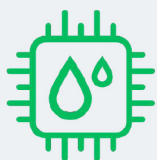




## COMINO MOBO (Dual 3rd Generation Intel® Xeon®) WCB Set for Gigabyte MD72-HB0 / MD72-HB1 / MD72-HB2 / MD72-HB3 with VRM coldplate, Cu-Steel

### KEY ADVANTAGES



High quality liquid cooling of the CPU and the VRM modules on the motherboard



Designed for Intel LGA 4189 / 4677 socket and Gigabyte MD72-HB0 / HB1 / HB2 / HB3 Series MoBo



High efficient deformational cutting technology for micro-fins (0.25mm x 2.7mm) manufacturing



Thermally-tested and quality guaranteed. Low  $\Delta T^\circ$  between the chip and inlet coolant temperatures is assured



Heat dissipation increased up to 10 times as compared to the air-cooling



Only non-corrosive materials (Copper, Stainless Steel, Plastic)

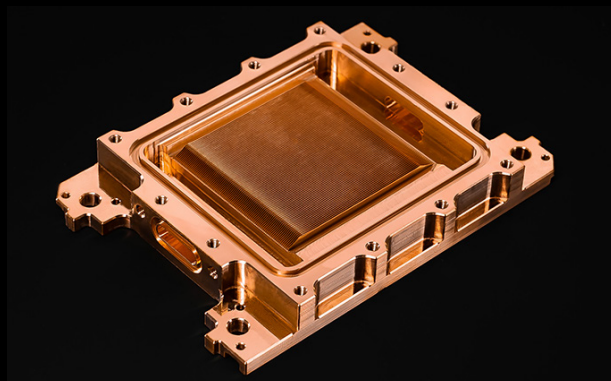
## COMINO WATERBLOCKS TECHNOLOGY

The Comino liquid-cooling system is based on the deformational cutting technology that allows to transfer more heat from the source than you would normally expect with direct liquid cooling.

This unique technology allows to create a copper fin as thin as 0.1mm with 0.1mm channel and 3mm height. In Comino solution microfins are optimized for low pressure drop with the thickness of 0.25mm, channel – 0.25 mm and 2.7 mm height.

Large increase (up to 12 times) of the waterblock surface area that contacts with the coolant allows faster heat dissipation. It prevents thermal throttling of CPU and GPU keeping temperatures within a safe range even at 24/7 operation in harsh environment.

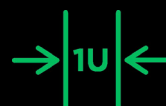
This advantage makes our waterblocks extremely efficient (low  $\Delta T^\circ$ ) and cost-effective.



- Use the same CPU waterblock with different motherboards.
- Unique design for the CPU waterblocks with interchangeable VRM cold-plates.



- Ultimate cooling for each and every CPU.
- Level-varied VRM coldplates to achieve perfect contact patch and heat transfer.

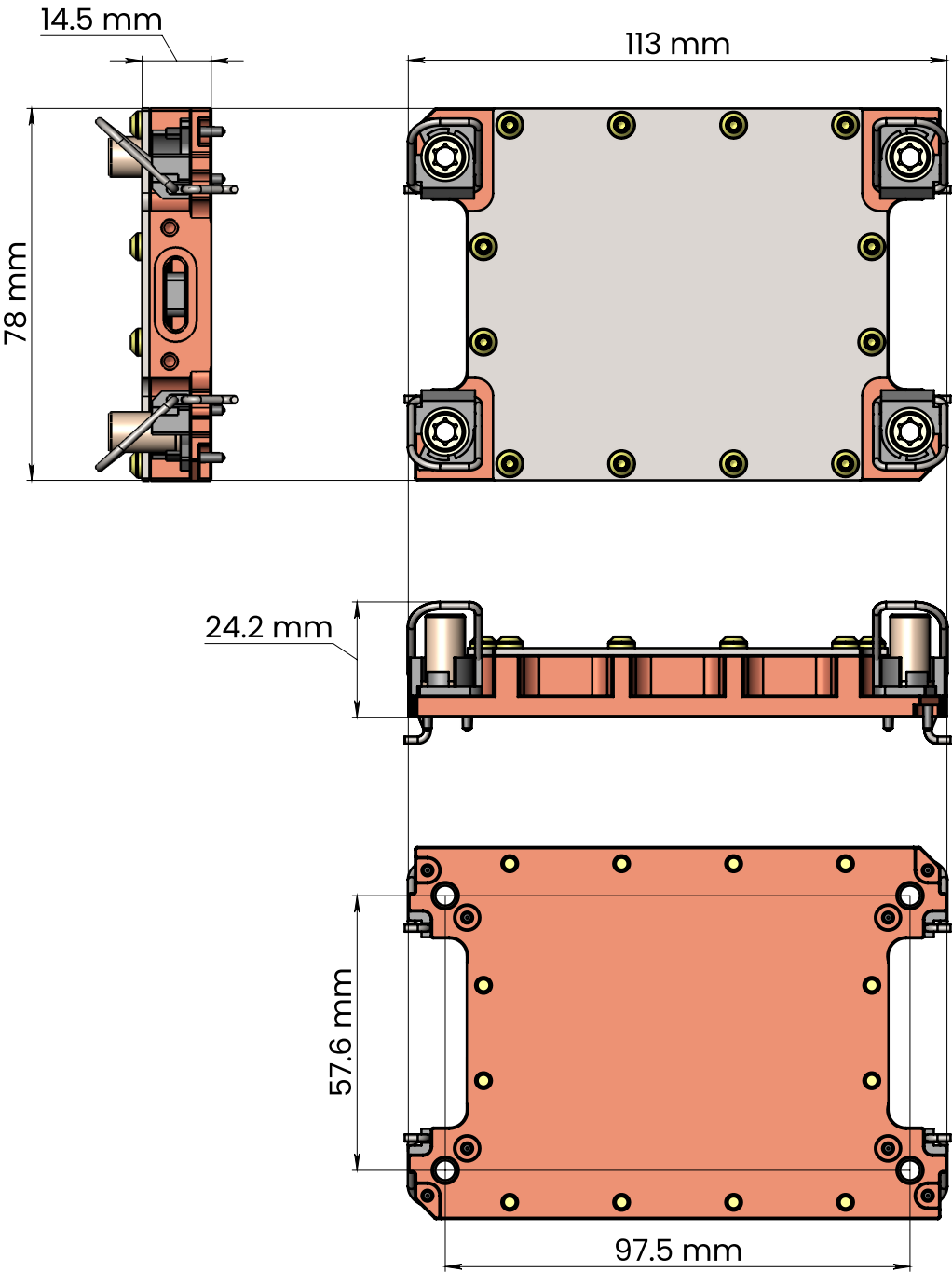


- Slim waterblock design can be used in 1U servers.

OVERALL DIMENSIONS

Core Block

ID	Name	Release version	Release date
4683	Comino Intel Socket 4189 (P4/P5) WCB Core Kit	—	August, 2021

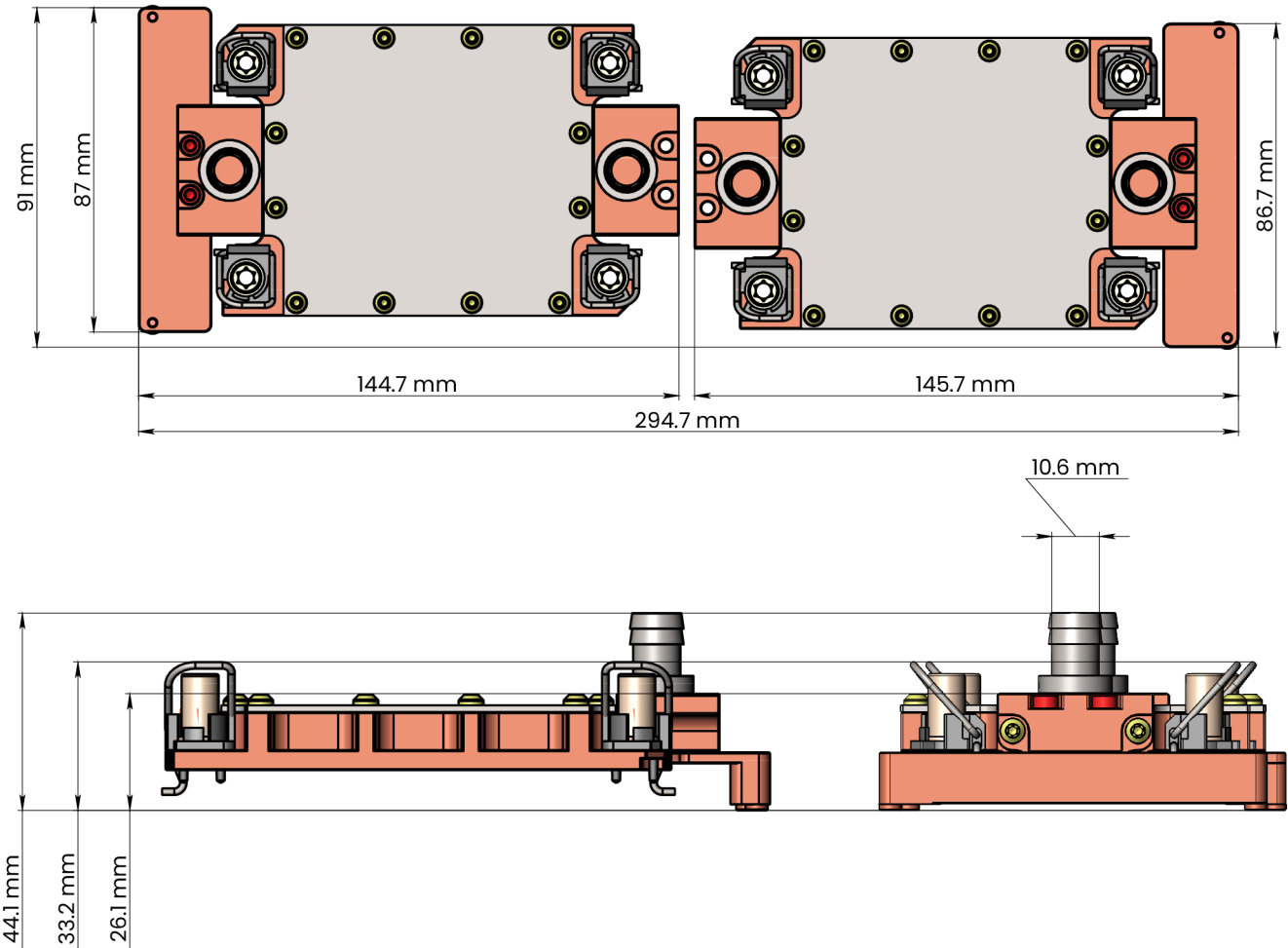


COMINO MOBO (DUAL 3RD GENERATION INTEL® XEON®) WCB SET  
FOR GIGABYTE MD72-HB0 / MD72-HB1 / MD72-HB2 / MD72-HB3 WITH VRM COLDPLATE, CU-STEEL

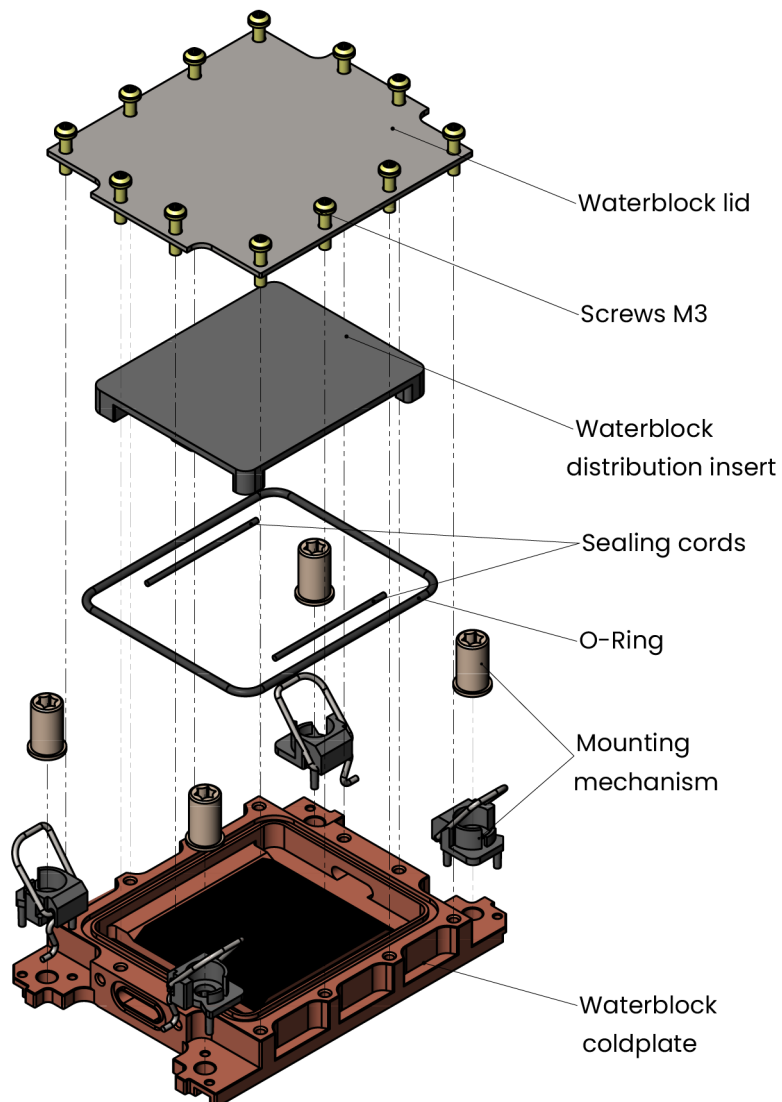
OVERALL DIMENSIONS

MoBo Water Cooling Block Set

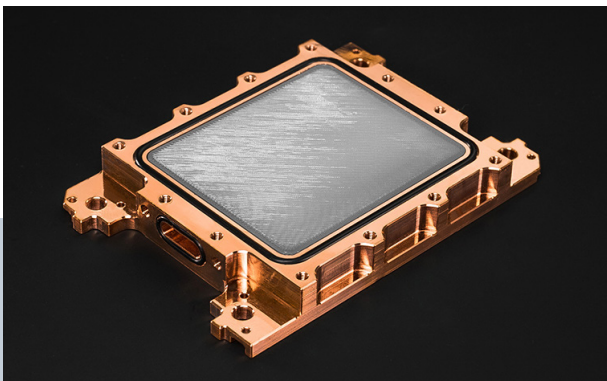
ID	Name		Release version	Release date
5551	Comino MoBo (Dual 3rd Generation Intel® Xeon®) WCB Set for Gigabyte MD72-HB0 / MD72-HB1 / MD72-HB2 / MD72-HB3 with VRM coldplate, Cu-Steel		—	April, 2022
	4683	Comino Intel Socket 4189 (P4/P5) WCB Core Kit	—	August, 2021
	4696	Comino WCB MB (GIGABYTE MD72HB0) Kit / w fittings / w mount kit / w VRM	—	April, 2022



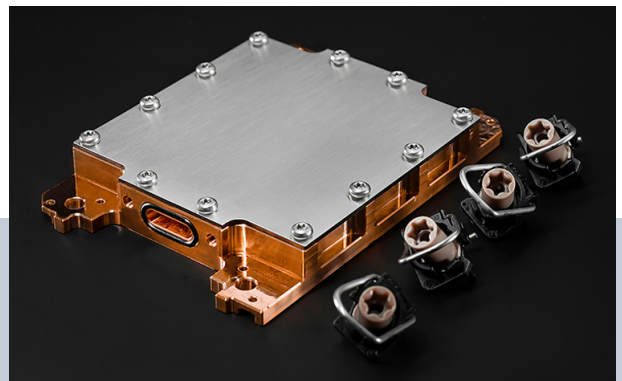
## CORE BLOCK ASSEMBLY



Open View

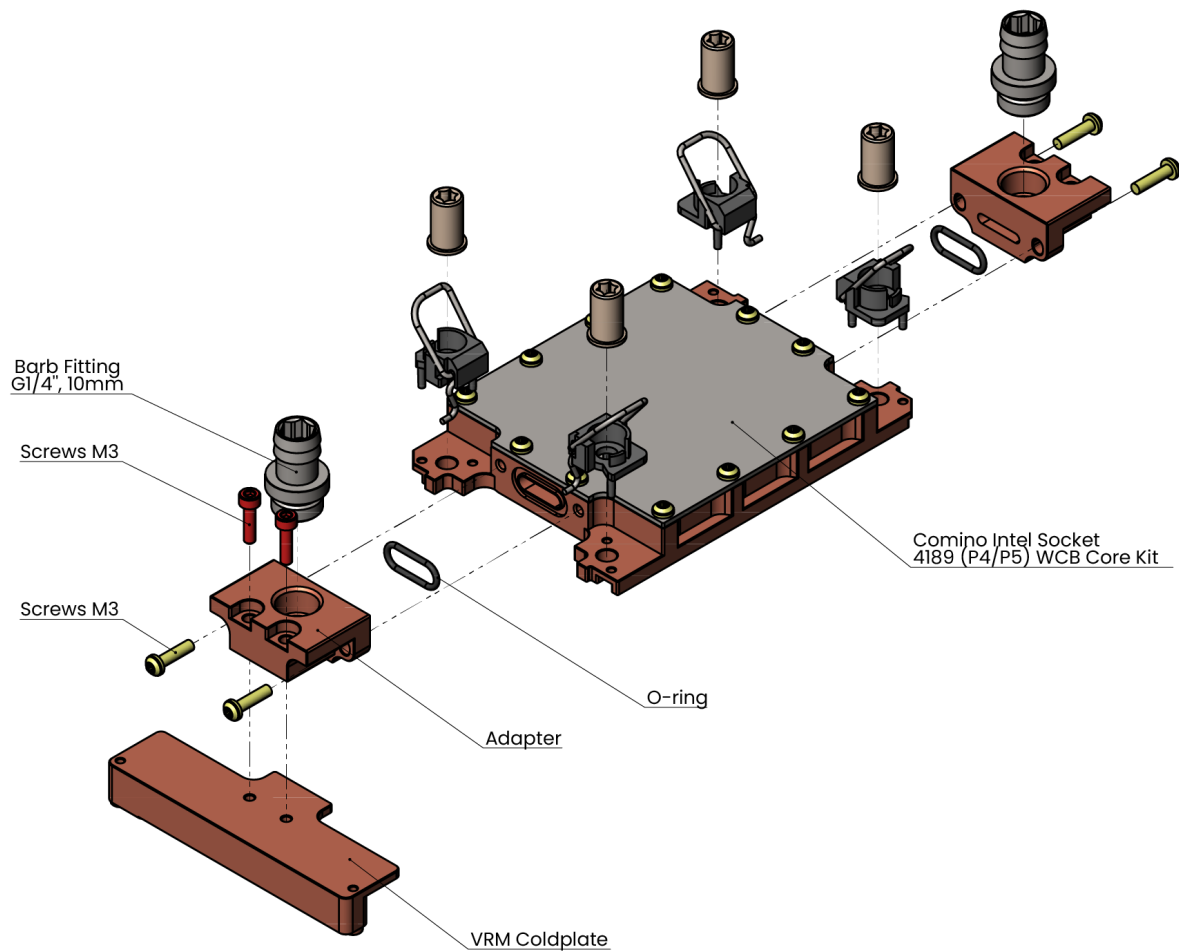


Assembled View



COMINO MOBO (DUAL 3RD GENERATION INTEL® XEON®) WCB SET  
FOR GIGABYTE MD72-HB0 / MD72-HB1 / MD72-HB2 / MD72-HB3 WITH VRM COLDPLATE, CU-STEEL

## WATERBLOCK ASSEMBLY



Top View



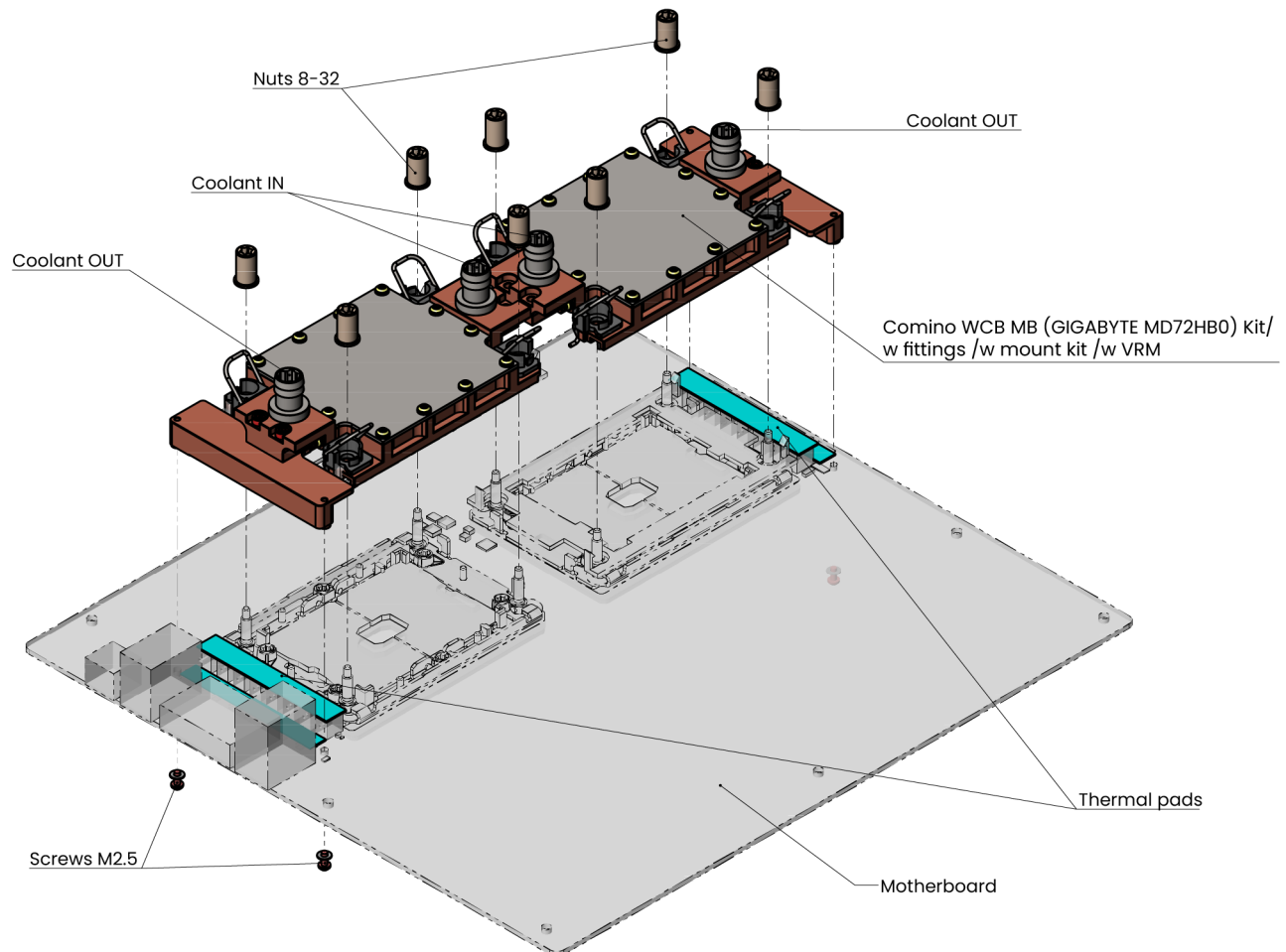
Bottom View





COMINO MOBO (DUAL 3RD GENERATION INTEL® XEON®) WCB SET  
FOR GIGABYTE MD72-HB0 / MD72-HB1 / MD72-HB2 / MD72-HB3 WITH VRM COLDPLATE, CU-STEEL

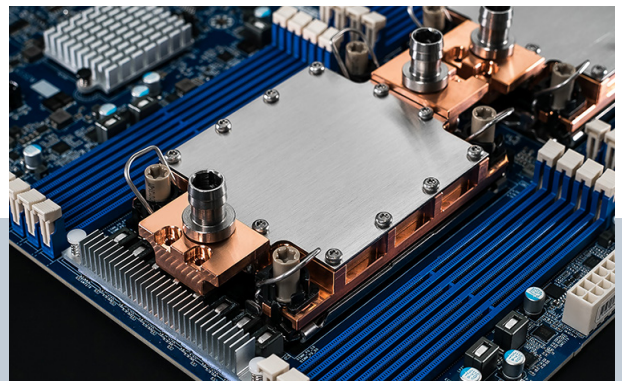
## WATERBLOCK INSTALLATION



Top View

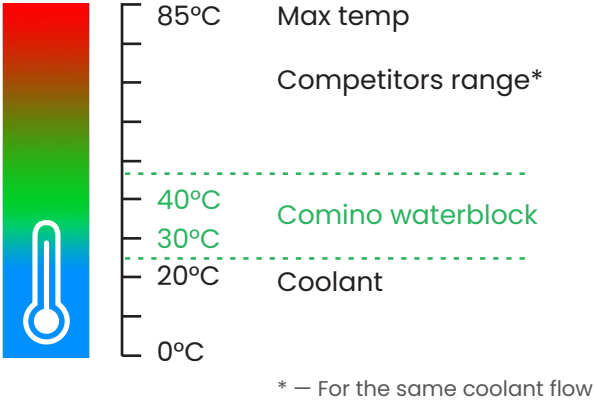


Bottom View



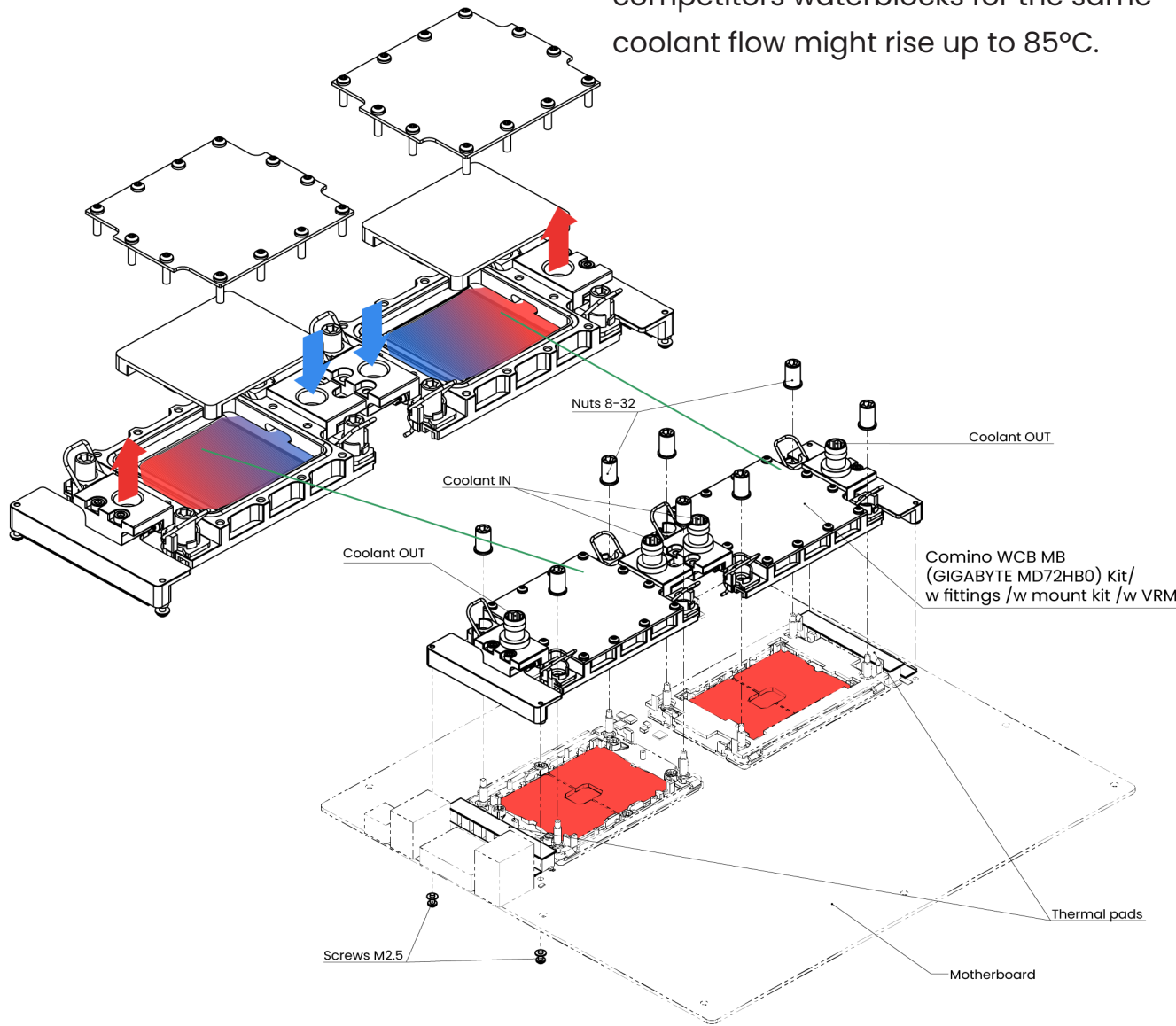
COMINO MOBO (DUAL 3RD GENERATION INTEL® XEON®) WCB SET  
FOR GIGABYTE MD72-HB0 / MD72-HB1 / MD72-HB2 / MD72-HB3 WITH VRM COLDPLATE, CU-STEEL

# THERMAL PERFORMANCE – BEST IN CLASS



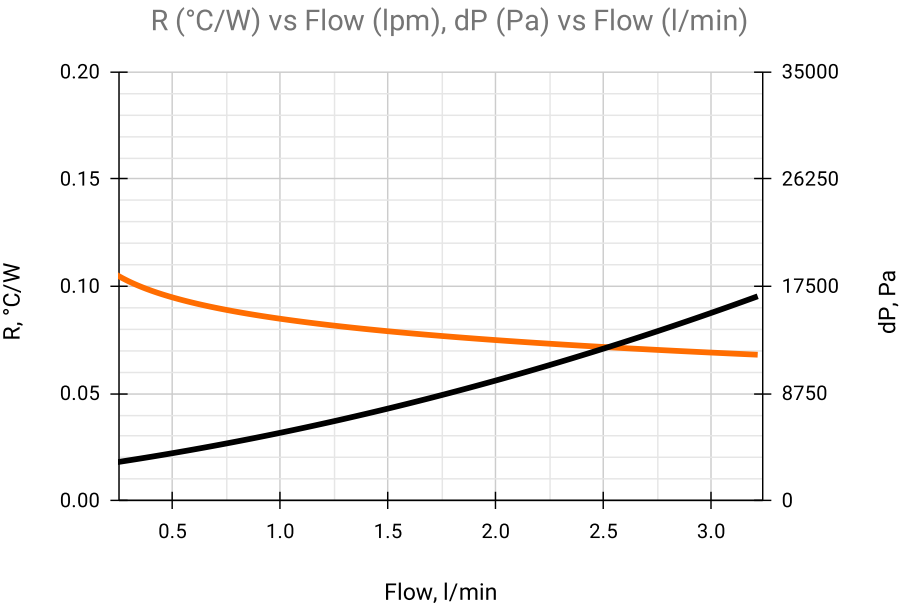
Comino waterblock technology ensures low  $\Delta T^\circ$  between the chip and inlet coolant temperatures.

- At coolant temperature of 20°C, the temperature of the chips with Comino waterblocks will be **30°–40°C**.
- The temperature of the chips with competitors waterblocks for the same coolant flow might rise up to 85°C.



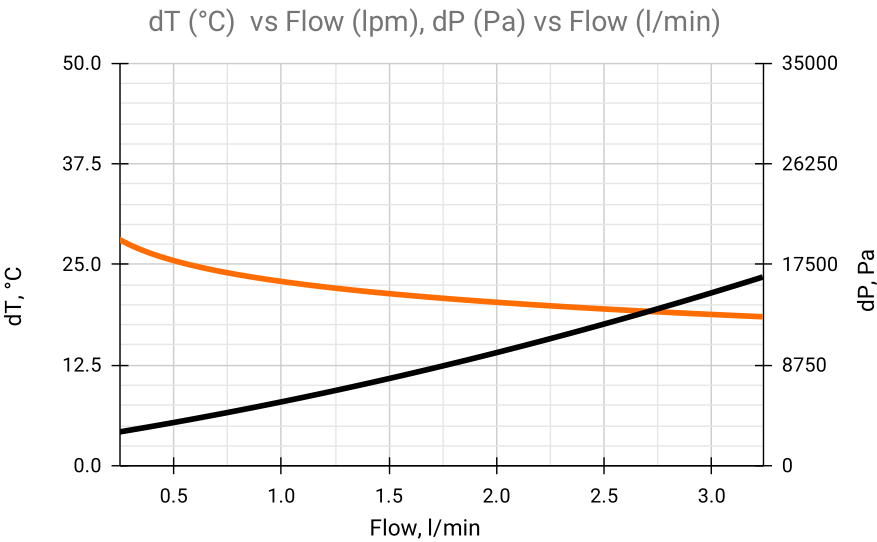


# THERMAL RESISTANCE (CPU-WATER INLET), TEMPERATURE RISE AND PRESSURE DROP VS FLOW RATE



Waterblock thermal resistance (°C/W) and coolant pressure drop (Pa) between inlet and outlet of waterblock vs coolant flow rate (l/min).

■ R, °C/W — Intel Xeon Platinum 8368Q 38 Core / 76 Threads, 2.6/ 3.7 GHz, 270W  
■ dP, Pa

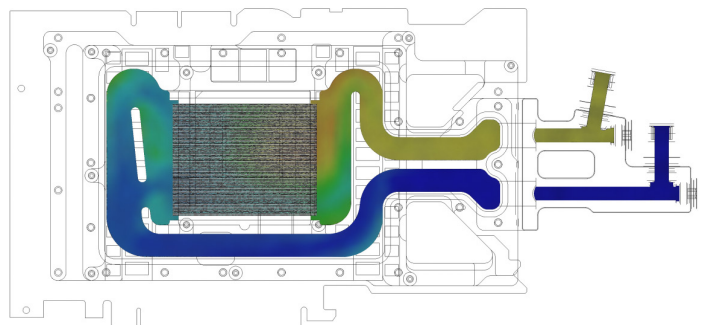
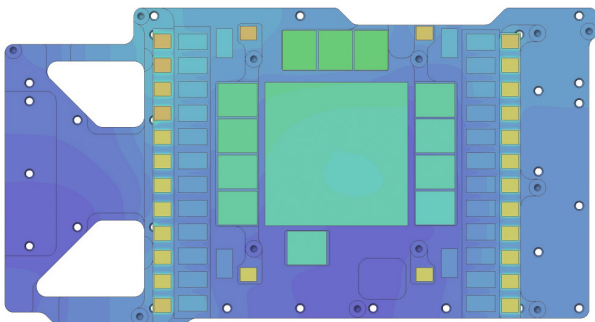


Temperature rise of CPU processor p-n junction relatively to coolant inlet temperature and coolant pressure drop (Pa) between inlet and outlet of waterblock vs coolant flow rate (l/min)

## WE KNOW HOW TO BEAT THE HEAT

Comino provides RnD upon request, including product design with a series of complex thermodynamic calculations and a variety of stress tests supported by thermal analysis.

- Tailored liquid-cooling system and solution for your needs.
- OEM & ODM cooperation. Thermal design, prototyping, PoC, manufacturing, QA, supply.
- Creating a unique customization of hardware components and liquid-cooling systems.
- Design & Manufacturing of devices and cooling components for range of industry applications from scratch.



## ADDITIONAL INFORMATION

Check the compatibility and find the composition of the kit on the waterblock product page:

<https://faq.comino.com/en/waterblocks/main>



### CONTACTS

For more product information visit: [www.comino.com](http://www.comino.com)

Email us [info@comino.com](mailto:info@comino.com)



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