EK-Annihilator series CPU water block installation manual

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:

1. **Please carefully read the manual before through before beginning with the installation process!**
2. **Please remove your motherboard from the computer to assure safest mounting process in order to prevent any possible damages to your CPU and/or motherboard's circuit board (PCB).**
3. **The EK-HFB, EK-HDC and EK-ACF type fittings require only a small amount of force to screw them firmly in place as the liquid seal is ensured by the rubber o-ring gaskets.**
4. **The use of corrosion inhibiting coolants is always recommended for any liquid cooling system.**

STEP 1: GENERAL INFORMATION ON PRODUCT

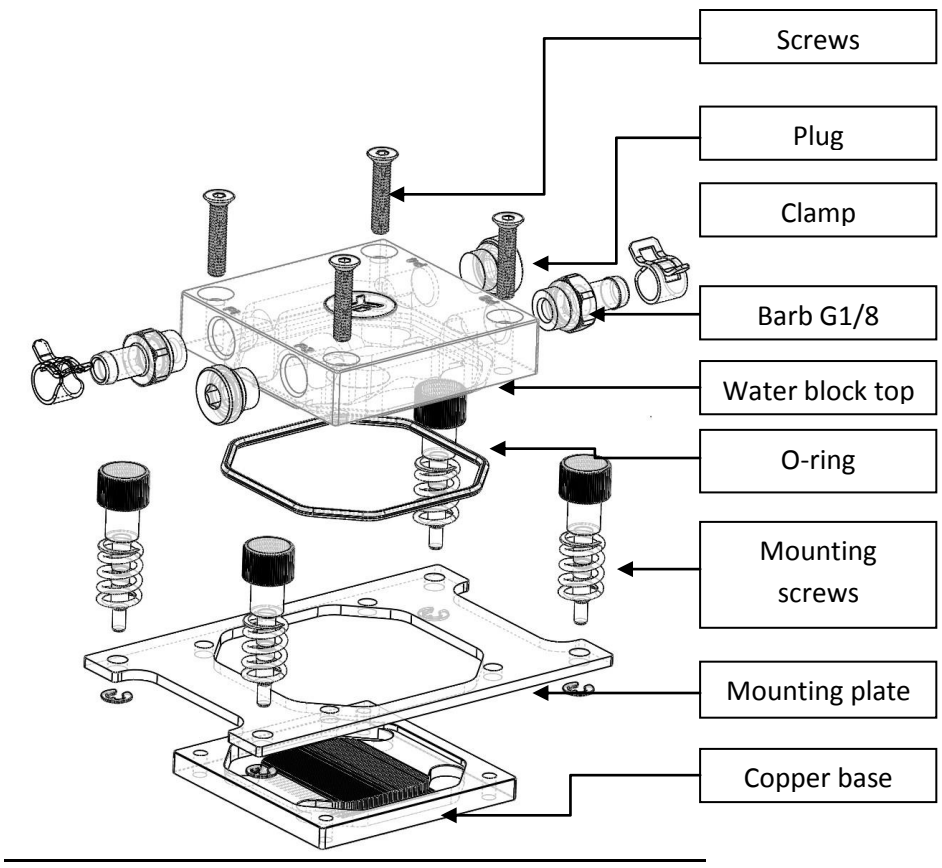
Congratulations on your purchase of EK-Annihilator water block. This water block is pre-assembled for use with modern Intel HEDT server and workstation socket type motherboards.

By default this water block supports the following CPU sockets:

- Intel socket LGA-2011(-3) Narrow ILM

By replacing the mounting plate for alternative one (enclosed) this product also supports the following CPU sockets:

- Intel socket LGA-2011(-3)
- Intel socket LGA-115x



STEP 2: TABLE OF CONTENT

The following items are enclosed with each EK-Annihilator water block:

- EK-Annihilator CPU water block
  - Pre-installed mounting mechanism
- EK-Supremacy MX Backplate
  - Backplate BAS gasket
  - Backplate for Intel LGA-115x socket motherboards
- Torx key T20
- EK-HFB Fitting 6mm G1/8 (2 pcs)
- Plug G1/8 (2 pcs)
- Hose Clamp FSB 1050 (2 pcs)
- EK-TIM Ectotherm 1g thermal grease

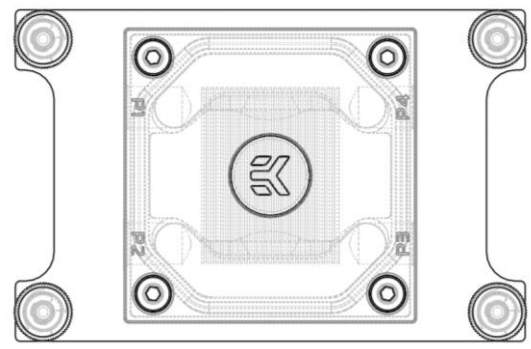
Note: To disassemble pre-installed mounting mechanism please release the circlip under each mounting screw.

STEP 3: ANNIHILATOR INLET AND OUTLET PORTS

EK-Annihilator allows for various inlet and outlet port configuration.

4 ports are available on EK-Annihilator CPU water block: P1, P2, P3, and P4.

Possible combinations:



P1 in - P2 or P3 out
P2 in - P1 or P4 out
P3 in - P4 or P1 out
P4 in - P3 or P2 out

Chose combination to best fit motherboard configuration. Install Barb Fitting 6mm G1/8 on chosen inlet- and outlet ports.

Plug the remaining two ports with Plug G1/8.nstall MS - Plug G1/8.

STEP 4 (optional): REPLACING MOUNTING PLATE

1) Place water block on an even surface and remove four M4x16 DIN7991 screws attaching the top to the copper base using the 2.5mm Allen key (not enclosed).

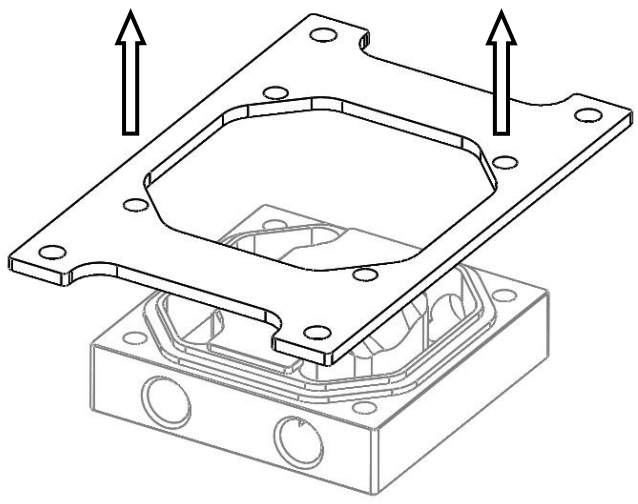
2) Replacing mounting plate:

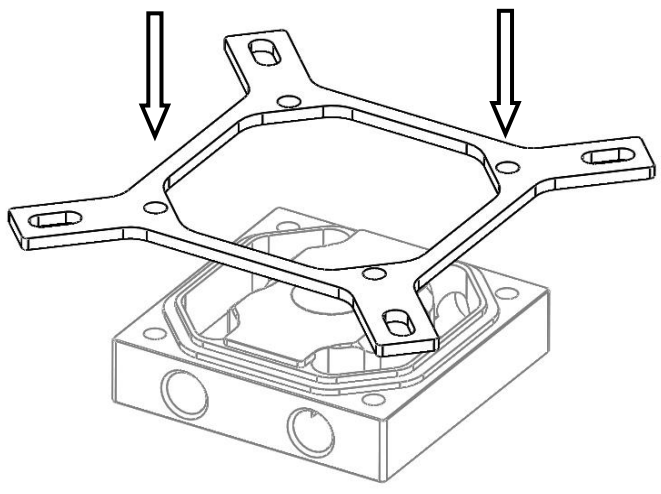
2.1) Replace the default Intel LGA-2011 Narrow Mounting Plate with alternative one. You will feel the mounting plate locking into the position when placed correctly on to the top.

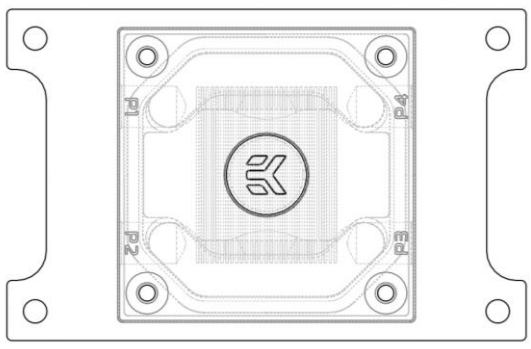
2.2) Reseat the larger o-ring gasket (57x2 mm) into the gap between the mounting plate and water block top.

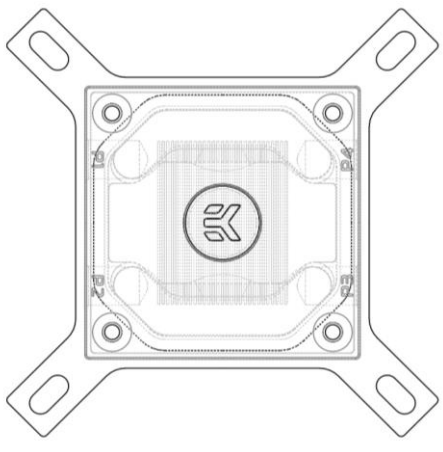
3) Installing copper base:

When installing copper base beware of correct fin position and orientation. Copper fins must be oriented from P1/P3 toward P2/P4 as shown on the pictures.





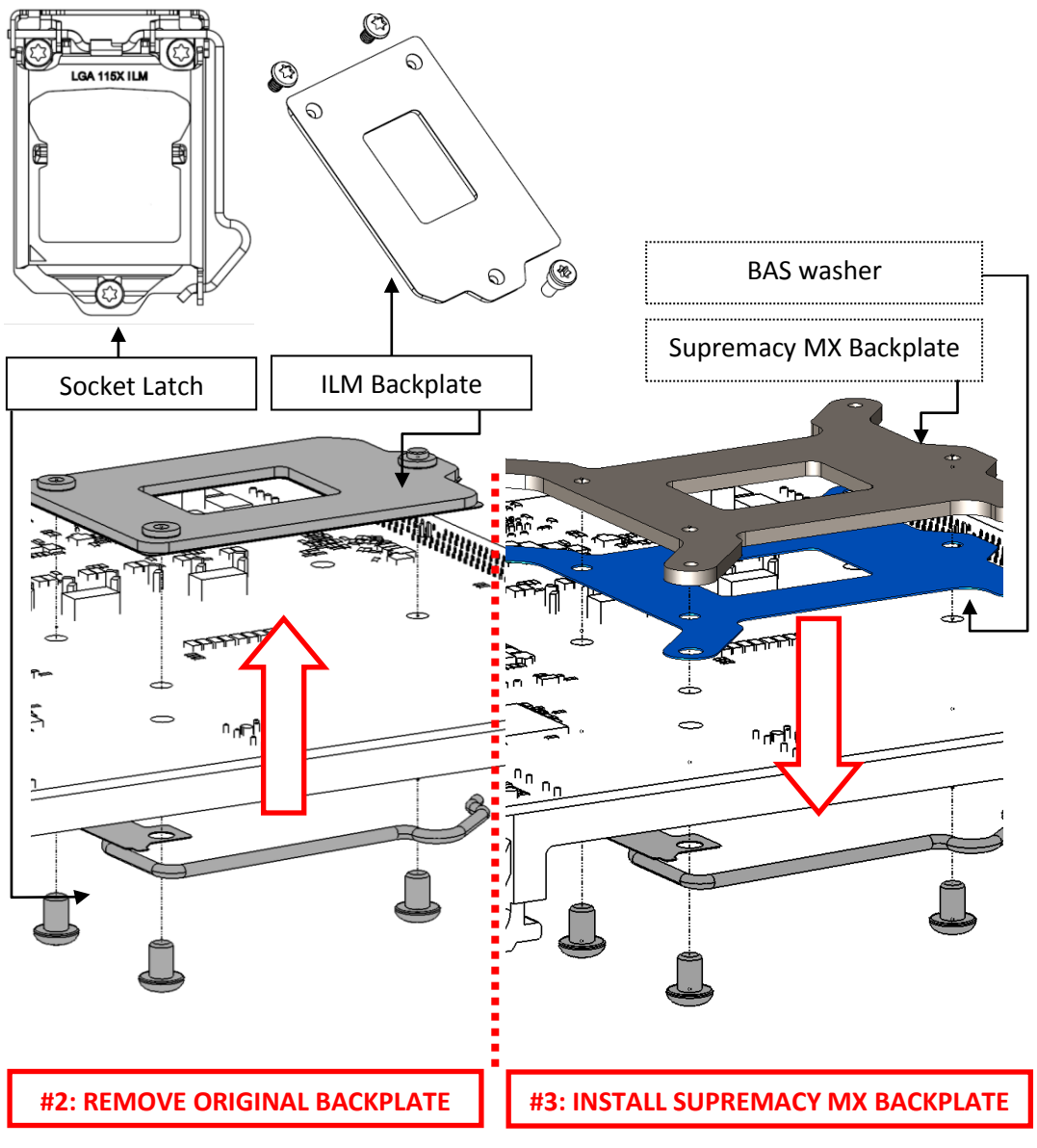




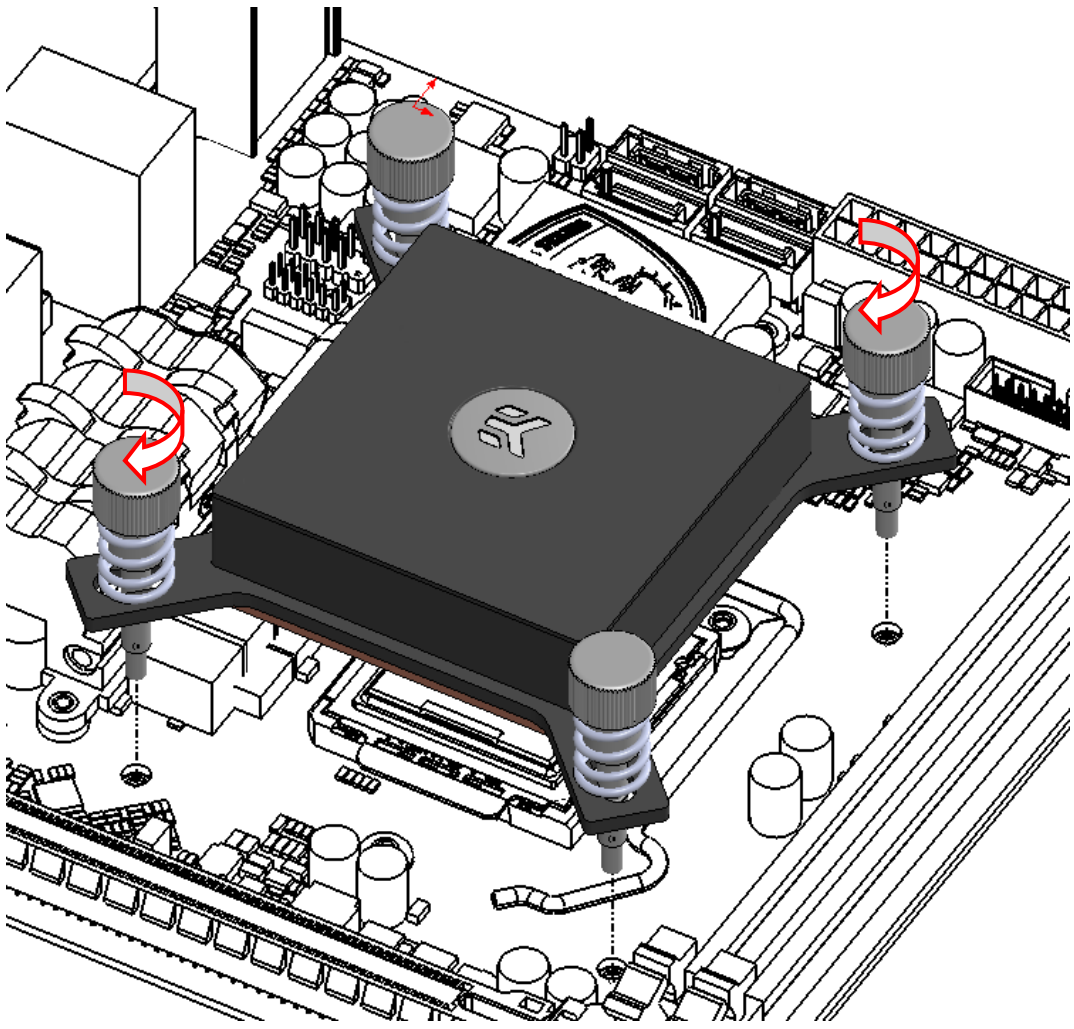
STEP 5: INSTALLING THE WATER BLOCK:

STEP 5a: Intel LGA-115x motherboards:

Installing this water block on LGA-115x system requires two pre-steps – removing of the original Backplate and replacing it with EK-Supremacy MX Backplate.
1) Place motherboard on an even surface with front side facing up.
2) Using enclosed Torx key T20 remove the three UNC 6-32 screws securing the socket latch mechanism (ILM) and original backplate (BP) to the motherboard.
See sketches below for part identification:

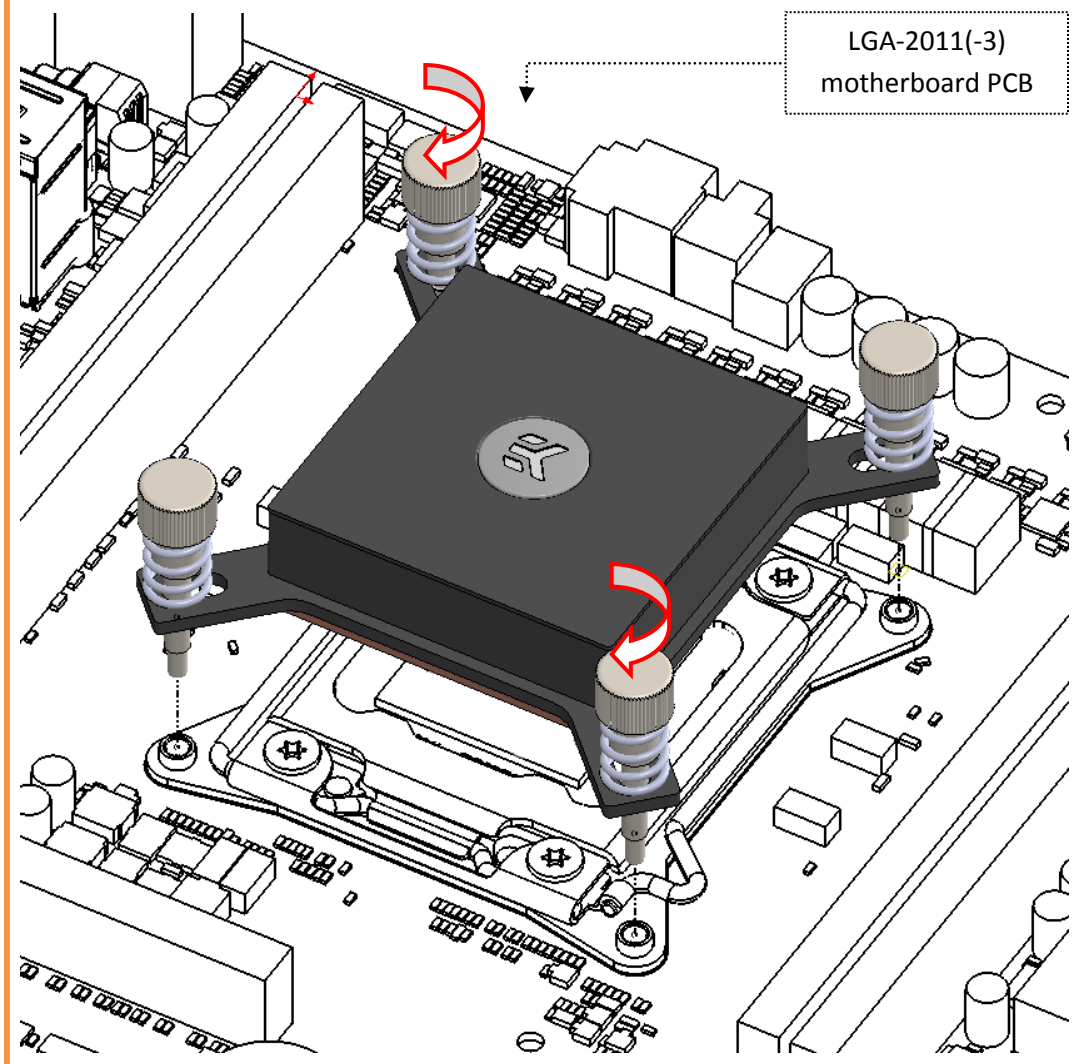


3) **Replace the original ILM backplate** with the enclosed EK-Supremacy MX Backplate and BAS washer and then secure it using three original UNC 6-32 screws.
4) Re-tighten the screws using enclosed Torx key T20.
5) Install CPU and apply TIM (thermal grease) as shown in STEP 6
6) Align water block with pre-installed mounting mechanism above the LGA-115x motherboard with pre-installed CPU.
7) Tighten the screws with your thumbs until you reach the end of the thread, preferably by tightening two thumb screws at a time in the cross pattern. Do not use any tools (such as pliers) during this process!



STEP 5b: Intel LGA-2011(-3) socket motherboard:

1) On majority of motherboards the EK-Annihilator can be sucessfully installed with motherboard already being pre-fitted to the computer chassis. Still, it is best practice to place a motherboard on an even surface with front side facing up.
3) Install CPU and apply TIM (thermal grease) as shown in STEP 6
4) Align water block with pre-installed mounting mechanism above the LGA-2011(-3) motherboard with pre-installed CPU.
5) Tighten the screws with your thumbs until you reach the end of the thread, preferably by tightening two thumb screws at a time in the cross pattern. Do not use any tools (such as pliers) during this process!



STEP 6: PREPARING CPU AND APPLYING THERMAL GREASE (TIM):

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 EK-TIM Ectotherm™ thermal compound to the CPU heatspreader (IHS) - see sample photo on right. The quantity of about two- (LGA-115x) or three (LGA-2011) 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!

STEP 7: CONNECTING THE WATER BLOCK TO THE COOLING LOOP:

Carefully identify the direction of the flow in your circuit. EK recommends the use of EK-HFB Fitting 6mm G1/8 Fittings and EK-Tube ZMT 6/9mm Matte Black tubing. The use of biocide containing and corrosion inhibiting coolant is always recommended for any liquid cooling system:
- Install Barb 1/8 [1] to the CPU block.
- Mount Clamp [3] to the tubing [2]
- Mount the pipe [2] to the barb [1]
- Use pliers to compress the clamp [3] and pull it on the barb [1] to secure the tubing [2].