# Installation manual for **EK-FB GA X99 Ultra Monoblock** water block
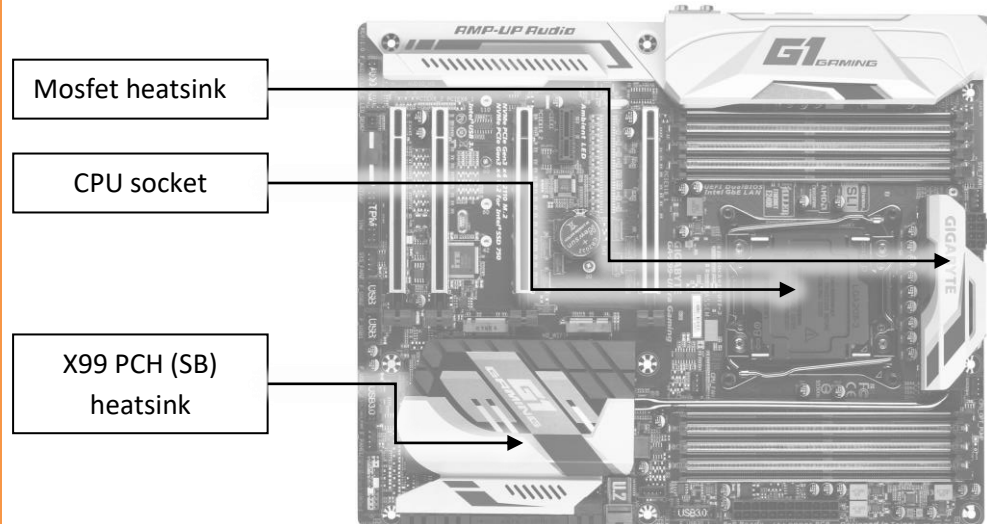
This product is intended for installation only by expert users. Please consult with a qualified technician for installation. Improper installation may result in damage to your equipment. EK Water Blocks assumes no liability whatsoever, expressed or implied, for the use of these products, nor their installation. 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 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.**
4. **The use of quality, market proved corrosion inhibiting coolants is always strongly recommended for any liquid cooling system.**

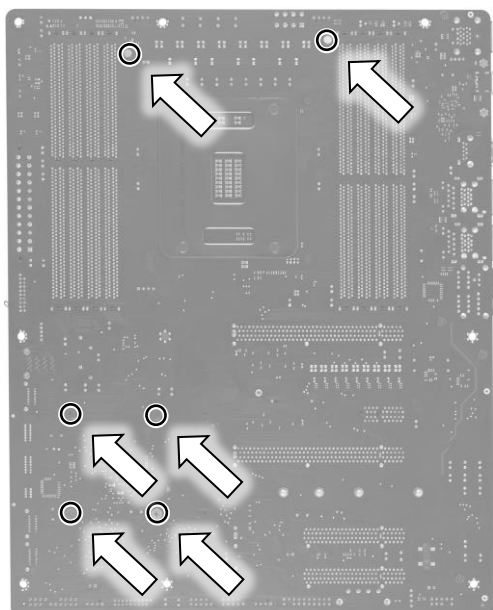## STEP 1:  GENERAL INFORMATION  Sample photo of Gigabyte X99 Ultra Gaming motherboard

Mosfet heatsink

CPU socket

X99 PCH (SB) heatsink

BAG CONTENT: Bag content is universal for all water blocks, you may not need all screws.

| | | | |
|---|---|---|---|
| M3x8 7991DIN | THUMB NUT M3 | M2.5x4 AX1 | M2.5x7 AX1 |
| 2pcs | 4pcs | 2pcs | 2pcs |
| M3 PVC washer | M2.5 PVC washer | M2.5 Self-adh. w. | 2mm Allen key |
| 5pcs | 3pcs | 3pcs | 1pc |

## STEP 2:  PREPARING YOUR MOTHERBOARD

1. REMOVING STOCK COOLER. Remove all encircled screws. There are 6 screws on the back of the motherboard that need to be removed in order to remove the factory installed MOSFET and X99 PCH heat pipe cooling solution.

2. CLEANING THE PCB. Carefully detach the original stock cooler after removing **all** screws securing it to the board. Wipe off the remains (by using non–abrasive cloth or *qtip,* as shown on sample photo) of the original thermal compound until the components and circuit board are completely clean. EKWB recommends the use of denatured alcohol for removing TIM leftovers.

3. APPLYING THERMAL COMPOUND. Apply thermal compound on CPU heat spreader (IHS) - see sample photo on right with enclosed EK-TIM Ectotherm thermal grease.

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!

4. CUTTING THERMAL PAD. Your block comes with thermal pad which needs to be trimmed in order to fit the voltage regulation area (MOSFET) on the motherboard's circuit board. WARNING: DIMENSIONS ON PICTURES BELOW ARE SCALED.

**1. Thermal pad G–1.0mm**
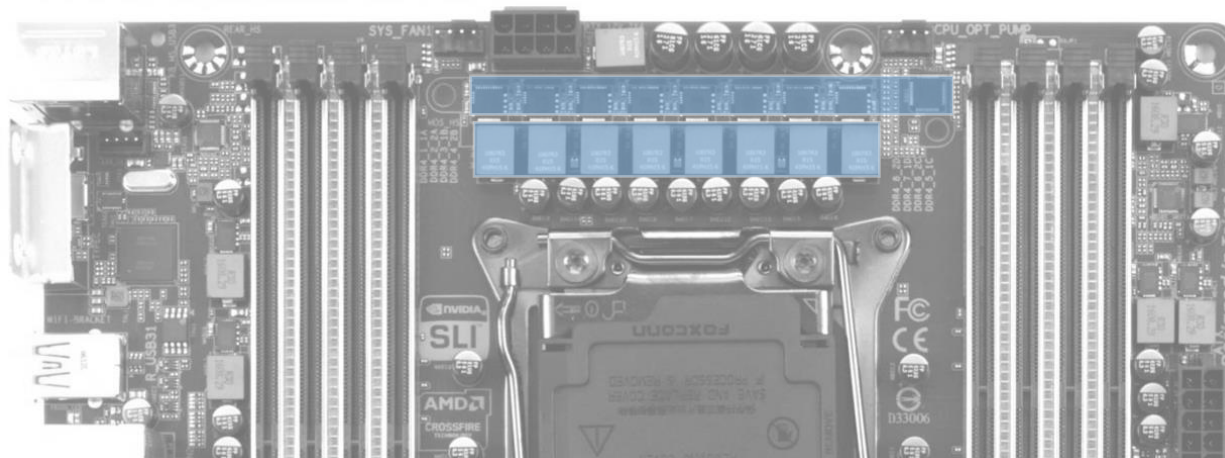(for mosfets and inductor chokes):

24

120

**Replacement thermal pad @ EKWB web shop:**
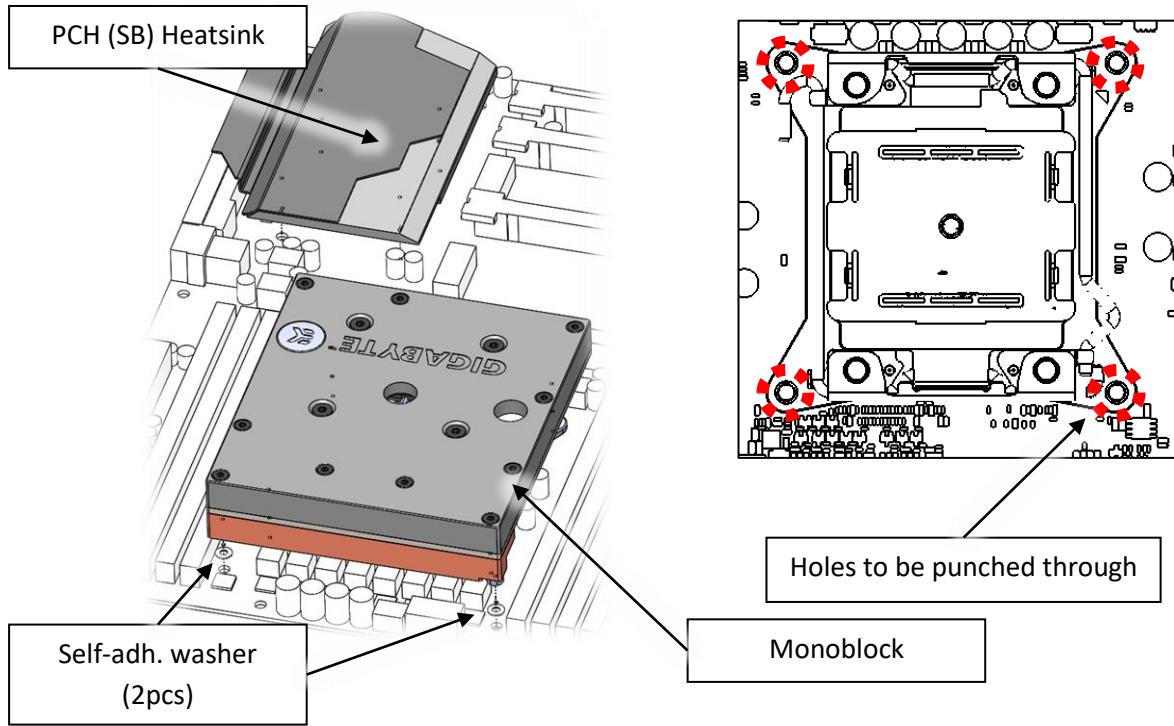Thermal PAD G 1,0mm - (120x24mm) [EAN: 3830046996770]

This water block is compatible with three motherboard models:

1. GIGABYTE X99 ULTRA GAMING,
2. GIGABYTE X99 Designare EX,
3. GIGABYTE X99 Phoenix SLI.

5. PLACING THERMAL PADS ON MOTHERBOARD. Place thermal pads you cut on PCB as shown on picture bellow (PLEASE REMOVE THE PROTECTIVE FOIL FROM BOTH SIDES OF THE THERMAL PADS PRIOR TO INSTALLATION). EK recommends using small drops of electrically non-conductive (for example: Arctic Cooling MX-2 ™ or MX-4 ™) thermal grease on each phase regulator (that is being covered with thermal pad; see picture below) in order to even further improve the thermal performance of the GA X99 Ultra Monoblock water block.

## STEP 3: PREPARING YOUR WATER BLOCK

PCH (SB) Heatsink

Self-adh. washer
(2pcs)

Holes to be punched through

Monoblock

**PLACING MONOBLOCK ON THE MOTHERBOARD:**

From the backside there is a protective sticker which covers the mounting holes for the water block. You should take a pointy object (small screwdriver) and punch 4 holes through it (see picture on the left). Be careful not to damage the PCB.

Place the monoblock with preinstalled standoffs gently to the motherboard or vice versa. Make sure that mounting holes are aligned.

You mustn't forget to install two (2) self-adhesive PVC washers under each standoff if the stock-glued washers are not present on the PCB.

**Be careful not to double the washers!!!**

The locations are shown on the picture on the left. Skip to STEP 4 on how to fasten the Monoblock to the motherboard using the enclosed screws and washers.

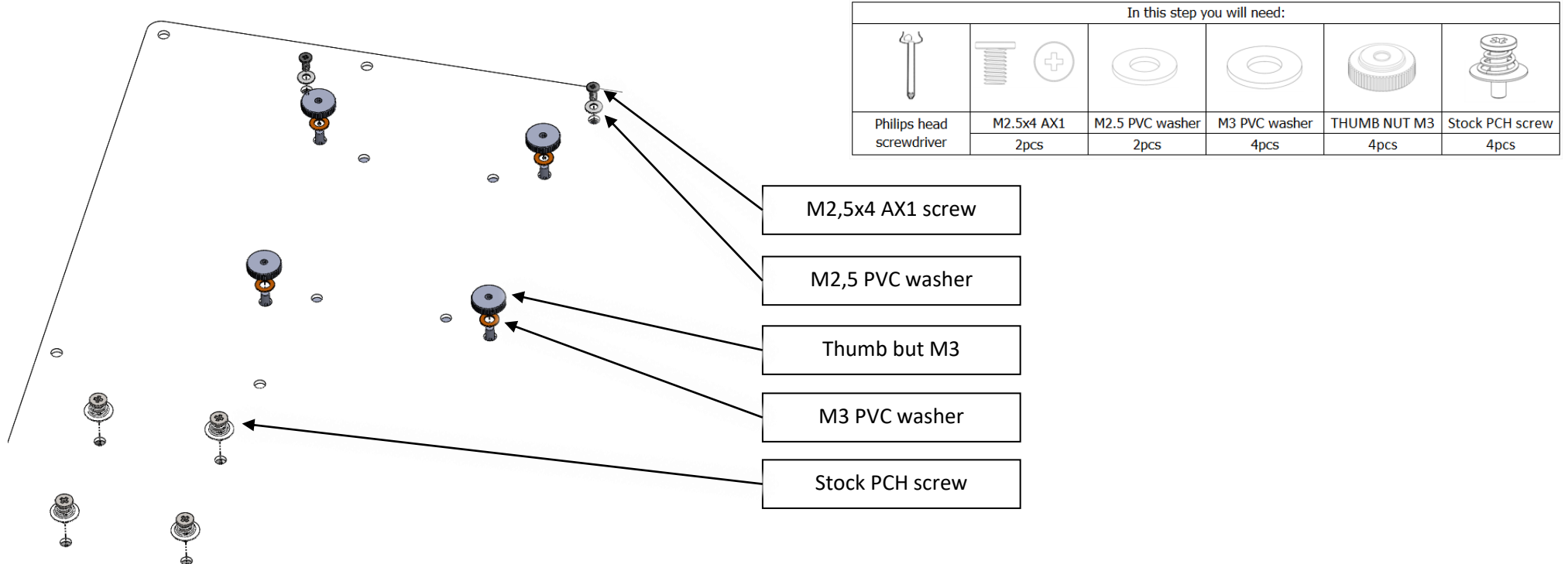**PLACING PCH HEATSINK ON THE MOTHERBOARD:**

Carefully remove the protective foil from preapplied TIM on heatsink and place it on the motherboard.

## STEP 4: ATTACHING BLOCK TO MOTHERBOARD

Prior to fastening the screws please make sure the mounting holes on the motherboard's circuit board are aligned with the water block.
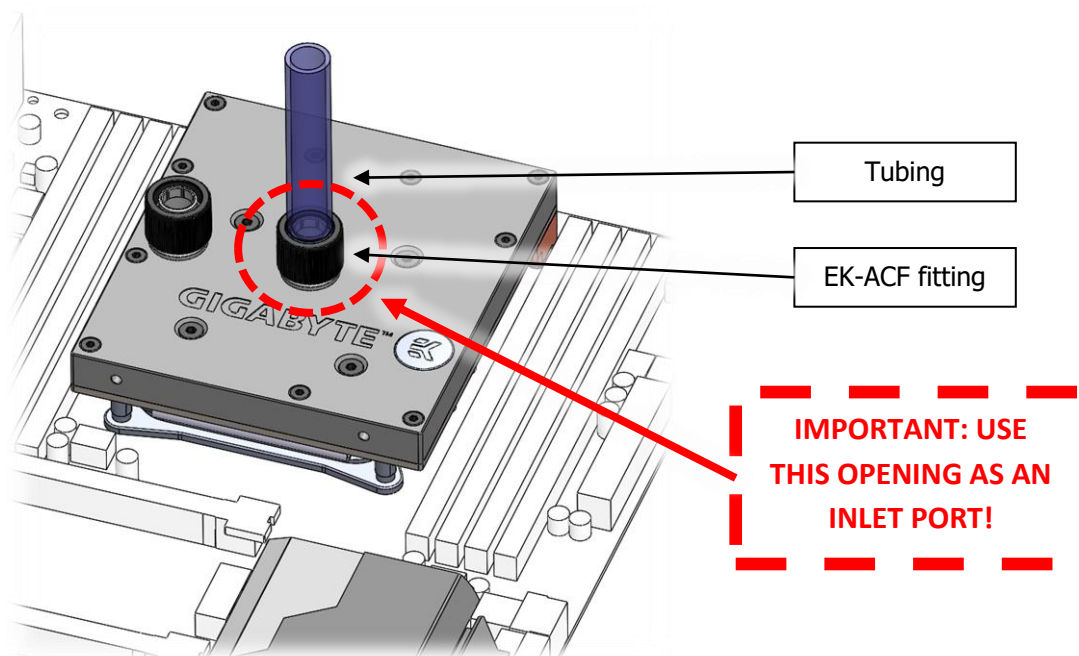- A) **Mosfet part:** Use two (2) M2,5x4 AX1 screws with PVC washers. Tighten the screws evenly. Do not use excessive force when tightening the screws!
- B) **CPU part:** Use four (4) thumb nuts and washers.
- C) **SB part:** Use four (4) Stock PCH screws with PVC washers. Tighten the screws evenly. screw. Do not use excessive force when tightening the screws!

Use the enclosed screws and washers as shown in picture below:

M2,5x4 AX1 screw

M2,5 PVC washer

Thumb but M3

M3 PVC washer

Stock PCH screw

| In this step you will need: | | | | | |
|---|---|---|---|---|---|
| Philips head screwdriver | M2.5x4 AX1 | M2.5 PVC washer | M3 PVC washer | THUMB NUT M3 | Stock PCH screw |
| | 2pcs | 2pcs | 4pcs | 4pcs | 4pcs |

## STEP 5: POSITIONING FITTINGS AND CONNECTING TO WATER CIRCUIT

For the EK-FB GA X99 Ultra Monoblock series water block to operate properly the G1/4 port nearest to the right edge of the water block **MUST BE USED AS THE INLET PORT**. EK recommends the use of EK-ACF fittings. When using fittings other than EK-ACF series please use hose clamps or appropriate substitute to secure the tubing to the barb. The use of biocide containing and corrosion inhibiting coolant is always recommended for any liquid cooling system.

Tubing

EK-ACF fitting

**IMPORTANT: USE THIS OPENING AS AN INLET PORT!**

## REQUIRED TOOLS:

scissors          philips screwdriver          thermal grease