SINGULARITYCOMPUTERS

PLASMA 3

Assembly Manual

Revision 1.1

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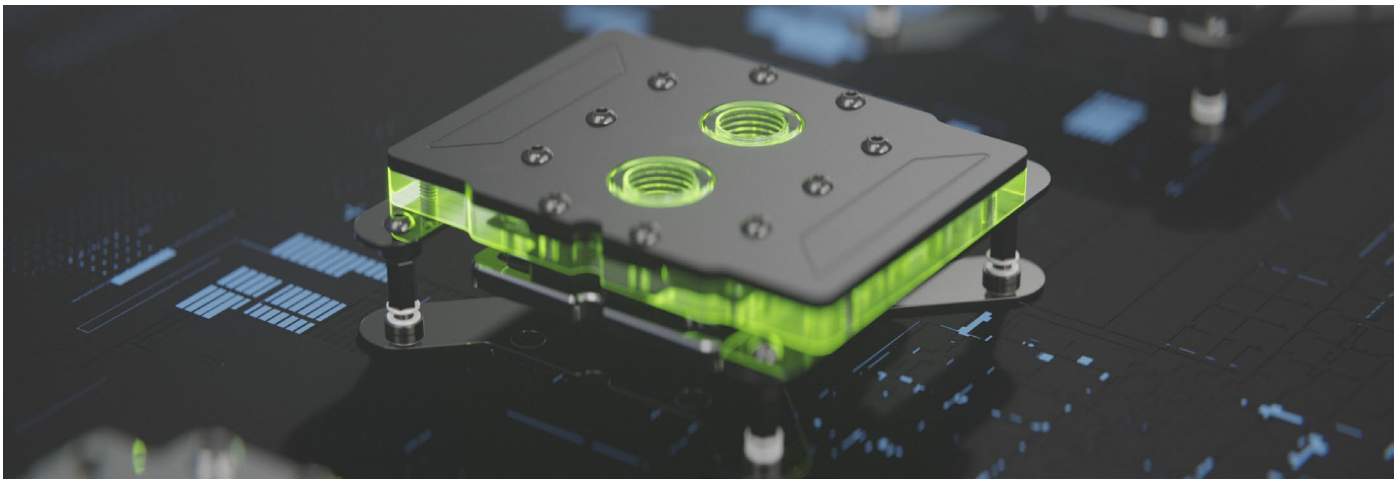
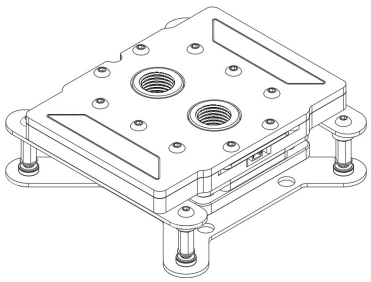
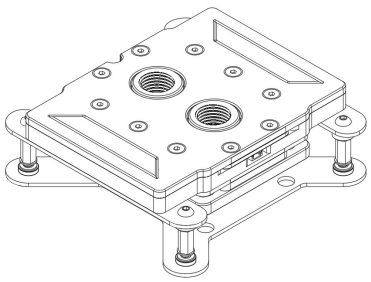


Introduction

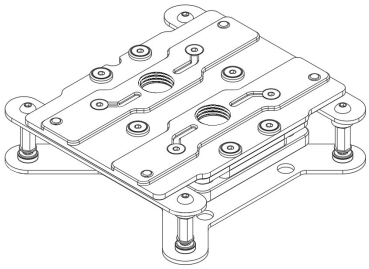
The Plasma 3 Water-Block is a design iteration of the previous Plasma 2 with significantly improved cooling performance and new visual features. Plasma 3 comes in multiple configurable versions and is compatible with Intel LGA1700/1851 and AMD AM5/AM4 CPUs for the Standard version, while the Compact version is compatible with Intel LGA1700/1851 and AMD AM5. It offers multiple Acrylic color options, Carbon-fiber and Nickel-plated tops.



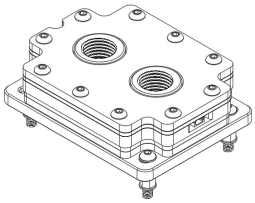
Standard Acrylic



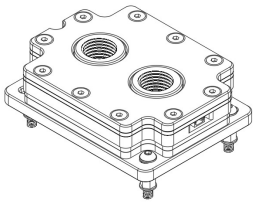
Standard Carbon-Fiber



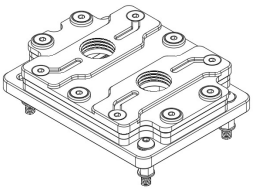
Standard Nickel



Compact Acrylic



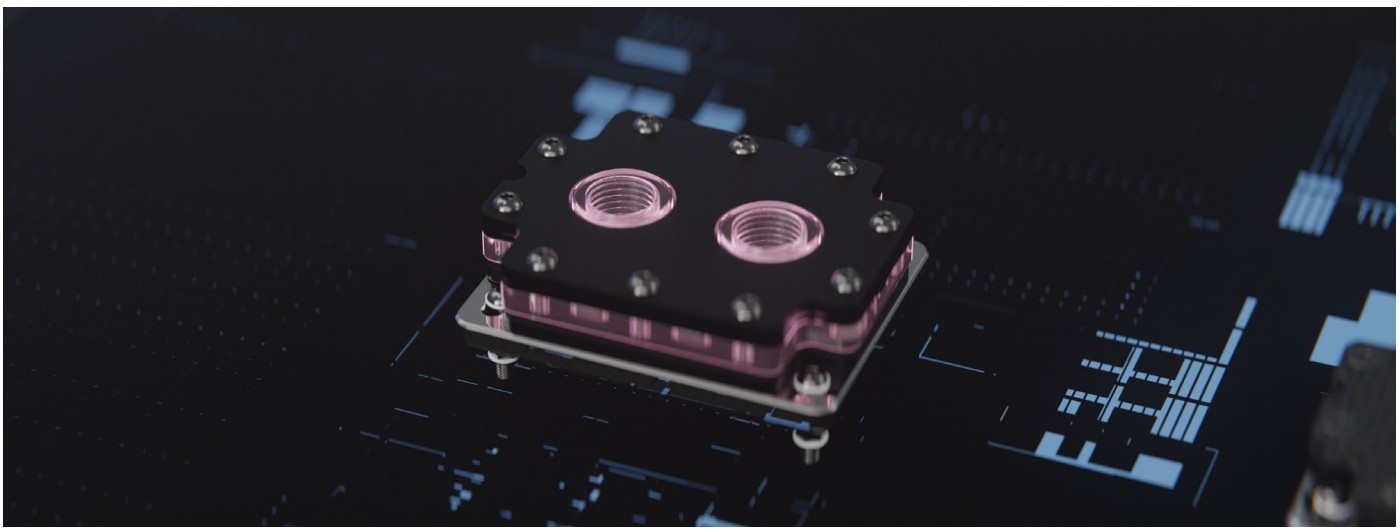
Compact Carbon-Fiber



Compact Nickel

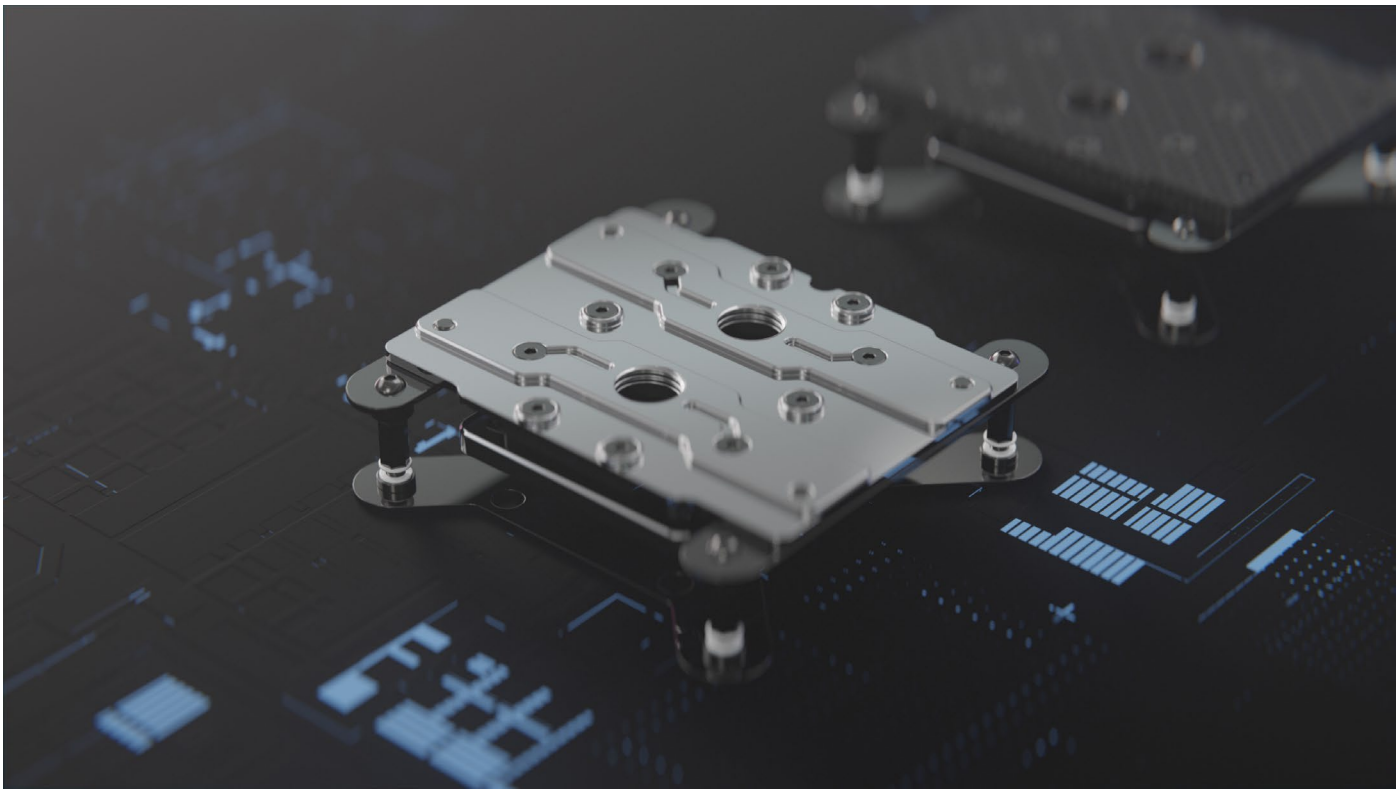
Features

The Standard version has the widest platform compatibility while the Compact version offers more even pressure on the CPU, a smaller footprint and a lower price. The Compact edition mounts to the stock CPU retention bracket system using stand-offs which are exactly the right length to achieve the correct mounting tension while the Standard version mounts using conventional CPU cooler mounting brackets. You can select from a range of different tops: Carbon-fiber, Nickel-plated, and Acrylic. You can also select from various colors for the Acrylic Top cover including Gold, Silver and Carbon mirror. The Standard and Compact Acrylic and Carbon-fiber versions have an integrated PCB with ARGB LEDs.



Specifications

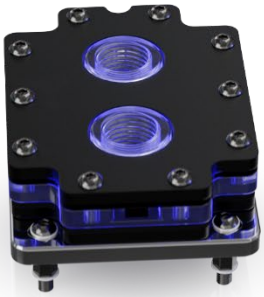
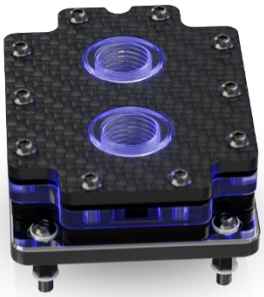
Materials & Manufacturing Process	Nickel-plated CNC Machined Copper Coldplate and Nickel-plated top. CNC Machined Cast Acrylic. Carbon-fiber.	
Electronics Integration	PCB with integrated ARGB LEDs.	
Gasket	Black Silicone.	
Fasteners	Stainless Steel.	
G ¼" Threads	x2 for fittings up to 27mm outer diameter.	
Compatibility	**Compact** - Intel LGA1700/1851, AMD AM5 **Standard & DDC** - Intel LGA1700/1851, AMD AM5/AM4 The Standard editions use conventional retention brackets and a custom back-plate for the Intel platform, while the Compact editions use the stock Intel or AMD back-plate present on the motherboard.	
	Water-block Size	
Compact	**Nickel-plated Top**	72mm(L) x 55mm(W) x 14mm(H)
	Acrylic Top	72mm(L) x 55mm(W) x 20mm(H)
	Carbon-fiber Top	72mm(L) x 55mm(W) x 20mm(H)
Standard	**Nickel-plated Top**	72mm(L) x 94mm(W) x 14mm(H)
	Acrylic Top	72mm(L) x 94mm(W) x 20mm(H)
	Carbon-fiber Top	72mm(L) x 94mm(W) x 20mm(H)



Parts List

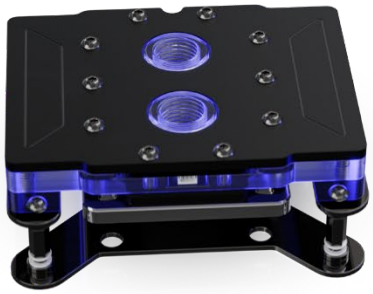
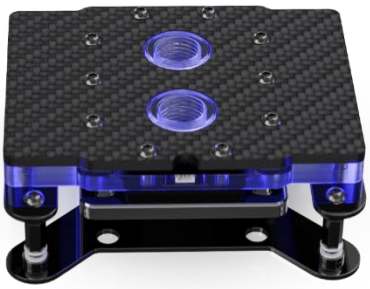
Plasma 3 - Compact

• Water-block pre-assembled	• M3 hex key x1	• AMD stand-offs x4
• Nylon washers x8	• M3 6mm BH x4	• Intel stand-offs x4
• RGB cable*		

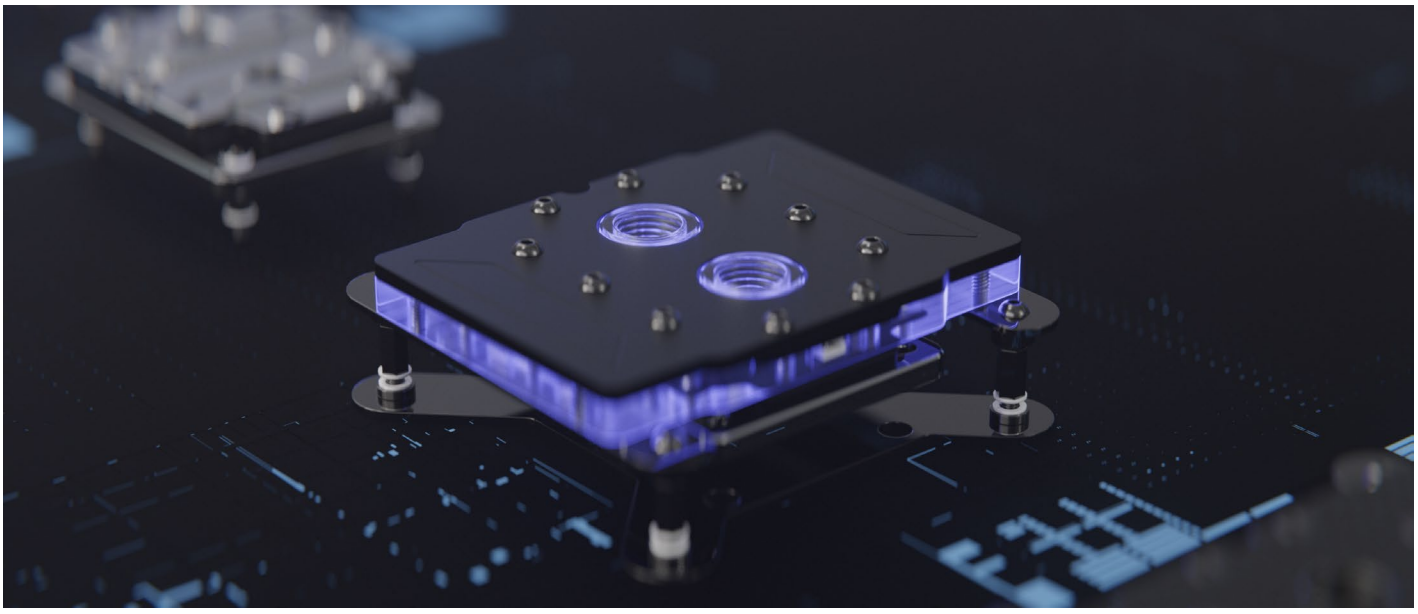




Plasma 3 - Standard

• Water-block pre-assembled	• M3 hex key x1	• AMD stand-offs x4
• Nylon washers x4	• M4 hex key x1	• Intel stand-offs x4
• RGB cable*	• M3 6mm BH x4	• AMD mounting brackets x2
• Intel back-plate x1	• M3 10mm BH x4	• Intel mounting brackets x2

For Carbon-fiber and acrylic versions with an ARGB PCB.



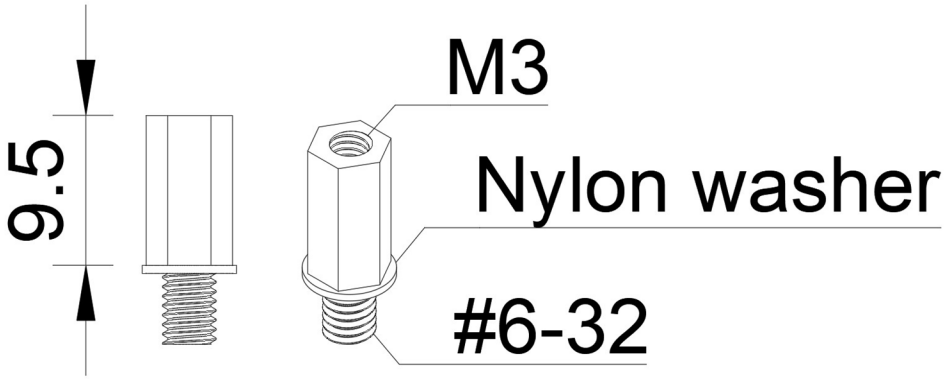
Plasma 3 – Compact | Installation Guide

Preparation on Intel LGA1700/1851 Sockets

Step 1 Open up the lever and the socket cover.

Step 2 Remove the top retention mechanism by unscrewing the top 2 torx fasteners.

Step 3 Install Intel stand-offs x2 with nylon washers into the threaded holes that had the torx fasteners. The nylon washers are used to protect the surface of the motherboard and to achieve the target height of the stand-offs. The nylon washers are necessary for Intel.



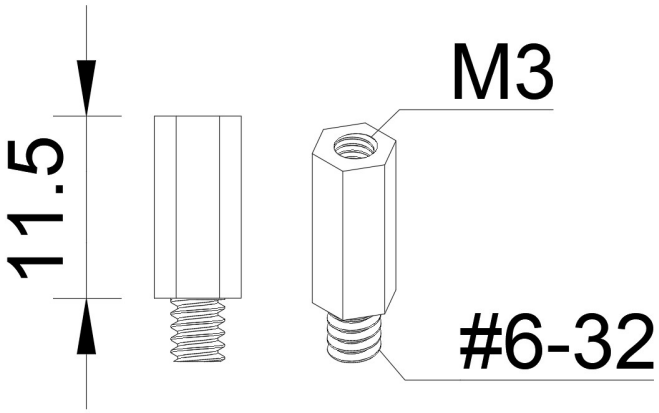
- It is advisable to put super-glue or LOCTITE® thread-locker on the #6-32 threads of the stand-offs to stop them from getting loose later.

Step 4 Repeat steps 2 & 3 with the bottom part of the retention mechanism. *It is important to only remove only one retention mechanism at a time, not both, to prevent the Intel back-plate from falling off.*

Preparation on AMD AM5 Socket

Step 1 Remove the 4 torx fasteners and the AM5 retention mechanism but leave the top and bottom plastic parts above and below the socket in place as they prevent the stock AM5 back-plate from falling off during installation.

Step 2 Install the AMD stand-offs x4 into the threaded holes that had the torx fasteners.

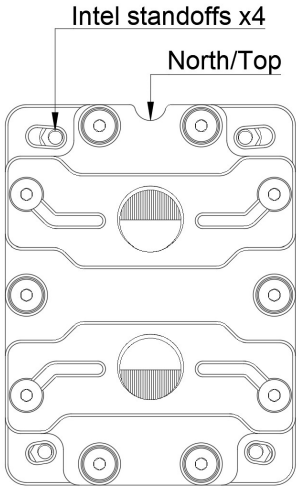


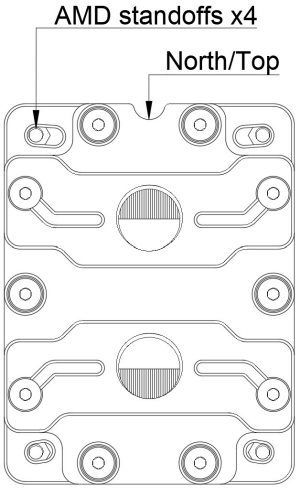
- Do not use nylon washers for AMD AM5 platforms.
- It is advisable to put super-glue or LOCTITE® thread-locker on the #6-32 threads of the stand-offs to stop them from getting loose later.

Installation of the Water-block

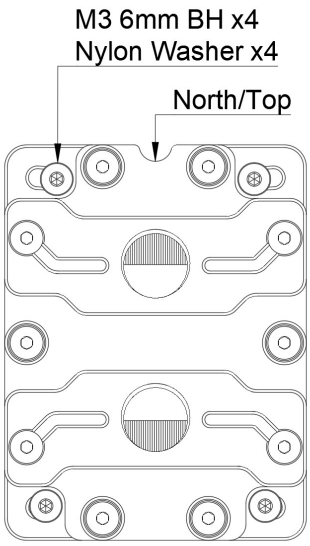
Step 1 Place the processor into the socket and apply thermal paste on it.

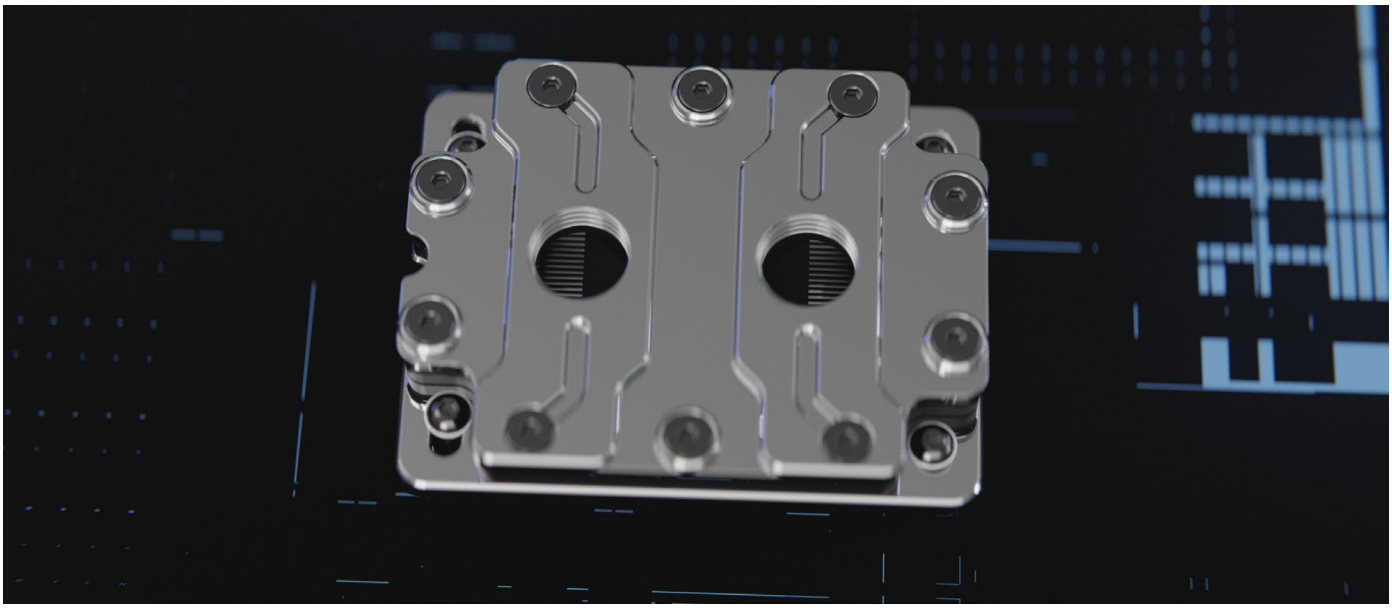
Step 2 Place the Plasma 3 Compact Water-Block on top of the processor and align it so the mounting holes are above the stand-offs on the motherboard. There is a rounded notch on the water-block which marks the North/Top side of the block. Place and hold a finger on the top of the block to prevent movement during the installation process.





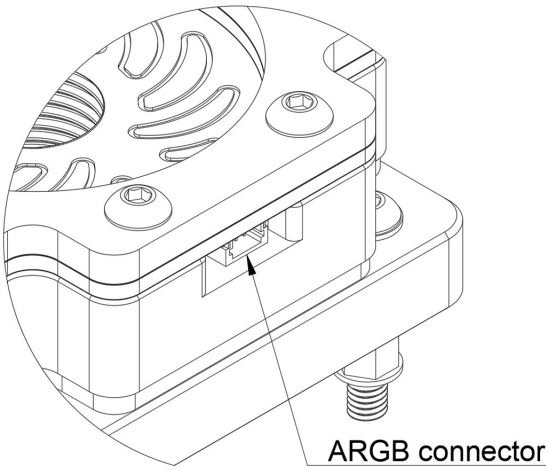
Step 3 Put M3 6mm BH x4 fasteners with nylon washers into the slotted holes of the cold-plate, align them with the stand-offs below and start screwing them in. Turn the screws until You start feeling a little resistance then move onto the next screw. At this stage we only want to keep the water-block in place and engage the 4 screws equally.





Step 4 Start tightening the screws in increments – do not tighten one corner or side fully or too much, instead make one full turn on a fastener and then move onto the next one in a cross-pattern to spread the pressure and lower the block down evenly. Keep repeating this method until the screws bottom out.
The Plasma 3 Water-Block does not rely on fastener tension; a torque screwdriver is not needed. Once the cold-plate sits on the stand-offs then the target mounting pressure and height is achieved. The stand-offs are custom engineered to provide ideal mounting pressure for both platforms.

Step 5
(optional)



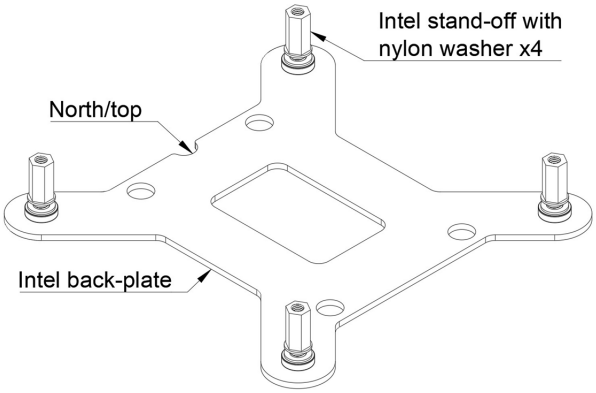
Attach the RGB cable to the ARGB PCB or skip this step if no ARGB PCB is present (on Nickel-plated tops).

⚠ Warning ⚠
When removing the water-block, first fully remove the M3 6mm BH x4 mounting fasteners with the Nylon Washers x4 from the slotted holes while holding the water-block in place, then lift the water-block up vertically.
The CPU will be attached to the cold plate and the block will pull it out of the socket. This is normal behaviour but caution is to be taken. Do not tilt the water-block while the CPU is attached to it, but lift it out of the socket and away from the motherboard while holding it horizontally to avoid the CPU dropping back into the socket or onto the motherboard. Only then gently rotate the CPU back and forth to loosen the grip of the thermal interface material and it should separate from the cold-plate.

Plasma 3 - Standard | Installation Guide

Preparation on Intel LGA1700/1851 sockets

Step 1



While holding the Intel back-plate behind the motherboard CPU socket, install the Intel stand-offs x4 with nylon washers into the holes on the motherboard to secure it in place. The nylon washers are used to protect the surface of the motherboard and are necessary for Intel.

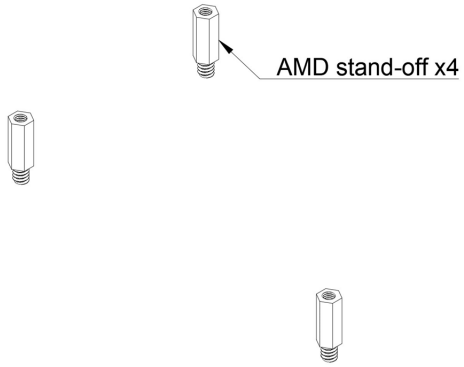
- It is advisable to put super-glue or LOCTITE® thread-locker on the #6-32 threads of the stand-offs to stop them from getting loose later.

Step 2 Install the CPU into the socket.

Preparation on AMD AM4/AM5 sockets

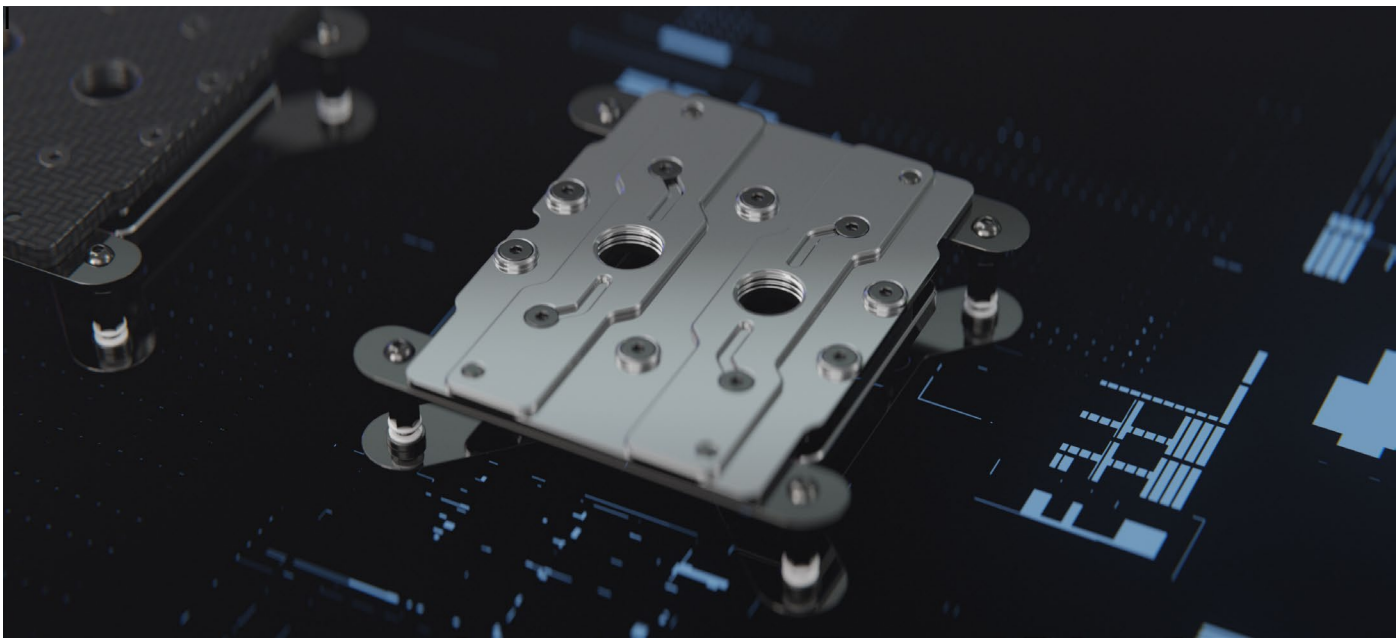
Step 1 Remove the top and bottom plastic tabs from the motherboard. On AM4 the back-plate will fall off so hold it in place for the next steps.

Step 2 Install the AMD stand-offs x4 into the threaded holes of the stock AMD AM4/AM5 back-plate.



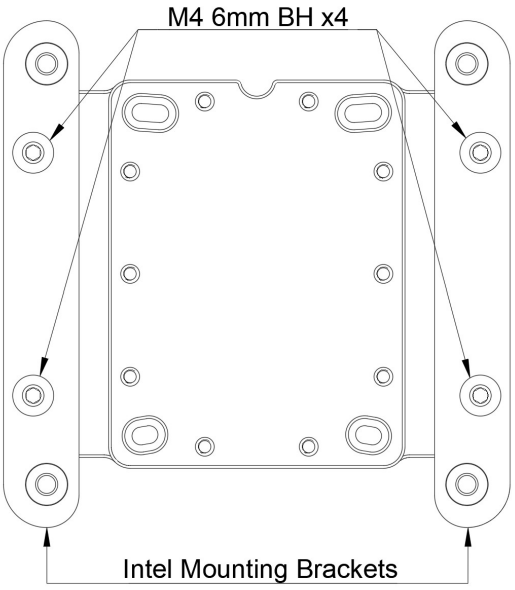
- Do <u>not</u> use nylon washers for AMD AM4/AM5 platforms.
- It is advisable to put super-glue or LOCTITE® thread-locker on the #6-32 threads of the stand-offs to stop them from getting loose later.

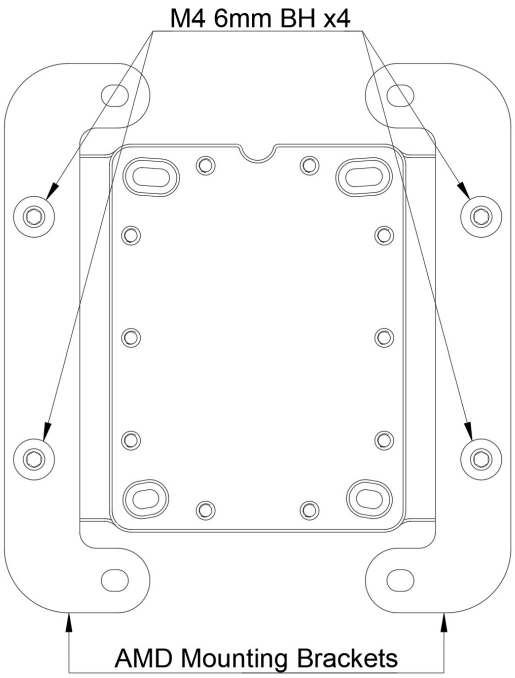
Step 3 Install the CPU into the socket.



Installation of the Water-Block

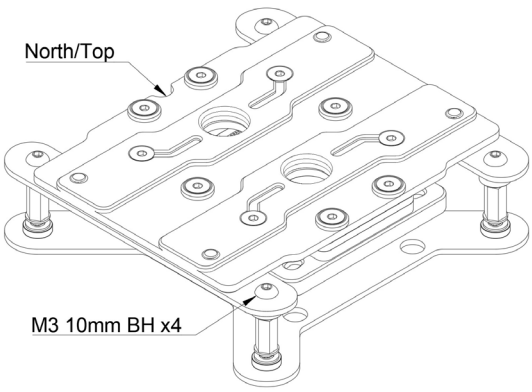
Step 1 Using M4 6mm BH x4 install the AMD or Intel mounting brackets on the left and right side of the standard water-block in the below positions. The spacers on the Intel mounting brackets face down.

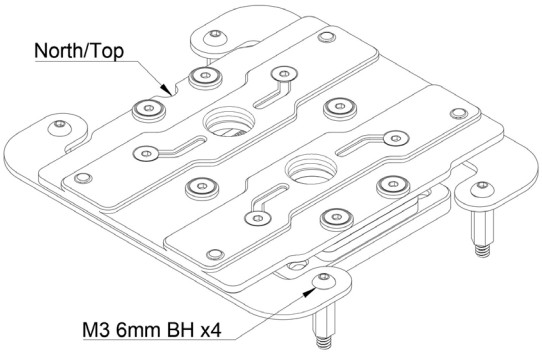




Step 2 Place the Plasma 3 Standard on top of the processor and align it so the holes on the mounting brackets are above the stand-offs on the motherboard. There is a rounded notch on the water-block which marks the North/Top side of the block. Place and hold a finger on the top of the block to prevent movement during the installation process.

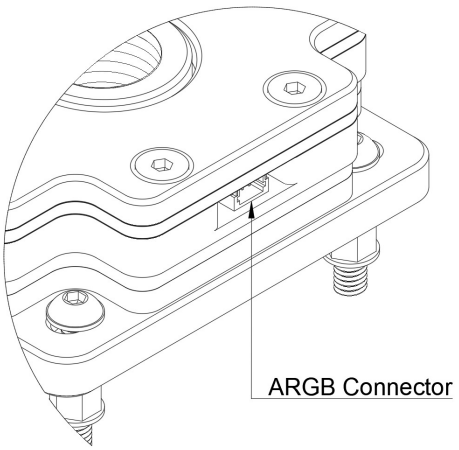
Step 3 For Intel, put M3 10mm BH x4 fasteners through the holes of the mounting brackets and align them with the stand-offs below and start screwing them in, for AMD use M3 6mm BH x4. Turn the screws until You start feeling a little resistance then move onto the next screw. At this stage we only want to keep the water-block in place and engage the four screws equally.

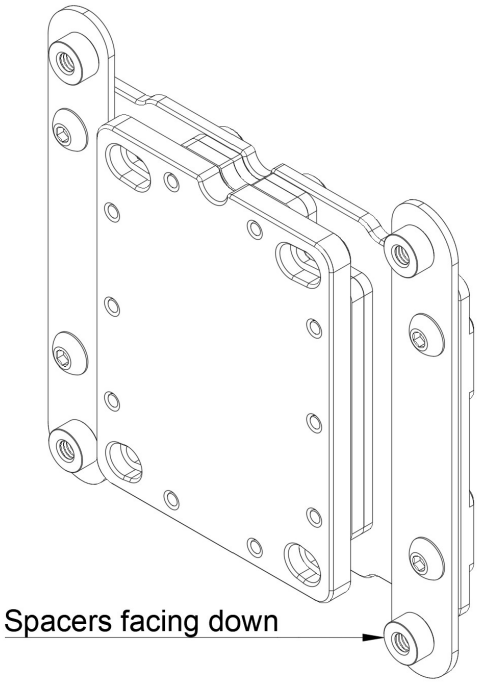




Step 4 Start tightening the screws in increments – do not tighten one corner or side fully or too much, but make one full turn on a fastener and then move onto the next one in a cross-pattern to spread the pressure and lower the block down evenly. Keep repeating this method until the screws bottom out.
The Plasma 3 Water-Block does not rely on fastener tension; a torque screwdriver is not needed. Once the mounting brackets sit on the stand-offs then the target mounting pressure and height is achieved. The stand-offs are custom engineered to provide ideal mounting pressure for both platforms.

Step 5 (optional) Attach the RGB cable to the ARGB PCB or skip this step if no ARGB PCB is present (on Nickel-plated tops).





Liquid-Cooling Information

The Plasma 3 Water-block uses a bi-directional fin-stack design, but flow direction still matters for AMD. On Intel platforms the flow direction does not matter, any port can be an Inlet or Outlet.