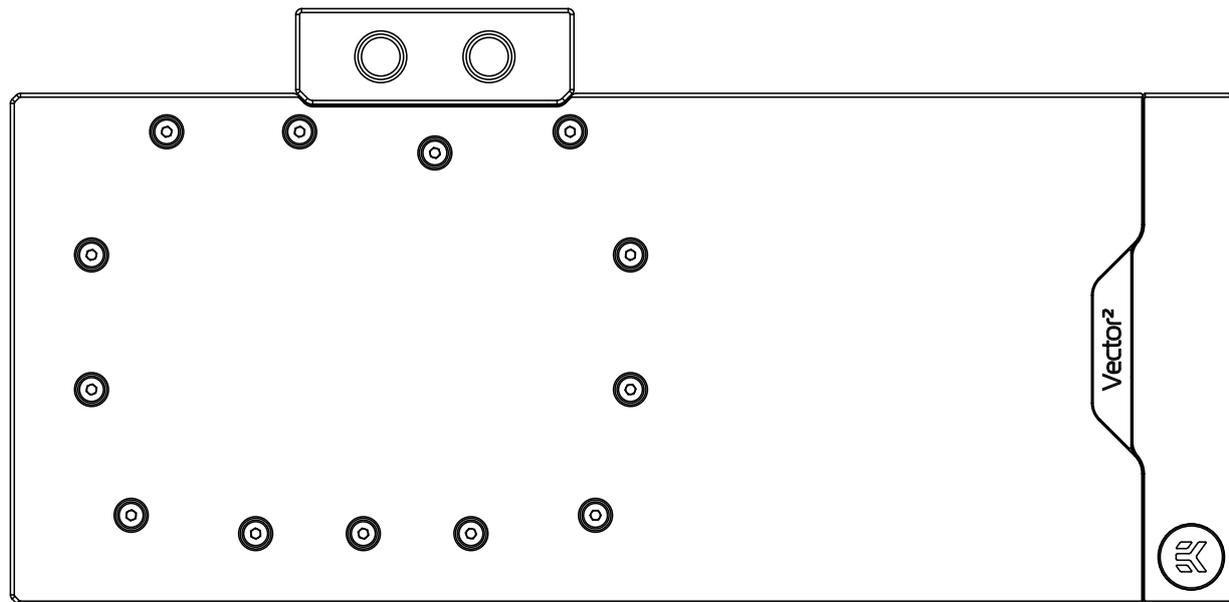


# EK-Quantum Vector<sup>2</sup> FTW3 RTX 3090 Ti ABP Set D-RGB

GPU 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.**

**Remove your graphics card from the computer for the safest mounting process to prevent any possible damage to your GPU 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!**

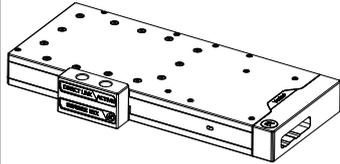
**For best results, EK recommends the use of EK-CryoFuel coolants! To reach optimal performance, make sure to thoroughly bleed the air out of your water block!**

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# BOX CONTENTS

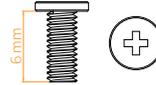
EAN: 105444



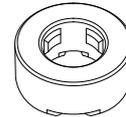
EK-Quantum Vector² FTW3 RTX 3090 Ti ABP Set D-RGB



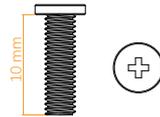
M2.5x4 AX1 Screw (13 pcs)



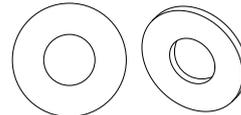
M2.5x6 AX1 Screw (1 pc)



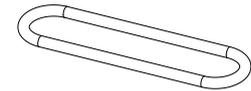
Standoff Ø4.5/2.5 (1 pc)



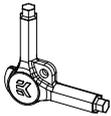
M3x10 AX1 Screw (1 pc)



Polyamid Washer M2.5 0.5mm (13 pcs)



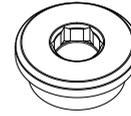
Terminal OR - Vector² 14x1 mm (2 pcs)



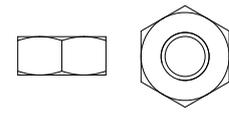
EK-Loop Multi Allen Key (1 pc)



Standoff M2.5-M3 x 6.6mm (1 pc)



Quantum Plug (2 pcs)



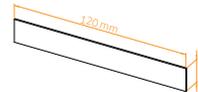
Nut M2.5 (2 pcs)



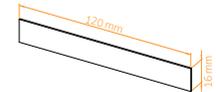
Thermal Grease (1 pc)



Allen Key 2 mm (1 pc)



Thermal Pad F 1.0 mm (8 pcs)  
(3830046996732)



Thermal Pad F 1.5 mm (4 pcs)  
(3830046996749)



EK-Plug Out Spludger Tool (1 pc)



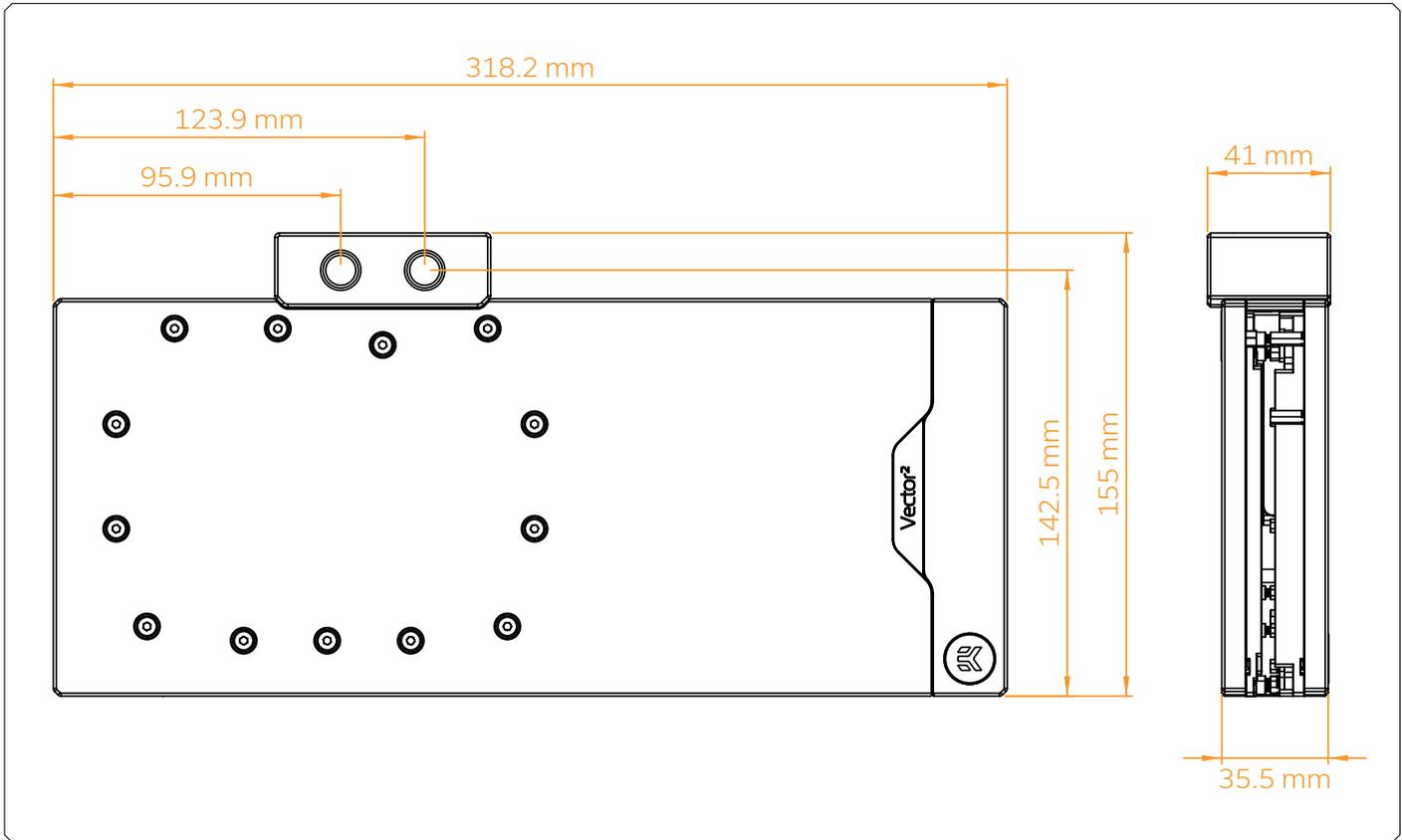
Allen Key 2.5 mm (1 pc)



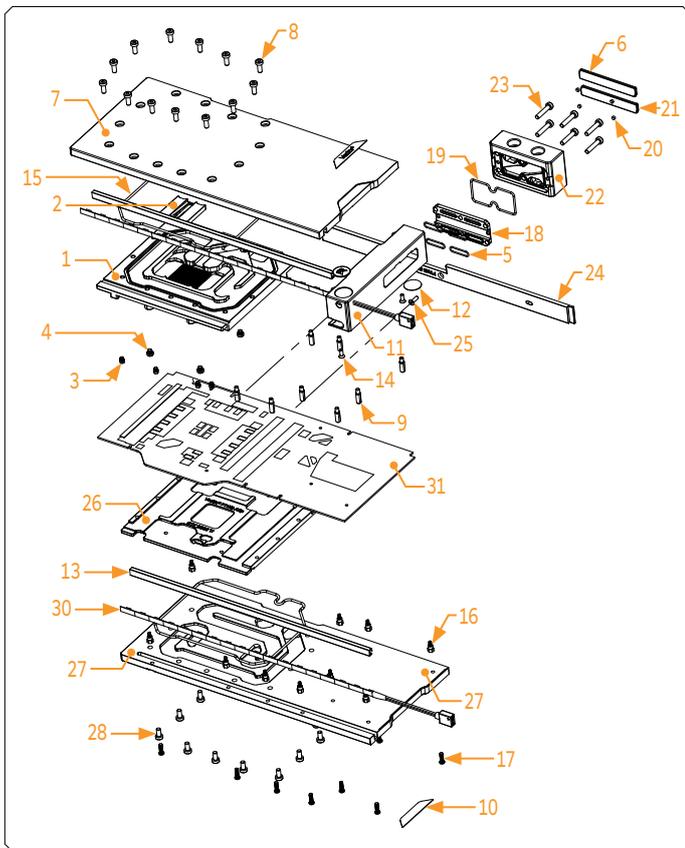
Thermal Pad G 2.0 mm (1 pcs)  
(3830046996794)

EAN: 104549

# WATER BLOCK DIMENSIONS



## TECHNICAL SPECIFICATIONS AND WATER BLOCK PARTS

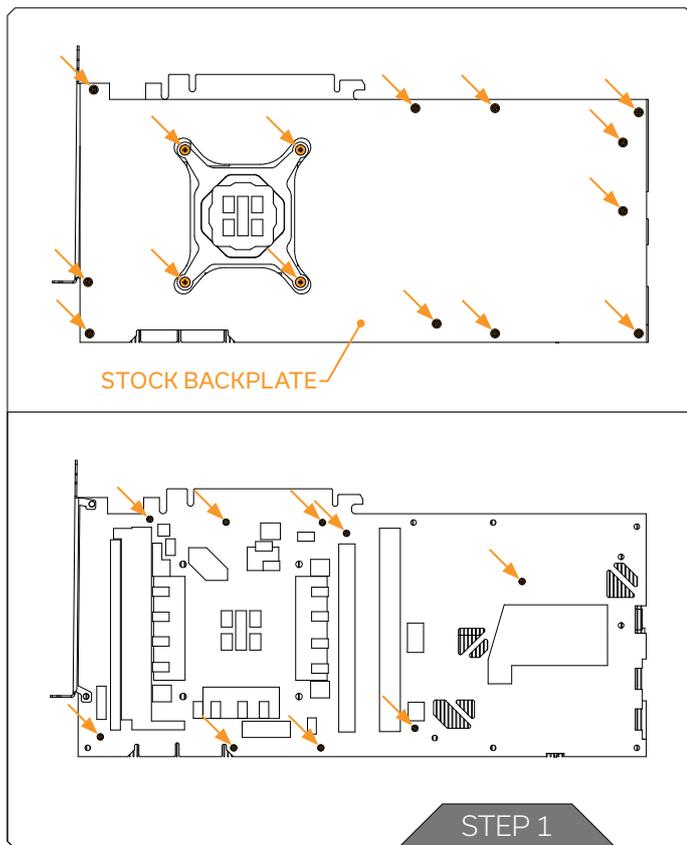


### NICKEL PLEXI

- Dimensions: (LxHxW): 318.2 x 155 x 41 mm
- D-RGB LED count: 34
- D-RGB cable length: 50 cm
- D-RGB connector 3-pin 5V digital LED header

Position	EAN	Description	Quantity
1	105424	Coldplate (Nickel)	1
2	103962	Top plate (Plexi)	1
3	103987	Standoff M3.5-M2.5 x 3	5
4	103988	Standoff M4-M2.5 x 3	4
5	104106	Terminal OR 14 x 1 mm	4
6	103942	Terminal badge	1
7	105425	Top plate (Plexi)	1
8	9024	Screw M4 x 10 DIN7984	13
9	103986	Standoff M3.5-M2.5 x 11.3	10
10	103964	Mylar sticker	2
11	105438	Stand out (Acetal)	1
12	100663	EK - Badge	2
13	105434	LED Cover (Nat.elox)	2
14	8208	Screw M3 x 8 7991DIN	2
15	5064	Main O-ring 140 x 2 mm	1
16	104093	Standoff M2.5-M3 x 6.6	10
17	104105	Screw AX1 M3 x 10	10
18	104395	Terminal plate (Nickel)	1
19	104414	OR Terminal 52 x 2 mm	1
20	105163	Disc magnet	4
21	104086	ABP Terminal badge	1
22	104393	FC Terminal	1
23	8311	Screw M4 x 20 DIN7984	6
24	105441	Side plate (Black e.)	1
25	8201	Screw M3 x 10 7991DIN	2
26	105436	Coldplate ABP (Nickel)	1
27	105437	Top plate ABP (Plexi)	1
28	9013	Screw M4 x 8 DIN7984	13
29	5064	Main O-ring ABP 140 x 2 mm	1
30	100815	LED D-RGB strip 500/300 mm	2
31	105445	PCB cardboard	1

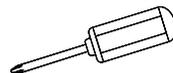
## PREPARING THE GRAPHICS CARD



### STEP 1 REMOVING THE STOCK COOLER

For this step, you will need:

Phillips Head Screwdriver



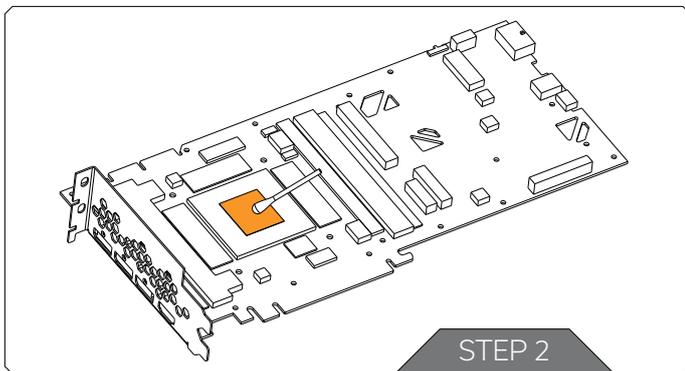
Use the Phillips head screwdriver to remove the fifteen marked screws and the Stock Cooler Backplate from the backside of the GPU. Carefully detach the Stock Cooler Backplate from the PCB.

Use the Phillips head screwdriver to remove the nine marked screws to detach the Stock Cooler from the PCB of the GPU.

Carefully detach the PCB from the stock cooler and disconnect all cables connecting the stock cooler to the PCB.



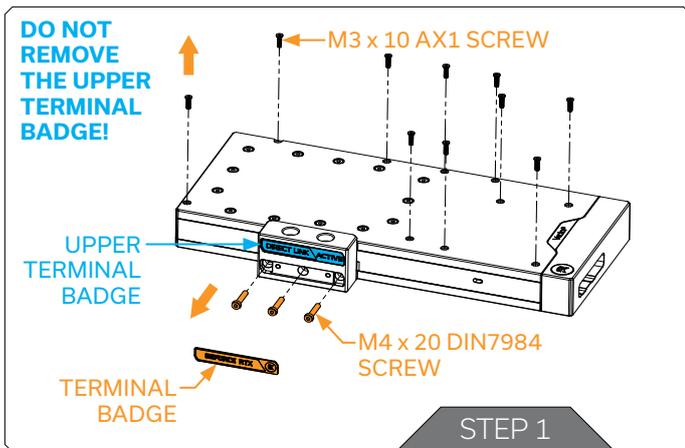
Always remove the stock cooler slowly - it might be firmly glued to the PCB with thermal pads.



## STEP 2 CLEANING THE PCB

Wipe off the remains of the original thermal compound using a nonabrasive cloth or Q-tip, as shown in the sample image, until the components and circuit board are completely clean. EK recommends the use of denatured alcohol for removing TIM leftovers. After that, remove all remaining stock thermal pads from the PCB.

## PREPARING THE WATER BLOCK FOR INSTALLATION

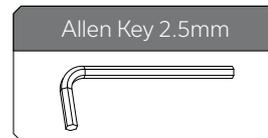
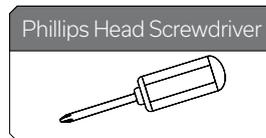


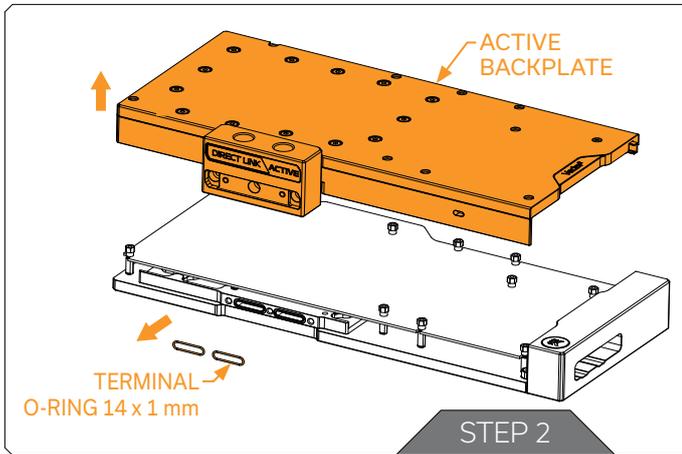
## STEP 1

First, remove the terminal badge which is attached to the terminal with two magnets. Under the badge, unscrew three (3) screws M4 x 20 DIN7984. Additional ten (10) screws M3 x 10 AX1 need to be removed (as shown in the image).



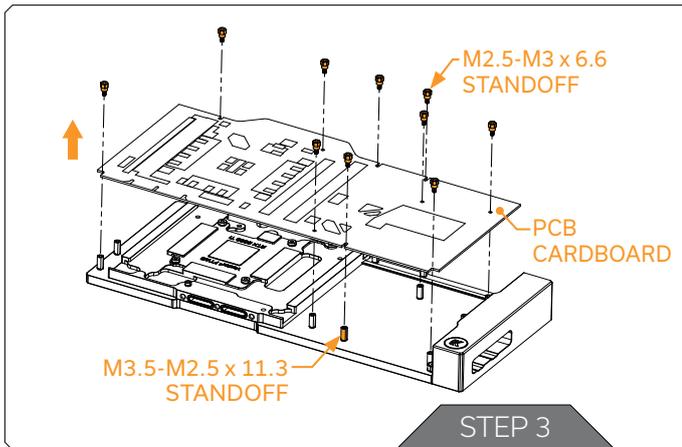
For this step, you will need:





## STEP 2

Carefully remove the complete active backplate with the terminal. Additional two (2) O-rings 14 x 1 EPDM50 need to be removed.

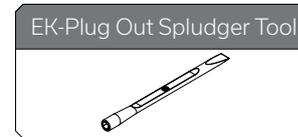


## STEP 3

Unscrew ten (10) M2.5-M3 x 6.6 standoffs with the included tool (EK-Plug out Spludger Tool). Make sure not to unscrew the M3.5-M2.5 x 11.3 standoff! In case the M3.5-M2.5 x 11.3 standoff unscrews, carefully tighten it back with the 4 mm wrench.

After removing the standoffs, the PCB cardboard needs to be removed. The PCB cardboard is printed on 1:1 scale.

For this step, you will need:

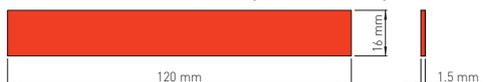


## CUTTING AND PLACING THERMAL PADS

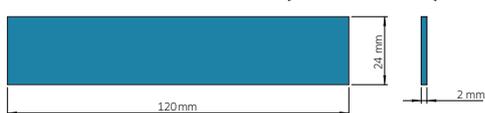
### Thermal Pad F – 1.0 mm (120 x 16 mm)



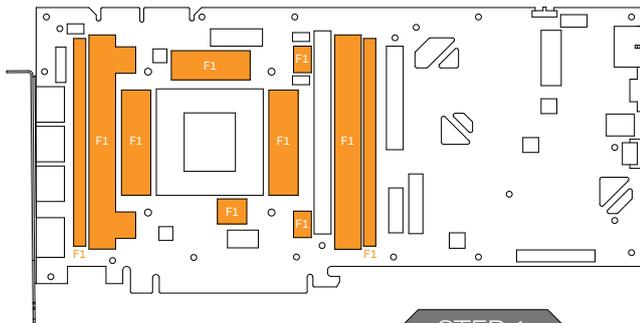
### Thermal Pad F – 1.5 mm (120 x 16 mm)



### Thermal Pad G – 2.0 mm (120 x 24 mm)



F1 Thermal Pad - 120 x 16 x 1.0 mm



STEP 1

### STEP 1

Our GPU water block comes with thermal pads that have to be cut into smaller pieces to cover all the VRM components, such as COILS, MOSFETs, and drivers.



You must remove the protective foil from both sides of the thermal pad before installation.

Replacement thermal pads:

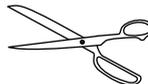
Thermal Pad F 1.0 mm – (120 x 16 mm) EAN: 3830046996732

Thermal Pad F 1.5 mm – (120 x 16 mm) EAN: 3830046996749

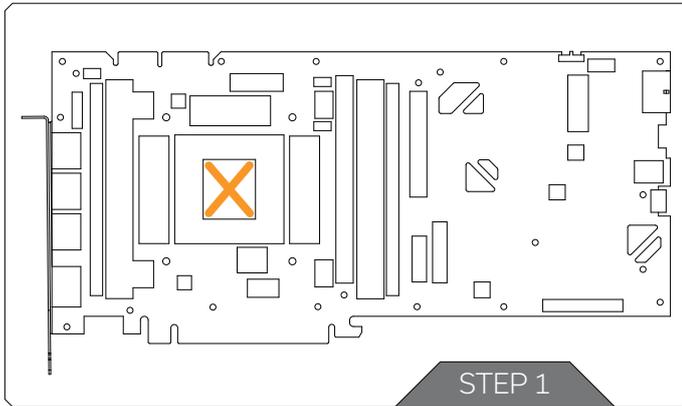
Thermal Pad G 2.0 mm – (120 x 24 mm) EAN: 3830046996794

For this step, you will need:

Scissors



## APPLYING THERMAL COMPOUND



### STEP 1

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



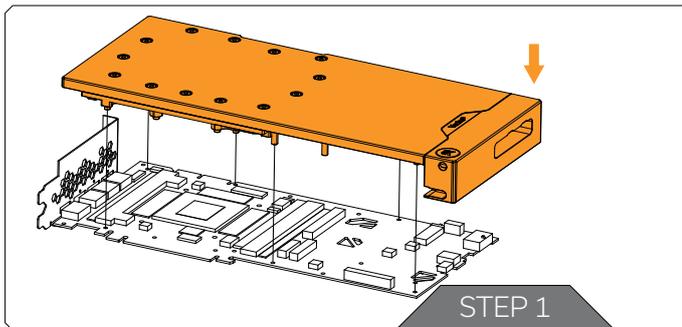
The excessive or uneven application of thermal grease may lead to poor performance!

For this step, you will need:

Thermal Grease



## ATTACHING THE WATER BLOCK



### STEP 1

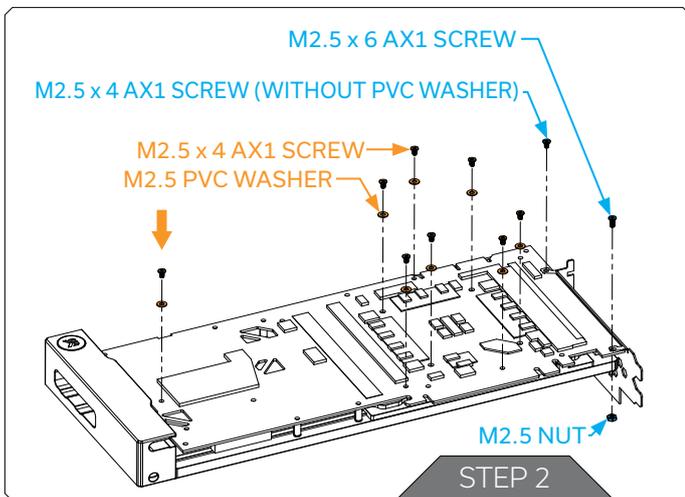
Carefully position the water block with preinstalled standoffs on the graphics card. During this process, make sure you have aligned mounting holes of the PCB with holes of the water block.



Pay attention not to use too much force when pressing the block down to the PCB since chip dies are prone to cracking.



Before placing the Water Block, make sure all the Thermal Pads are placed correctly!



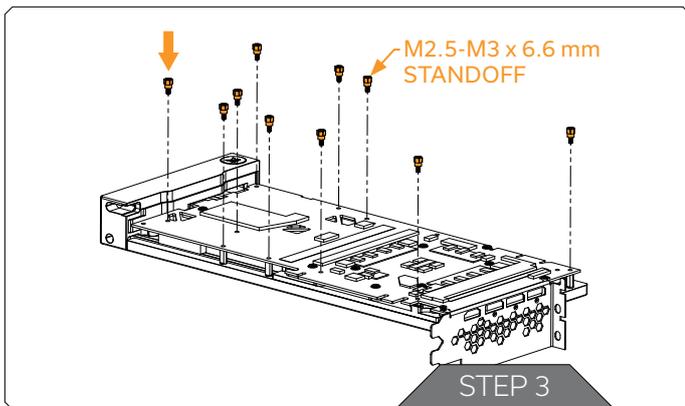
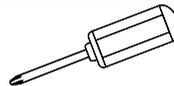
## STEP 2

After placing the water block, use eight (8) M2.5 x 4 AX1 screws and PVC washers to tighten the GPU PCB. Tighten the screws evenly using the Phillips-head screwdriver. EK recommends you start tightening the screws around the GPU core first and then continuing outward to prevent damaging the GPU. Always use a plastic washer under each screw.

After attaching the PCB, use one (1) M2.5 x 6 AX1 Screw in combination with (1) M2.5 Nut and one (1) additional M2.5 x 4 AX1 Screw to secure the I/O Bracket.

For this step, you will need:

Phillips Head Screwdriver



## STEP 3

Place the M2.5-M3 x 6.6 Standoff in each of the ten (10) mounting holes of the standoff M3.5-M2.5 x 11.3 (as shown in the image) and tighten them evenly with the EK-Plug-Out Spludger Tool.



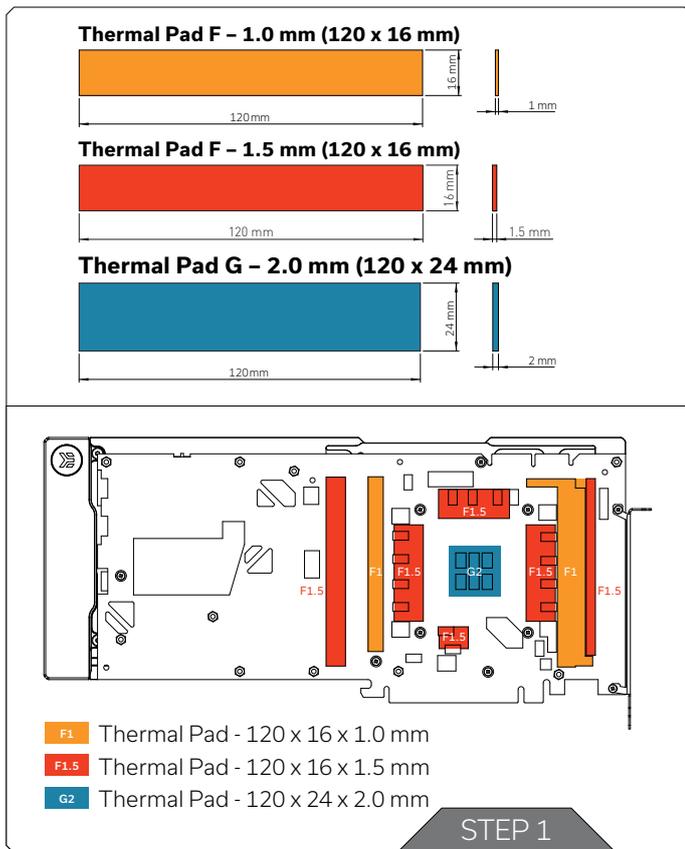
Do not use excessive force!

For this step, you will need:

EK-Plug Out Spludger Tool



## ATTACHING THE ACTIVE BACKPLATE



### STEP 1

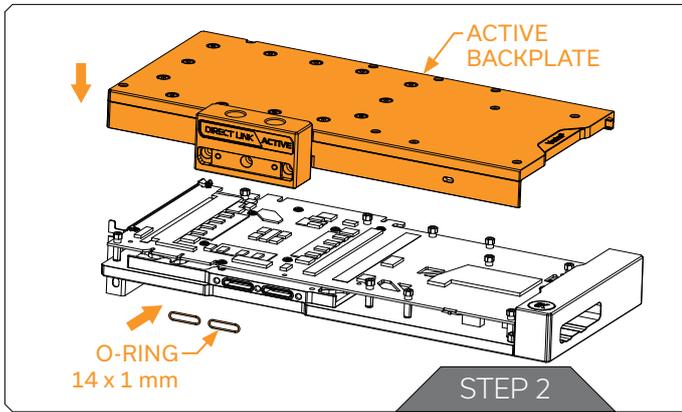
After attaching the water block, a few more thermal pads need to be placed on the backside of the GPU PCB. Once cut to size, thermal pads should be placed on the PCB, as illustrated. EK made sure to provide you with more than an adequate quantity of thermal pads to complete this Step.

Replacement thermal pads:

Thermal Pad F 1.0 mm - (120 x 16 mm) EAN: 3830046996732

Thermal Pad F 1.5 mm - (120 x 16 mm) EAN: 3830046996749

Thermal Pad G 2.0 mm - (120 x 24 mm) EAN: 3830046996794

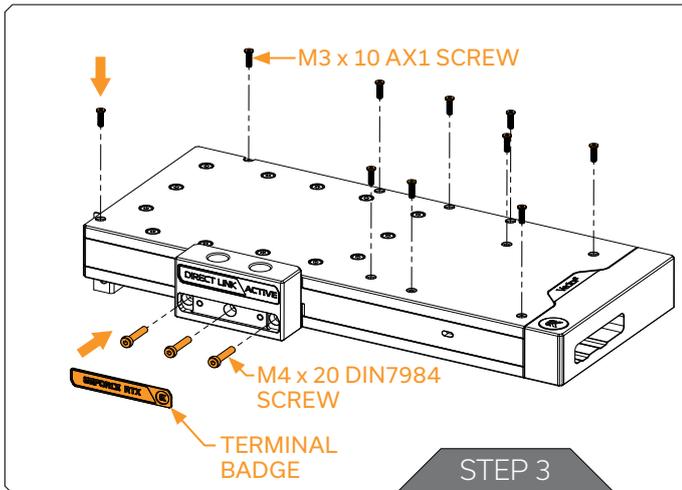


## STEP 2

Put two (2) O-rings 14 x 1 into slots on the cold plate. Then carefully place the active backplate on standoffs as shown in the image. While putting the active backplate on the PCB, make sure the O-rings stay in the slots.



Before attaching the Active Backplate, make sure all the Thermal Pads are placed correctly!

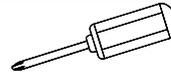


## STEP 3

Place ten (10) M3 x 10 AX1 screws into the water block standoffs and tighten them using Philips head screwdriver (as shown in the image). After attaching the AX1 Screws, three (3) terminal screws M4 x 20 DIN7984 need to be attached using Allen Key 2.5mm. The terminal badge can be reused, after securing the terminal screws.

For this step, you will need:

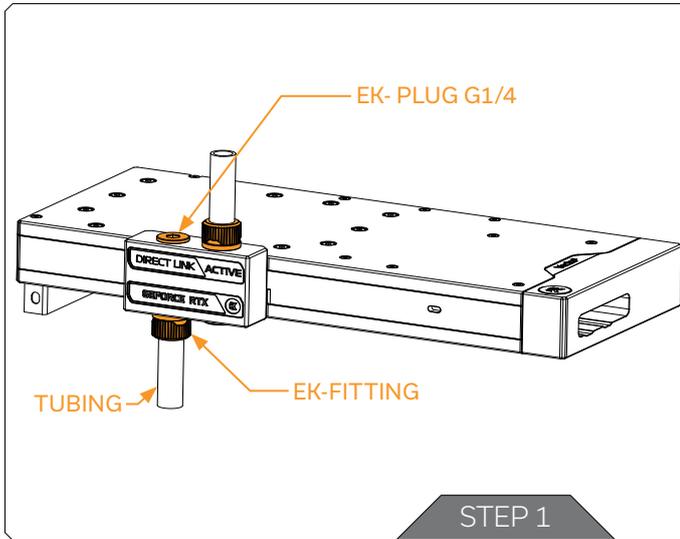
Phillips Head Screwdriver



Allen Key 2.5mm



## 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.



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

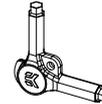
**EK recommends using EK fittings with all EK water blocks.**



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

For this step, you will need:

EK-Loop Multi Allen Key



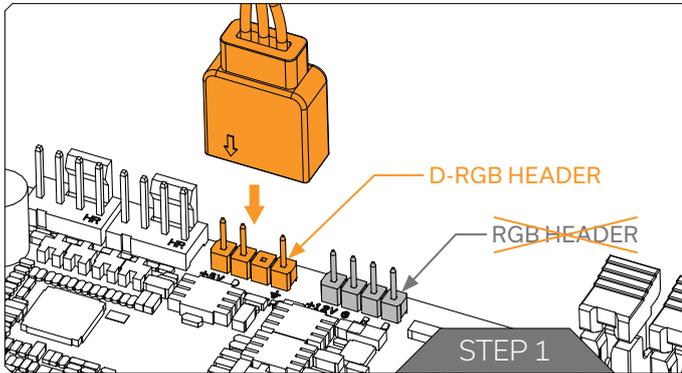
## INSERTING THE GRAPHICS CARD INTO THE CHASSIS

Carefully lift your graphics card with the installed water block and insert it into your PC's motherboard PCI Express expansion slot. Please keep in mind that your graphics card is heavier than before it was equipped with the water block.



You need to be very careful when handling the graphics card. Avoid all unnecessary manipulation of the water block assembly that might damage your card or water block.

## 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**.



Incorrect installation or installation to a wrong header can damage the LED strip or the header itself!

## 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/>**

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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 EKWBofficial

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