EK-Quantum
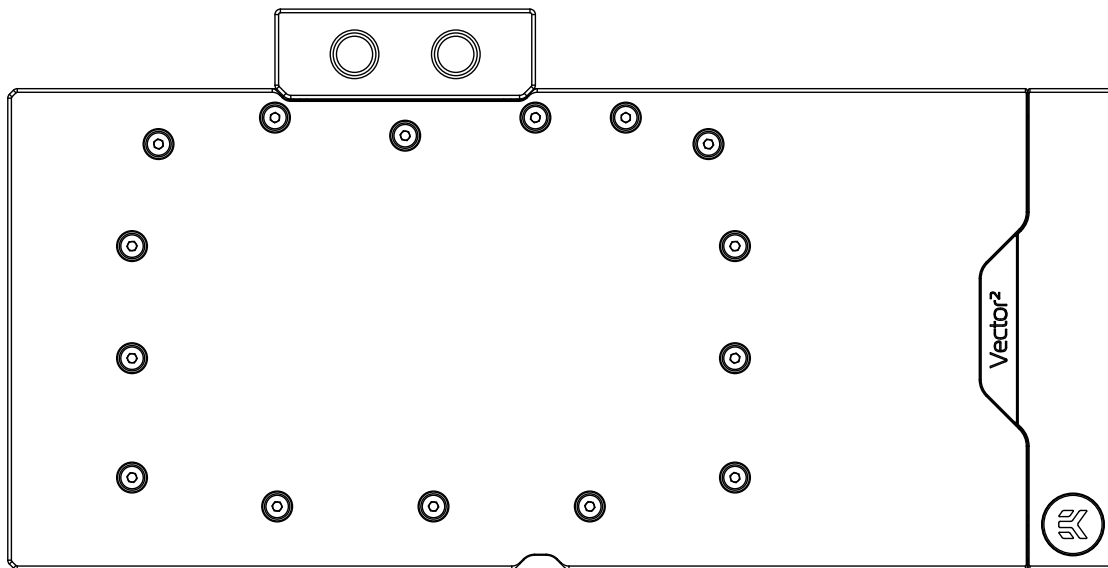# Vector² Trio RTX 4090 D-RGB ABP Set

GPU WATER BLOCK

Vector²

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 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!

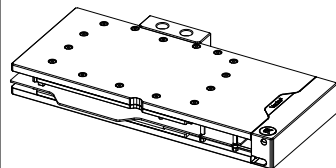**Do not use pure distilled water!**

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!
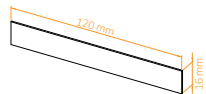
TABLE OF CONTENTS

BOX CONTENTS

EK-Quantum Vector² Trio RTX 4090 D-RGB ABP Set	M2.5x4 AX1 Screw (9 pcs)	M2.5x8 AX1 Screw (1 pc)	Standoff Ø4.5/2.5 (1 pc)
	M3x10 AX1 Screw (1 pc)	Polyamid Washer M2.5 0.5mm (9 pcs)	Standoff M2.5-M3 x 6.6mm (1 pc)
Thermal Pad F 1.0 mm (9 pcs) (3830046996732)	Quantum Plug (2 pcs)	Terminal OR - Vector² 14x1 mm (2 pcs)	Nut M2.5 (2 pcs)
Thermal Pad G 2.0 mm (2 pcs) (3830046996794)	Allen Key 2 mm (1 pc)	EK-Plug Out Spludger Tool (1 pc)	Thermal Grease (1 pc)
Allen Key 2.5 mm (1 pc)	EK-Loop Multi Allen Key (1 pc)		
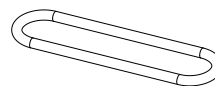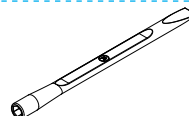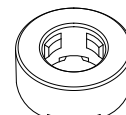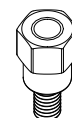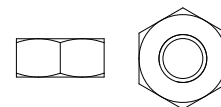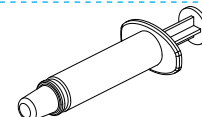
EAN: 106080

EAN: 106046

WATER BLOCK DIMENSIONS

307 mm

123.5 mm

95.5 mm

41 mm

133 mm

142.5 mm

155 mm

35.5 mm

Vector²
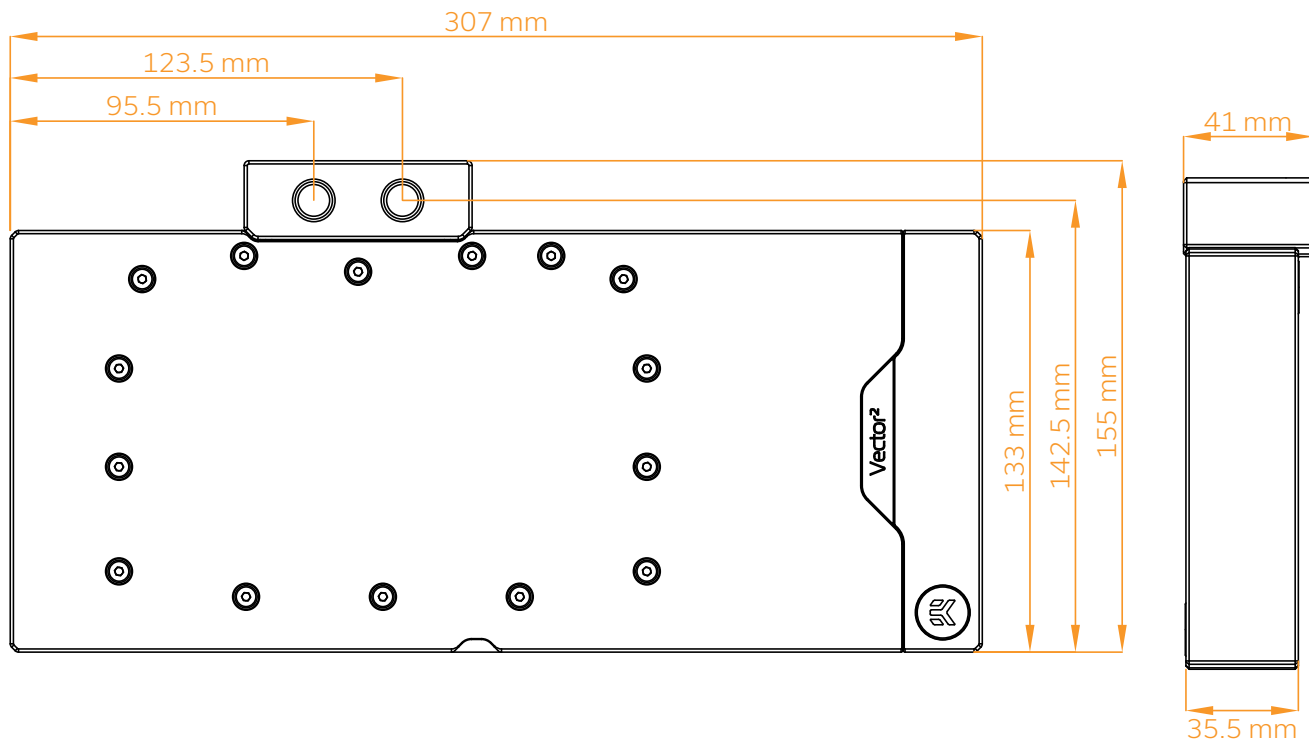
TECHNICAL SPECIFICATIONS AND WATER BLOCK PARTS
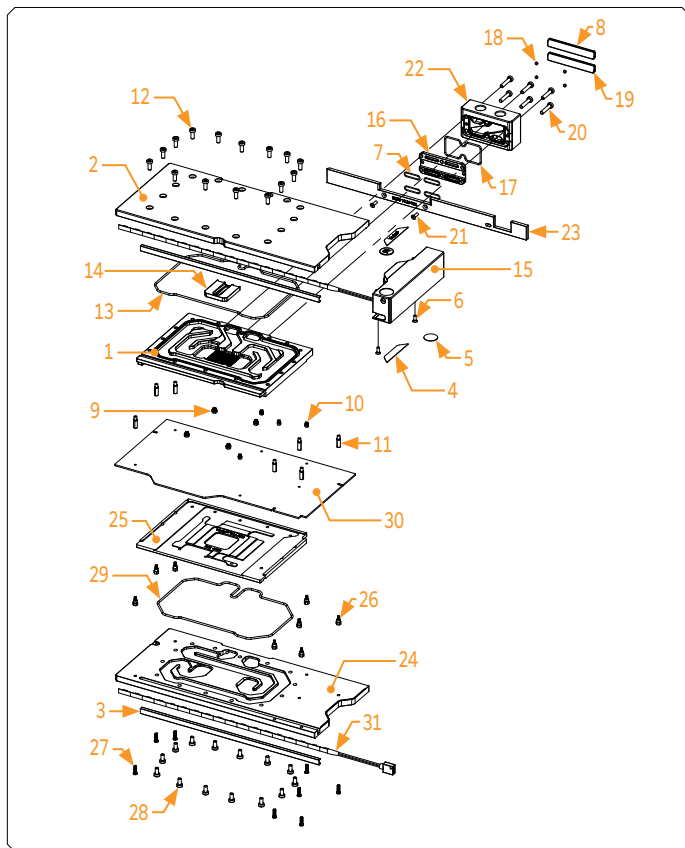
NICKEL PLEXI
- Dimensions: (L x H x W): 307 x 155 x 41 mm
- D-RGB LED count: 30
- D-RGB cable length: 2 x 50 cm
- D-RGB connector 3-pin 5V digital LED header
 (Pinout: +5V | Data | Blocked | Ground)

Position	EAN	Description	Quantity
1	106062	Coldplate (Ni)	1
2	106063	Top plate (Plexi)	1
3	106069	LED Cover (N. Elox)	2
4	103964	Mylar sticker	2
5	100663	EK - Badge	2
6	8208	Screw M3 x 8 7991DIN	2
7	104106	Terminal OR - 14 x 1 mm	4
8	103942	Terminal Badge	1
9	103988	Standoff M4-M2.5 x 3 mm	4
10	103987	Standoff M3.5-M2.5 x 3 mm	4
11	103986	Standoff M3.5-M2.5 x 11.3 mm	7
12	9024	Screw M4 x 10 DIN7984	15
13	106077	Main OR 160 x 2 mm	1
14	103962	Plexi insert	1
15	104099	Stand out (Acetal)	1
16	104395	Terminal Plate (Ni)	1
17	104414	OR 53 x 2 mm	1
18	105163	Disc magnet 3 x 2	4
19	104086	Backplate Terminal Badge	1
20	8311	Screw M4 x 20 DIN7984	6
21	8201	Screw M3 x 10 DIN7991	2
22	104393	FC Terminal (Acetal)	1
23	106076	Sideplate (B. Elox)	1
24	106072	Top plate ABP (Plexi)	1
25	106071	Coldplate ABP (Ni)	1
26	104093	Standoff M2.5-M3 x 6.6 (Ni)	8
27	104105	Screw AX1 M3 x 10 mm	8
28	9013	Screw M4 x 8 DIN7984	14
29	106078	Main OR ABP 165 x 2 mm	1
30	106081	PCB cardboard	1
31	101556	LED D-RGB strip 500/300 mm	2

PREPARING THE GRAPHICS CARD

RETENTION BRACKET

STEP 1

I/O BRACKET

STEP 2
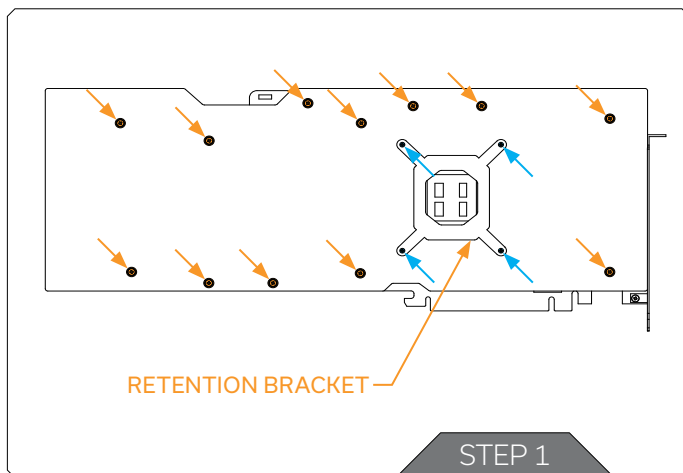
⚠ Important! Before starting, make sure to have a clean, flat surface to work on. It is recommended to put foam or soft material to lay the graphics card on.

REMOVING THE STOCK COOLER

MSI GeForce RTX 4090 Suprim X 24G

STEP 1
First, remove twelve (12) screws from the backside of the Stock cooler (using a Phillips head screwdriver) and detach the backplate. After removing the backplate, additional (4) blue-marked screws must be removed to detach the retention bracket.

For this step, you will need:

Phillips Head Screwdriver
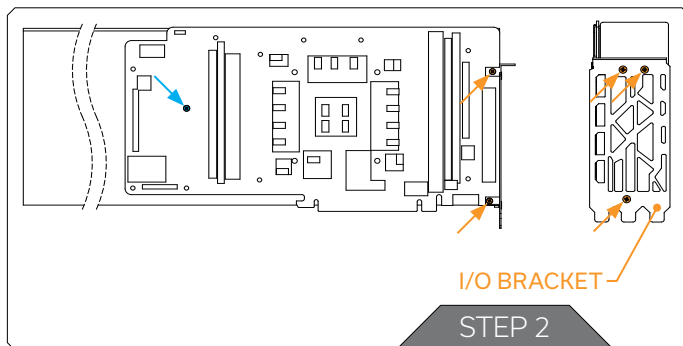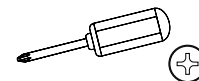
STEP 2
Five (5) screws must be removed to detach the I/O Bracket. Save the I/O Bracket for later use.

Lastly, one (1) blue-marked screw must be removed. Unplug the connectors and remove the stock cover from the GPU PCB.

For this step, you will need:

Phillips Head Screwdriver
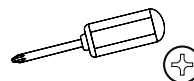
PREPARING THE WATER BLOCK FOR INSTALLATION

M3 x 10 AX1 SCREW

UPPER TERMINAL BADGE

TERMINAL BADGE

M4 x 20 DIN7984 SCREW
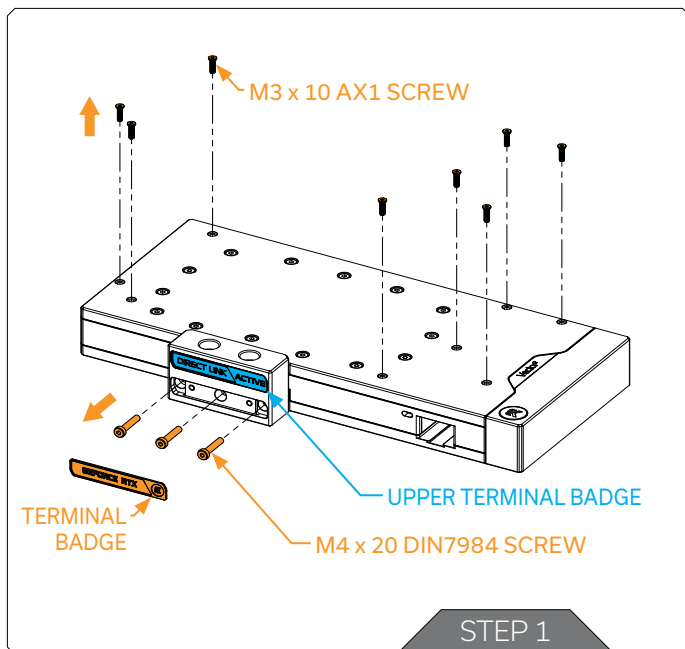
STEP 1

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 eight (8) screws M3 x 10 AX1 need to be removed (as shown in the image). Save the removed parts for later use.

⚠️ **DO NOT REMOVE THE UPPER TERMINAL BADGE!**

For this step, you will need:

Phillips Head Screwdriver	Allen Key 2.5mm

ACTIVE BACKPLATE

TERMINAL
O-RING 14x1 mm
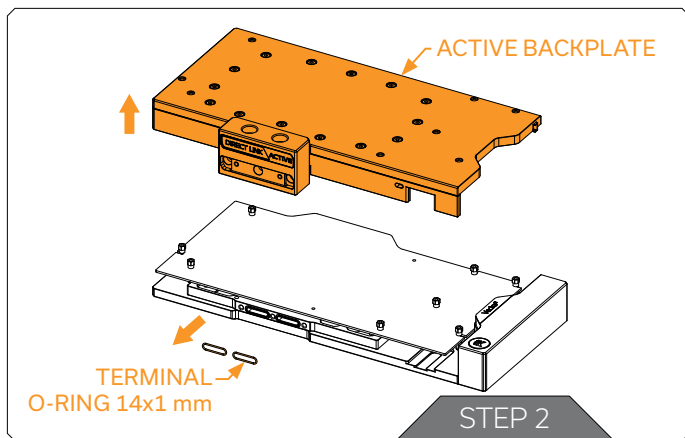
STEP 2

STEP 2

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

M2.5-M3x6.6 STANDOFF

PCB CARDBOARD

M3.5-M2.5x11.3 STANDOFF
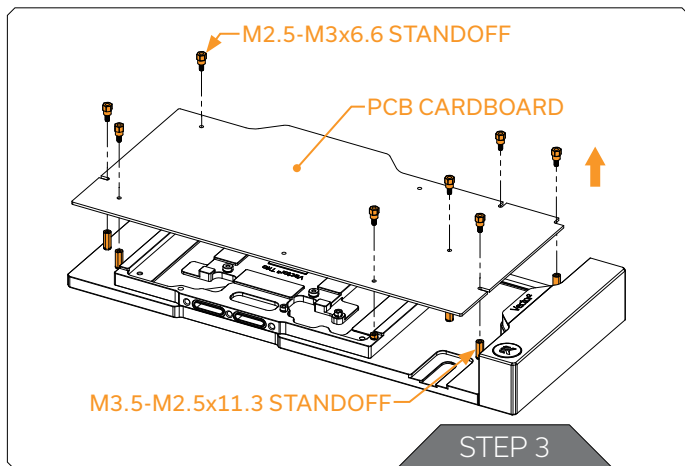
STEP 3

STEP 3

Unscrew eight (8) M2.5-M3 x 6.6 standoffs with the provided tool (EK-Plug out Spludger Tool). Make sure not to unscrew the M3.5-M2.5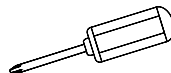 x 11.3 standoffs! In case the M3.5-M2.5 x 11.3 standoffs unscrew, carefully tighten it back with the 4 mm wrench. After removing the standoffs, the PCB cardboard needs to be removed. Save the removed standoffs for later use.

For this step, you will need:

EK-Plug Out Spludger Tool

CUTTING AND PLACING THERMAL PADS

Thermal Pad F – 1.0 mm (120 x 16 mm)

16 mm

120 mm

1 mm

Thermal Pad G – 2.0 mm (120 x 24 mm)

24 mm

120 mm

2 mm
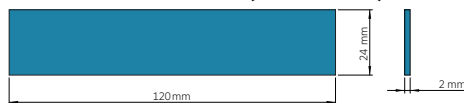
STEP 1

STEP 1
The 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.

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

F1 Thermal Pad - 120 x 16 x 1.0 mm

STEP 2

STEP 2
Once cut to the size, Thermal Pads should be placed on the PCB, as shown in the picture

APPLYING THERMAL COMPOUND
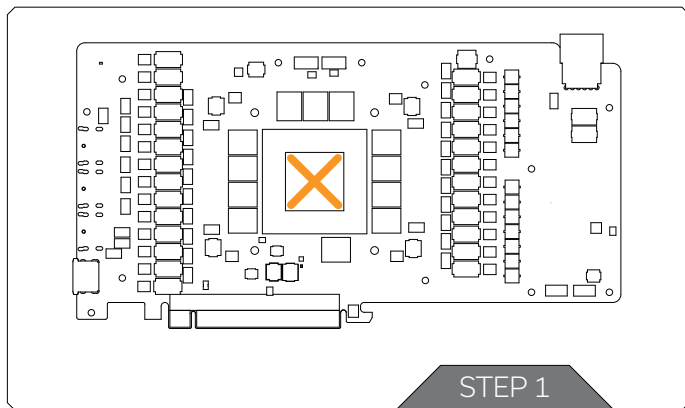
STEP 1

STEP 1

Apply the enclosed 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.

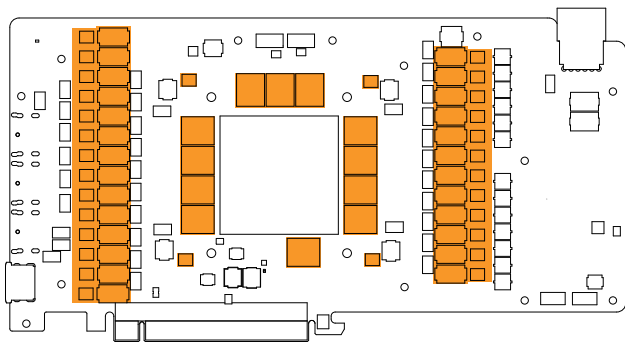⚠ The excessive or uneven application of thermal grease may lead to poor performance!

For this step, you will need:

Thermal Grease
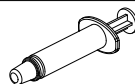
ATTACHING THE WATER BLOCK
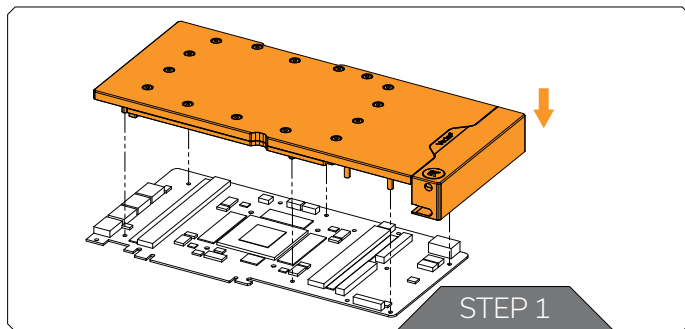
STEP 1

STEP 1

Carefully place the water block with preinstalled standoffs on the GPU PCB. During this process, make sure you have aligned the mounting holes of the PCB with the 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!

M2.5 x 4 AX1 SCREW + M2.5 NUT
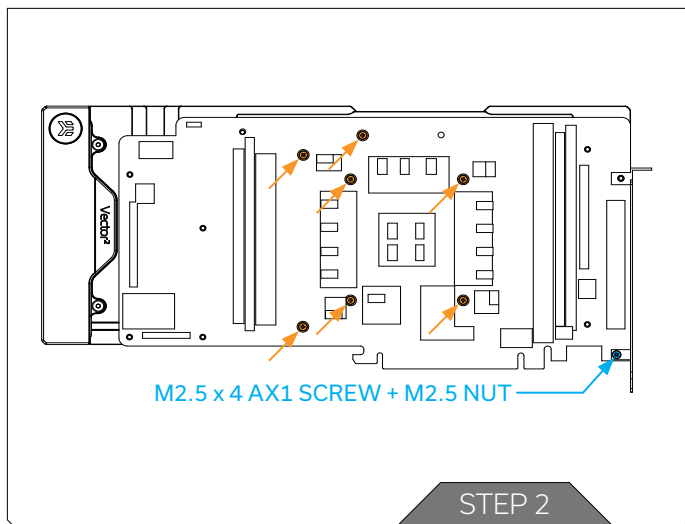
STEP 2

STEP 2

Use seven (7) M2.5 x 4 AX1 Screws and PVC washers to tighten the PCB on the water block. 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 damage to the GPU.

After securing the GPU PCB, reuse the I/O Bracket and tighten it with the one (1) M2.5 x 4 AX1 Screw and N2.5 Nut.

For this step, you will need:

M2.5 x 4 AX1 Screw (8 pcs)	Polyamide Washer (7 pcs)	Phillips Head Screwdriver

I/O Bracket	M 2.5 Nut (1 pc)
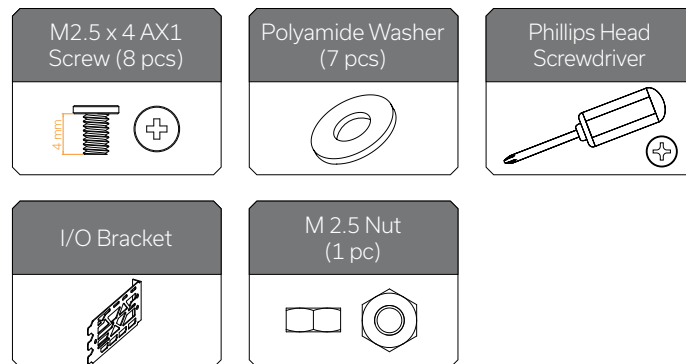
Screws must be present in the places marked on the picture.
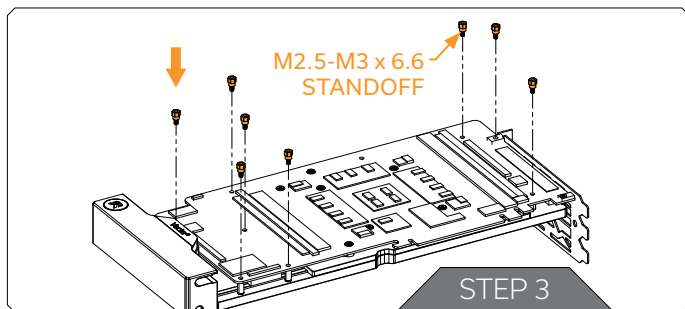
STEP 3

After securing the GPU PCB, position the eight (8) M2.5-M3 x 6.6 standoffs. Tighten it with the provided tool (EK-Plug out Spludger Tool).

For this step, you will need:

EK-Plug Out Spludger Tool	M2.5-M3 x 6.6mm Standoff (8 pcs)

ATTACHING THE ACTIVE BACKPLATE

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

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

| F1 | Thermal Pad - 120 x 16 x 1.0 mm |
| G2 | Thermal Pad - 120 x 24 x 2.0 mm |
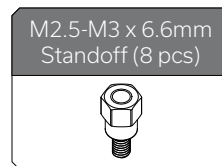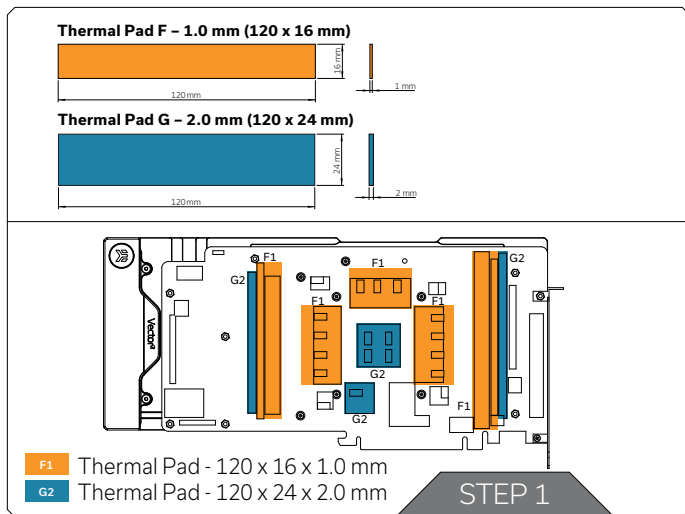
STEP 1

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

ACTIVE BACKPLATE

OR 14 x 1
EPDM 50

STEP 2

STEP 2

Insert two (2) O-rings (14 x 1 mm) 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!
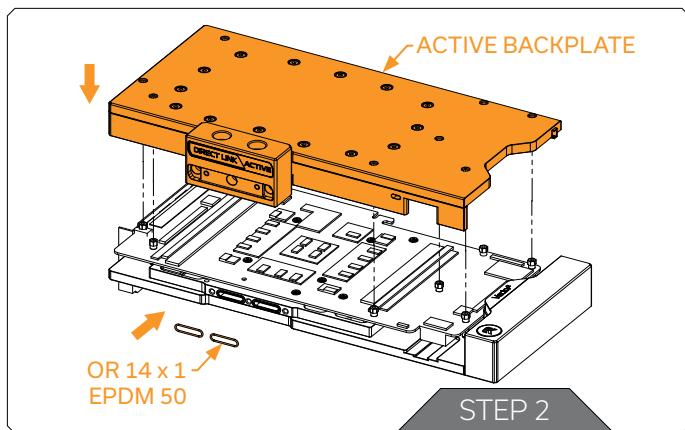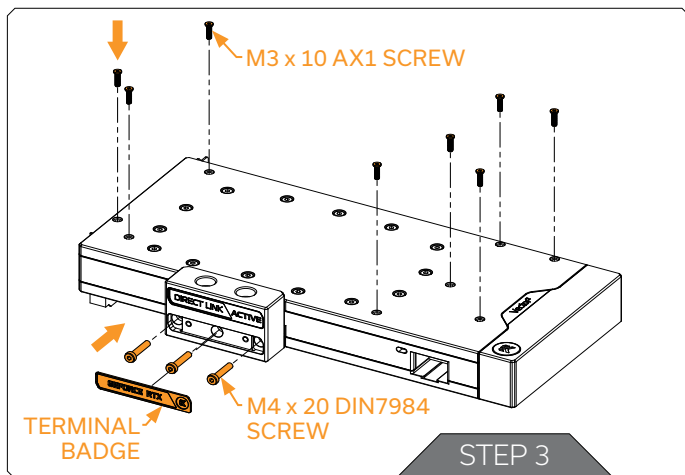

M3 x 10 AX1 SCREW

TERMINAL BADGE

M4 x 20 DIN7984 SCREW

STEP 3

STEP 3

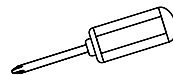Place eight (8) M3 x 10 AX1 screws into the water block standoffs and tighten them using a Philips head screwdriver (as shown in the image). After attaching the AX1 Screws, three (3) terminal screws M4 x 20 DIN7984 need to be attached using Allen Key 2.5 mm. The terminal badge can be reused, after securing the terminal screws.
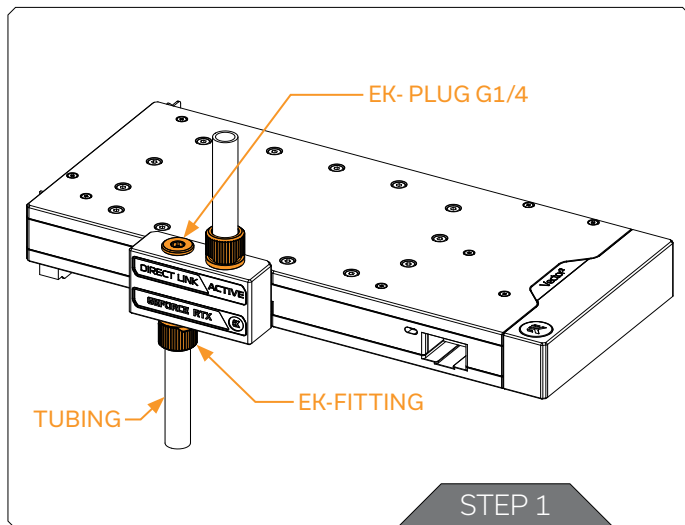
For this step, you will need:

Phillips Head Screwdriver	Allen Key 2.5mm

FITTINGS AND TUBING

EK- PLUG G1/4

TUBING

EK-FITTING

STEP 1

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 with the enclosed EK-Plug G1/4 or its equivalent.
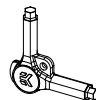
EK recommends using EK fittings with all EK water blocks.

⚠️ CAUTION: When using connectors other than EK fittings, pay special attention to the length of the fittings' male G1/4" thread – 5 mm 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

D-RGB HEADER
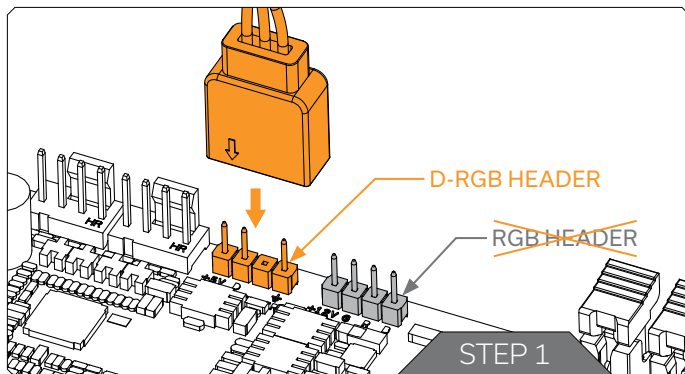
RGB HEADER

STEP 1

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 the coolant leaks, fix the issue and repeat the testing process. Ensure that all hardware is dry before the system is powered on 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 instruction's 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

SOCIAL MEDIA

EKWaterBlocks

@EKWaterBlocks

ekwaterblocks

EKWBofficial

ekwaterblocks