

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 GPU water block and is produced by Thermal Grizzly in Germany. It stands out with exemplary surface quality, attention to detail, and outstanding cooling performance. The two cold plates used in the water block are machined before and after glass bead blasting. As the final step, the cold plates are nickel-plated. It features the same 0.20 mm microfins as the Mycro Direct-Die CPU water blocks and comes with Thermal Grizzly Duronaut, Minus Pad Advance, and Putty Advance.

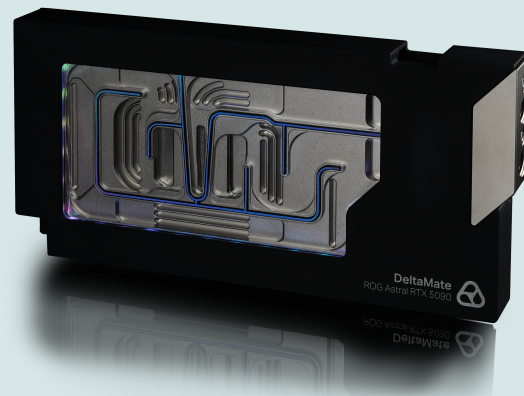
Ultra High Performance Full-Cover GPU Water Block for Asus ROG Astral GeForce RTX 5090 Graphics Cards

The cooling performance of the DeltaMate GPU Block for the ROG Astral RTX 5090 is primarily driven by the optimized flow design of the coolant across the massive copper cooler. The cooler consists of two interlocked sections: the smaller core coldplate for the GPU die, and the VRM/VRAM coldplate for video memory (VRAM) and voltage regulation modules (VRM), which, together with the aluminum housing, form the complete water block. The VRM/VRAM coldplate, weighing over 1,100 grams, is CNC-machined from high-quality copper and subsequently glass bead blasted to ensure a uniform surface finish. The contact surfaces for the VRAM and VRM are then finely remachined using CNC processing after blasting to ensure maximum heat transfer. In the final step, all copper parts are nickel-plated.

The separately milled Ultra High-Performance Coldplate is also glass bead blasted before the GPU contact surface is given a precision-machined finish. Thermal Grizzly's Ultra High-Performance coldplates for both CPU and GPU coolers are manufactured with a minimal and highly optimized slot and fin spacing. In the case of the DeltaMate GPU Block – ROG Astral RTX 5090, the slot width on the nickel-plated copper coldplate is 0.2 mm, and the fin width is also 0.2 mm, with a fin height of 2.5 mm. This results in a total surface area of 21,009 mm² for the core coldplate. This level of detail is possible because the coldplates are CNC-machined, rather than produced using the skiving process. While skiving can achieve similar fin structures, it relies on extreme mechanical force to raise the fins, which plastically deforms the material, resulting in reduced thermal performance.

"The Oracle" PCB and RGB Lighting

The DeltaMate ROG Astral RTX 5090 Black GPU Water Block features an integrated spacer PCB (also known as a "dummy" PCB) called the "The Oracle" PCB, which is precisely matched to the layout and dimensions of the ROG Astral RTX 5090 graphics card PCB. This dummy PCB allows the water block to be used directly out of the box to simplify the planning of a custom water cooling loop. This enables the user to verify proper alignment and fit before any disassembly takes place, significantly streamlining the custom loop setup process.



Short Information

- Ultra High Performance 0.2 mm microfins
- Full-metal construction with RGB-illuminated viewing window
- Targeted cooling of all VRAM and VRM components
- Configurable with Through (4-port) or Direct (2-port) brass terminals
- Supplied with Thermal Grizzly thermal pastes and pads

Material

- Coldplate assembly (nickel plated copper)
- Terminal (nickel plated brass)
- Frame (anodized aluminum)
- Backplate (anodized aluminum)
- O-Rings (EPDM)
- Acrylic Block (annealed PMMA)

Scope of Delivery

- **Cooler:**
 - DeltaMate GPU Block – ROG Astral RTX 5090 Black
- **Accessories:**
 - HexThinHead M2.5 x 4mm Screw, Black
 - HexThinHead M2.5 x 6mm Screw, Black
 - DIN934 M2.5 Nut, Black
 - M2.5 Polyamid Washer
 - Pair of Latex Gloves
 - Allen Key 1.5 mm
 - Allen Key 2 mm
 - Allen Key 2.5 mm
 - Allen Key 8 mm
 - TG Spatula
 - TG Spatula Pro
 - TG Putty Advance, 30g
 - TG Duronaut, 6g
 - 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 "The Oracle" PCB also serves as a template for the installation process, providing helpful information such as screw positions and thermal pad placement. After installing the water block, it can also be reused to remount the original air cooler for storage purposes.

Inside the black anodized aluminum housing of the water block is a strip of 27 addressable RGB LEDs that illuminate the tempered acrylic viewing window. These LEDs can be controlled via a 3-pin ARGB header (+5V/DA-TA/GND) on the motherboard. After the milling process, the acrylic undergoes a thermal annealing process to relieve internal stresses. This ensures that no stress cracks develop over time, as can happen with tempered acrylic under long-term use.

Modular Design and Scope of Delivery

The DeltaMate GPU Water Block for the ROG Astral RTX 5090 is shipped with the DeltaMate GPU Block - Direct Terminal made of brass as a pre-installed terminal. The terminal provides one inlet and one outlet with G1/4-inch threads, both facing the front when installed in a standard ATX case. With the DeltaMate GPU Block - Through Terminal, Thermal Grizzly also offers an optional, separately available terminal with two inlets and two outlets located at the top and bottom of the terminal.

For installation on the GPU water block, the scope of delivery includes all necessary thermal interface materials (TIMs): TG Putty Advance (optionally usable as a replacement for 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 is recommended for use and installation by experienced users.

DO NOT use in combination with aluminum-based water cooling components where any coolant would be exposed to aluminum, e.g., radiators with aluminum tubes.

We recommend suitable coolant fluids that contain biocides and corrosion inhibitors and that are free of particles which may restrict water flow or clog the loop.

Trademark Information

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

Please note

The data in this technical data sheet are based on our current knowledge and experience. Due to the large amount of possible factors, this should not be construed as to release the users from doing their own tests and screening. No legally binding assurance of specific properties or applicability for a concrete purpose should be derived from these data. Please consider contacting us for further detail. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

Technical data

Unit:	Value/Description:
Dimensions	
Size	28.2 x 13.5 x 2.8cm
Port Spacing	28mm
Backplate Thickness	4.5mm
Number of Slots	1.5
Coolant Capacity	76ml
Materials	
Coldplate assembly	nickel plated copper
Terminal	nickel plated brass
Acrylic Block	annealed PMMA
Frame	Aluminium (6082)
O-Rings	EPDM
Misc	
Lighting	D-RGB 3-pin, 27 diodes
Coldplate	86 0.2mm Micro Fins
Threads	2x Female G1/4" (1/4" BSPP)

Item number: TG-DM-GPU-001	EAN code: 4260711992063	Packaging size: 36 x 22.5 x 7cm	*Net weight: 2142g	PU: 1 Pcs.
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*Net weight is the total weight of an article excluding the weight of packaging and accessories. The gross weight refers to the total weight of the product including accessories and packaging. Slight weight deviations are possible due to production factors.