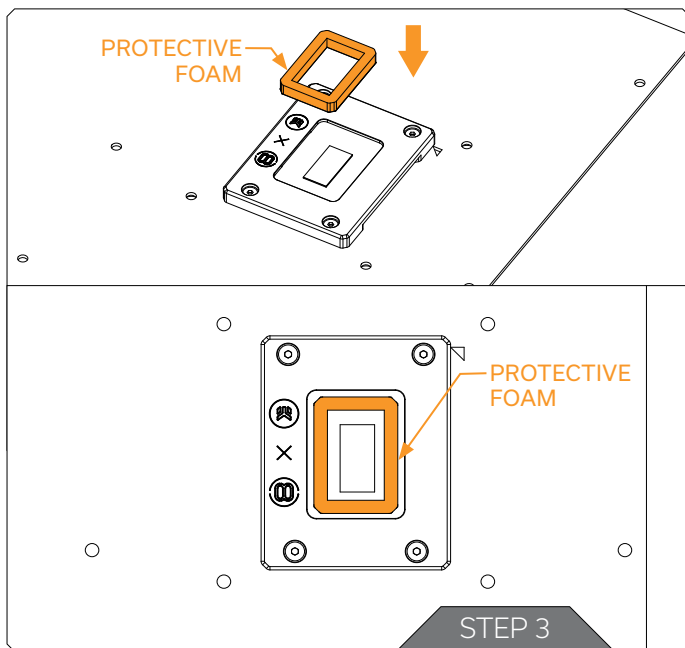
Do not remove the protective sticker from the DIE GUARD.



## STEP 2

Take the Protective FOAM and glue it to the Protective STICKER on the side of the STICKER with no glue.

Now you can glue the Protective FOAM and STICKER on the CPU.



## STEP 3

Put the protective FOAM on the CPU so that it doesn't touch the DIE.

Position the protective FOAM so the DIE is in the center of the protective FOAM.

#### STEP 4

Apply a small drop of Thermal Grizzly Conductionaut liquid metal paste and spread it evenly over the DIE with cotton swabs that are included in the bag. Use the provided needle accessory that is included in the bag. Don't press the syringe too hard!

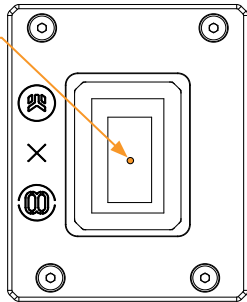
Use the provided needle accessory that is included in the bag. Don't press the syringe too hard!

For more information read the Thermal Grizzly Conductionaut instructions.



In case of over-application of Thermal Grizzly Conductionaut liquid metal, clean the DIE and reapply it. Otherwise, over time, the performance of the water block may deteriorate.

A SMALL DROP OF  
THERMAL GRIZZLY  
CONDUCTIONAUT  
LIQUID METAL PASTE

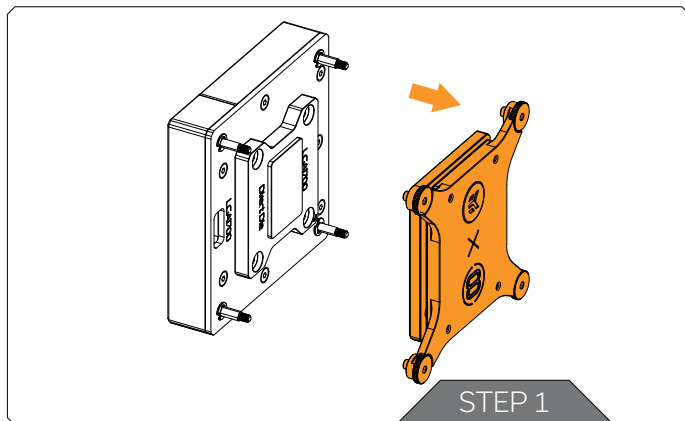


STEP 4

## INSTALLING THE CPU WATER BLOCK

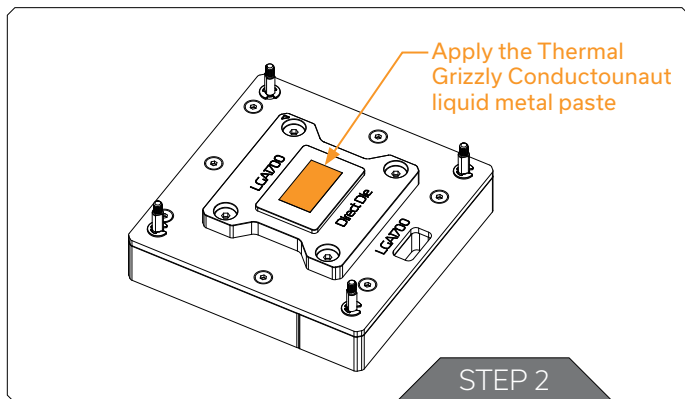
### STEP 1

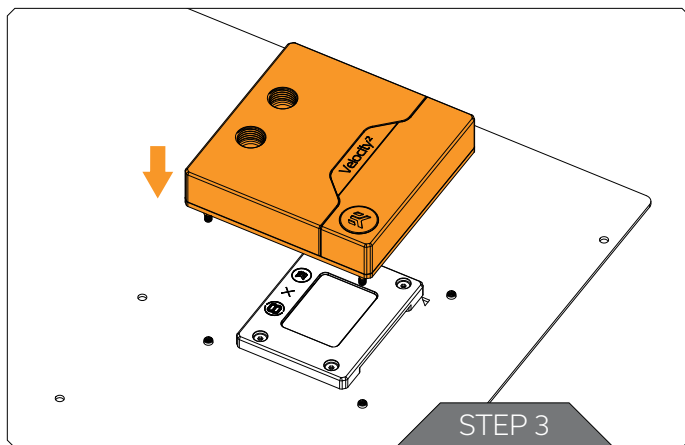
Remove the backplate and die guard from the back of the CPU block using an Allen Key 2.5 mm and save it for the later steps.



### STEP 2

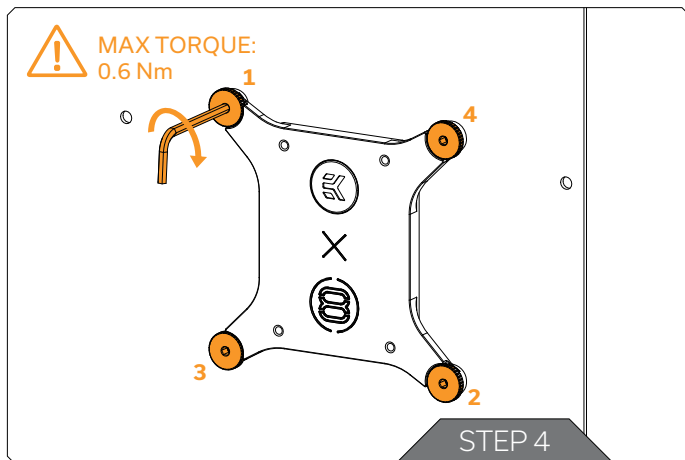
Apply a small drop of Thermal Grizzly Conductonaut liquid metal and spread it on the block.





### STEP 3

Position the CPU block onto the motherboard. Make sure to align the holes (as shown in the picture).



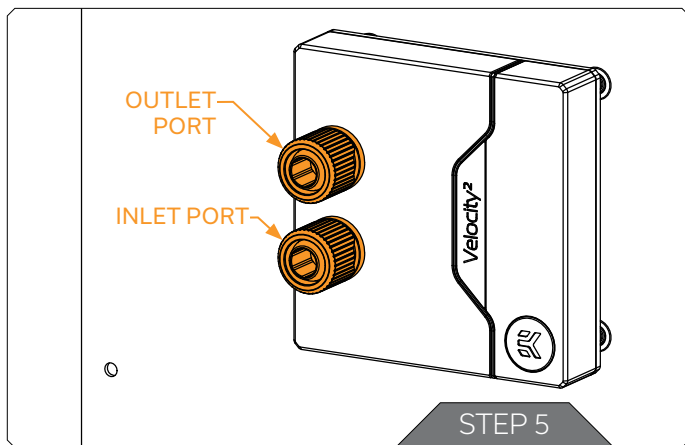
### STEP 4

After placing the water block tighten the backplate nuts in a cross pattern. Do not tighten fully until all of the nuts are partially screwed in. The Allen Key 2.5 mm must be used in a standing position! Otherwise, the mounting screw may crack during tightening!



The direct die water block does not rely on mounting pressure.

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



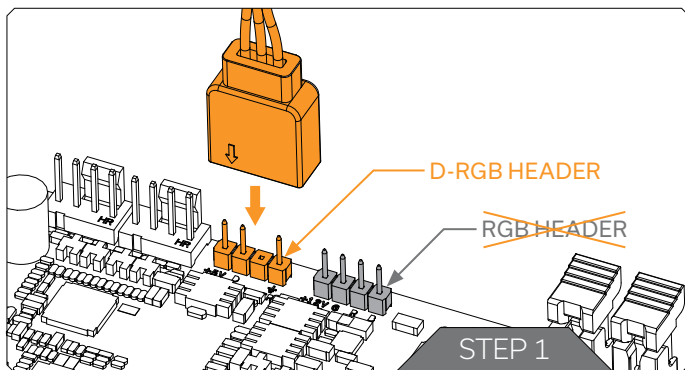
### STEP 5

With EK-Velocity² series water blocks, it is mandatory to use the bottom port as the INLET. Mixing the ports may result in poor thermal performance of the water block.

Tighten the fittings in clockwise direction until the gasket underneath is compressed.

**The installation of the Velocity² water block is now complete.**

## 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.

## 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

## SOCIAL MEDIA

 EKWaterBlocks

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