

DeltaMate

GPU Block - ROG Astral RTX 5090



High Performance Cooling Solutions

The DeltaMate GPU water block for the ROG Astral RTX 5090 is the first of its kind from Thermal Grizzly and is manufactured in Germany. It stands out for its exemplary surface quality, meticulous attention to detail, and outstanding cooling performance. The two cold plates used in the water block are precision-machined both before and after glass-bead blasting. In the final manufacturing step, the cold plates are nickel-plated. The block features the same 0.20 mm microfins as the Mycro Direct-Die CPU water blocks and is supplied with Thermal Grizzly Duronaut, Minus Pads, and Putty Advance.

Ultra-High-Performance Full-Cover GPU Water Block for ASUS ROG Astral GeForce RTX 5090 Graphics Cards

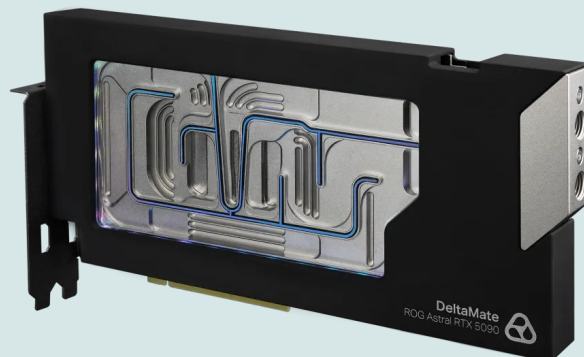
The cooling performance of the DeltaMate GPU Block for the ROG Astral RTX 5090 is primarily achieved by the optimized coolant flow design across the solid copper cooling block. The cooling block consists of two parts that are screwed together: the smaller core cold plate for the GPU and the VRM/VRAM cold plate for the video memory (VRAM) and voltage regulation modules (VRMs). Together with the aluminum housing, these components form the water block.

Weighing more than 1,100 grams, the VRM/VRAM cold plate is machined from high-quality copper and subsequently glass-bead blasted to ensure a uniform appearance. After blasting, the contact surfaces for the video memory and voltage regulation modules are precision-machined again by CNC to achieve the best possible heat transfer. In the final step, the copper components are nickel-plated. The separately machined Ultra-High-Performance cold plate is also glass-bead blasted before the GPU contact surface receives a fine-milled finish. Thermal Grizzly's Ultra-High-Performance cold plates for CPU and GPU coolers are manufactured with minimal and highly optimized channel and fin spacing.

On the DeltaMate GPU Block – ROG Astral RTX 5090, the channel width of the nickel-plated copper cold plate is 0.2 mm. The fin width is also 0.2 mm, with a fin height of 2.5 mm. This results in a surface area of 21,009 mm² for the core cold plate. This is possible because the cold plates are CNC-machined rather than manufactured using the skiving process. Although skiving can produce a similar fin structure, the material is plastically deformed by the strong forces applied when raising the fins, which can reduce cooling performance.

Key Features

- Ultra-High-Performance 0.2 mm microfins
- All-metal construction with an RGB-illuminated viewing window made of tempered PMMA or SCHOTT BOROFLOAT® glass
- Targeted cooling of all VRAM and VRM components
- Configurable with a brass through terminal featuring four ports or a direct terminal featuring two ports
- Thermal Grizzly thermal compounds and thermal pads included



Material

- Cold plate assembly: nickel-plated copper
- Terminal: nickel-plated brass
- Frame: anodized aluminum
- Backplate: anodized aluminum
- O-rings: EPDM
- Viewing window: tempered PMMA or SCHOTT BOROFLOAT® glass

Scope of Delivery

- **Cooler:**
 - DeltaMate GPU Block – ROG Astral RTX 5090 Black
- **Accessories:**
 - Low-profile hex socket screw, M2.5 × 4 mm, black
 - Low-profile hex socket screw, M2.5 × 6 mm, black
 - DIN 934 M2.5 hex nut, black
 - M2.5 polyamide washer
 - Pair of latex gloves
 - 1.5 mm hex key
 - 2 mm hex key
 - 2.5 mm hex key
 - 8 mm hex key
 - TG Spatula
 - TG Spatula Pro
 - TG Putty Advance, 30 g
 - TG Duronaut, 6 g
 - TG Minus Pads Advance, 1.0 mm
 - TG Minus Pads Advance, 1.5 mm
 - TG Minus Pads Advance, 2.0 mm
 - TG Minus Pad High Compression, 4.0 mm
 - TG Minus Pad High Compression, 3.0 mm

“The Oracle” PCB, RGB Lighting, and Window

The GPU water block is supplied on the precisely fitting “The Oracle” PCB. The dummy PCB matches the dimensions of the original ROG Astral RTX 5090 PCB, simplifying the planning of a custom cooling loop and allowing the alignment and fit to be checked before disassembling the graphics card. It also serves as an installation template for screws and thermal interface materials.

A strip containing 27 addressable RGB LEDs is located inside the water block’s black anodized aluminum housing and illuminates the viewing window. The LEDs can be controlled via a 3-pin ARGB header (+5 V/DATA/GND) on the motherboard. Depending on the version, the DeltaMate GPU Block – ROG Astral RTX 5090 is available with a viewing window made of tempered PMMA or SCHOTT BOROFLOAT® glass.

After machining, the PMMA viewing window undergoes a tempering process that reduces internal stresses. This helps prevent stress cracks from forming during long-term use. The SCHOTT BOROFLOAT® glass viewing window refracts the light from the integrated RGB lighting differently from acrylic glass. The borosilicate glass is UV-resistant, highly scratch-resistant, and more resistant to alcohol-based cleaning agents.

Modular Design and Scope of Delivery

The DeltaMate GPU water block for the ROG Astral RTX 5090 is supplied with the pre-installed DeltaMate GPU Block – Direct Terminal made of brass. The terminal features one inlet and one outlet with G1/4-inch threads. When installed in a standard ATX case, both ports face forward toward the front of the case.

Thermal Grizzly also offers the DeltaMate GPU Block – Through Terminal as an optional accessory available separately. It features two inlets and two outlets located on the upper and lower sides of the terminal.

The scope of delivery includes all thermal interface materials required for installation on the GPU water block: TG Putty Advance, which may optionally be used as a substitute for the thermal pads, TG Duronaut, TG Minus Pad Advance, and TG Minus Pad High Compression.

Notes

The DeltaMate GPU Block - ROG Astral RTX 5090 requires assembly and should only be installed and used by experienced users.

DO NOT use in combination with aluminum-based water-cooling components in which the coolant comes into contact with aluminum, such as radiators with aluminum tubes.

We recommend using suitable coolants that contain biocides and corrosion inhibitors and are free from particles that could restrict coolant flow or clog the cooling loop.

Trademark Information

DeltaMate is a registered trademark.
Thermal Grizzly is a registered trademark.

Important Information

The information provided in this technical data sheet is based on our current knowledge and experience. Due to the multitude of possible factors that may influence its use, this information does not release installers and users from the obligation to carry out their own tests and trials. No legally binding guarantee of specific properties or suitability for a particular application can be derived from the information provided. We reserve the right to modify product specifications in line with technical progress or operationally necessary product developments. Our recommendations do not release users from the obligation to investigate and, where necessary, resolve any potential infringement of third-party intellectual property rights. Depending on the individual case, we recommend contacting us. Errors and omissions excepted.

Technical Data

Dimensions

Size:	28.2 × 13.5 × 2.8 cm
Port spacing:	28 mm
Backplate thickness:	4.5 mm
Number of slots:	1.5
Coolant capacity:	76 ml

Materials

Cold plate assembly:	Nickel-plated copper
Terminal:	Nickel-plated brass
Window:	Tempered PMMA or SCHOTT BOROFLOAT® glass
Frame:	Aluminum 6082
O-rings:	EPDM

Other

Lighting:	Digital aRGB, 3-pin, 27 LEDs
Cold plate:	86 microfins with a fin width of 0.2 mm
Threads:	2 × G1/4" female threads (1/4" BSPP)

Viewing window:	Product number:	EAN code:	Package dimensions:	*Net weight:	*Gross weight:	PU:
PMMA	TG-DM-GPU-001	4260711992063	36 x 22,5 x 7cm	2142g	3600g	1 pcs.
Glass	TG-DM-GPU-004	4260711992810	36 x 22,5 x 7cm	2581g	4039g	1 pcs.

The net weight is the total weight of an item excluding the weight of the packaging and accessories. Minor weight deviations may occur due to production tolerances.