

INTEL Mycro Direct-Die Pro RGB V1



High Performance Cooling Solutions – Made in Germany

The Intel Mycro Direct-Die Pro RGB V1 is a water cooler optimized for the Intel LGA1700 platform. The copper base plate has more cooling fins and less flow resistance than the standard version of the Mycro cooler. The cooler rests directly on the chip of the Intel CPU so that the waste heat from the processor has the shortest possible path to the water circuit. An up-to-date list of all verified compatible processors is available online.

Nickel-plated copper cooler with optimized microfin structure

Thanks to an optimized cooling channel slot width, the Intel Mycro Direct-Die Pro RGB V1 offers 43 percent more cooling fins than the standard version. A jet system reduces the flow resistance of the cooler so that the Intel Mycro Direct-Die Pro RGB V1 achieves a higher flow of liters per minute at the same pump speed as the Intel Mycro Direct-Die V1. This increased flow means that the pump can either be turned down to reduce the volume of the pump or that more waste heat can be directed to the radiators at the same volume.

The nickel layer on the copper of the base plate makes it possible to use the Intel Mycro Direct-Die Pro RGB V1 with liquid metal between the CPU die and CPU cooler. Liquid metal offers the best possible heat transfer from the silicon of the die to the copper of the cooler. Nickel plating of the cooler plate is necessary to prevent the gallium-based liquid metal from diffusing into the copper. The barrier layer in the form of nickel ensures that multiple applications of liquid metal are generally not necessary.

Technical data

| Unit: | Value/Description: |
|----------------------|---|
| Material: | Copper (nickel plated) Acrylic (annealed) Aluminum (anodized) |
| Color: | silver, black |
| Typical application: | Direct Die water cooler |
| Connectors: | 2x G1/4 inch |
| Length: | 70 mm |
| Width: | 53 mm |
| Total height: | 25 mm |
| Package size: | 10,5x9,5x4 cm |
| *Gross weight: | 261 g |
| *Net weight: | 205g |
| EAN-Code: | 4260711991011 |
| Item number: | TG-MY-DD-P-RGB-i-V1 |
| PU: | 7 Pcs. |

*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.

Short information

- Water cooler for direct-die mounting
- Microfin cooler made of nickel-plated copper
- Replaces ILM and heat spreader
- Acrylic glass and aluminum cover
- G1/4-inch connections
- CPU compatibility list available online
- Only for delidded CPUs! Attention: Loss of warranty!

As a direct-die water cooler, the Intel Mycro Direct-Die Pro RGB V1 also fulfills the function of a contact frame, which replaces the Integrated Loading Mechanism (ILM) of the mainboard. As a result, the processor is pressed into the socket of the mainboard with optimum contact pressure. In combination with the floating installation of the cooler, which only rests on the threads for the ILM screws, problems with the connection of the main memory, for example, can be avoided.

Annealed acrylic glass, RGB lighting and aluminum lid

The design of the Intel Mycro Direct-Die Pro RGB V1 includes an anodized aluminium cover with RGB LED lighting underneath. These illuminate the tempered acrylic glass and can be controlled via the 3-pin ARGB header (+5V/DATA/GND) via the mainboard. The Intel Mycro Direct-Die Pro RGB V1 is connected to the custom water cooling circuit via an input and output with a G1/4-inch thread.

After milling, the acrylic glass is subjected to an annealing process, which relieves the acrylic glass of internal stresses. This ensures that no stress cracks form in the acrylic glass even after a long service life, as can occur with tempered acrylic glass.

Scope of Delivery

- 1x Intel Mycro Direct-Die Pro RGB V1
- 4x pan head screws UNC thread
- 1x hexagon socket wrench
- 1x Torx angle wrench

Jet system cooling surface and optimized cooling channel slot width for maximum cooling

The Intel Mycro Direct-Die Pro RGB V1 combines a slot width of the cooling channels of 0.25 millimeters with a U-shaped jet system cooling surface. This means that 50 cooling fins can be accommodated on the surface relevant for cooling instead of the 35 fins of the standard version of the Intel Mycro. In a direct comparison**, the Pro version can keep an Intel Core i3900KS at a temperature of 68.4 degrees Celsius under load, while the non-Pro Mycro keeps the processor at 74.6 degrees Celsius. The Intel Mycro Direct-Die Pro RGB V1 was able to cool the CPU 6.2 °C better. A standard water cooler cools an unheated Core i9-13900KS down to around 92 degrees Celsius.

At the same pump speed, the non-Pro version of the Mycro Direct-Die cooler achieved a flow rate of 2.6 liters per minute, while the Intel Mycro Direct-Die Pro RGB V1 had a flow rate of 2.5 liters per minute.

Internal testing was carried out with an Intel Core i9-13900KS (5.5 GHz, 1.35 V) in a custom loop with a Watercool MO-RA3, including four 200 mm fans from Noctua. A Keyence FD-X was used as the flow sensor, which has the advantage of not creating any resistance in the water circuit itself. The pump speed of the Xylem Lowara D5 pump was approx. 3,400 revolutions per minute. Conductionaut Extreme liquid metal was used on the die of the decapitated processor.

Please note that delidding the processor is at your own risk and will invalidate the warranty!

**It should be noted that the temperature improvements achieved depend on several factors. In addition to the quality of the individual processors ("Silicon Lottery"), test results are also influenced by the room temperature and the cooling system used. With a custom water cooling system, for example, the cooling performance depends on factors such as the pump speed and the fans and radiators used. The specified values are guide values that may be higher or lower in individual cases.

Quality without compromise: Made in Germany

The Intel Mycro Direct Die Pro RGB V1 is manufactured to the highest quality standards at our production site in Germany. The entire production chain is continuously monitored by our expertly trained staff. Particular attention is paid to the microfins, which are specially protected from contamination during the production chain.

All Intel Mycro Direct Die Pro RGB V1 are also subjected to a compressed air test (600 mbar) as part of quality control after assembly. Each water cooler is provided with a serial number and a corresponding pressure test report is included.

Attention: Removing the heat spreader ("delidding") of a processor is at your own risk! The manufacturer's warranty expires when the CPU is delidded! Damage caused by delidding the CPU is not covered by the manufacturer's warranty!

Removing the Integrated Loading Mechanism (ILM) of the mainboard may invalidate the manufacturer's warranty of the mainboard manufacturer!

Note on the use of KryoSheet

The Intel Mycro Direct Die V1 has been extensively tested internally in various application scenarios. During development, great emphasis was placed on stable operation of the processor and RAM. For example, the Intel Mycro Direct Die V1 is mounted in such a way that the outer edges of the cooler do not rest on the mainboard. In our test series, KryoSheet in combination with the Intel Mycro Direct Die V1 was unable to achieve any significant improvements in terms of temperature and was problematic in terms of contact pressure. For this reason, we cannot recommend thermal pads because their additional thickness has a strong influence on the contact pressure and can therefore impair the function.

Trademark Information

Thermal Grizzly is a registered trademark.

Please note

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