# COMINO RM V2 (L/S)

## HIGH PERFORMANCE LIQUID-COOLED MULTI-GPU WORKSTATIONS

## KEY ADVANTAGES

**TOP OF THE LINE SOLUTION FOR AI, MACHINE LEARNING, VIDEO PRODUCTION AND RENDERING**

We manufacture high-end Workstation devices for office and data center usage, racking powerful hardware with up to 6 full-sized GPUs into a small form factor machine with liquid cooling for unmatched performance in GPU-related workflows like rendering, computer generated imagery, video production, scientific calculations, AI.

**CONFIDENCE AND STABILITY. RESULTS DELIVERED**

To ensure hardware stability we supply our devices with custom-designed and thermally-tested full cover copper water blocks to cool all the crucial components: the CPU, GPUs, GDDR, VRM modules on the motherboard and graphics cards. The devices stay cool, stable and will serve you longer. External liquid-cooling system controller monitors system parameters to halt operations if any faults occur.

**QUIETLY OUTPERFORMS ANY SIMILAR AIR-COOLED SOLUTION**

Comino liquid-cooling system is based on the deformational cutting micro-fin technology that is capable of creating a fin as thin as 0.1mm with a 0.1mm channel and 3mm height. As a result the heat is dissipated fast enough to keep GPU temperatures within a safe range even at 24/7 operation and prevent thermal throttling. You can overclock those and get even more performance!

GPU-Accelerated liquid-cooled Workstation for AI, machine learning, video production, rendering, and more.

## FEATURES

- **Up to 6 GPUs** depending on the power consumption

- compatible with any up-to-date GPU, including:
  **nVidia RTX 3080, RTX 3090, A100, A40, RTX A6000**
  and more;
  **AMD Radeon 6800XT, 6900XT, PRO VII, Pro V520,
  Instinct MI100** and more.

- **Up to 7 PCIe x16 Gen.4 slots**

- Can be used as a **desktop workstation** or **put in
  a 19" rack**

- Integrated complete liquid cooling system

- **High quality cooling** of crucial elements – the MB,
  the CPU, the VRM, the GPUs

- **Independent cooling system controller** with
  a self-diagnostic function and protections

- Almost **silent operation** as compared with similar air-cooled
  solutions

- **Up to 20% faster** than similar air-cooled solutions

- **Prolonged lifetime** due to the lower temperature of the
  hardware components

**6 GPUs**

**NVIDIA.**

**AMD**

on
**DESK/RACK**

(intel)

# SIMPLE MAINTENANCE.
# ENERGY SAVING. RELIABLE. PRODUCTIVE.

# TOP CHOICE
# FOR GPU-INTENSIVE
# APPLICATIONS

## 3D Rendering

## Video Editing

## Architectural Visualization

## Broadcasting

# COMINO RM V2-L



# SYSTEM OVERVIEW

| | |
|---|---|
| **Maximum Cooling Capacity** | **1900W**<br><br>*Maximum cooling capacity is ensured*<br>*@ 20C intake air T and "performance mode" of the cooling system* |
| **Motherboard** | Up to EATX |
| **GPUs** | Any, depending on power consumption |
| **Processors** | Up to 2 |
| **Sockets** | **Intel**: LGA2066, LGA1200*, FCLGA3647*, FCLGA4189*<br>**AMD**: TR4, AM4*, SP3*<br><br>*– available upon request |
| **RAM** | Up to 2TB, depending on the MB and the CPU |
| **Cooling Capacity** | 2x ATX-L, 80+ Platinum/Titanium<br>(1500W each in standard configuration)<br><br>*To ensure ~95% power efficiency of our devices we use several PSUs both*<br>*working in a sweet spot of 50-70% load* |

Full tech spec on p.11

# RM V2-L
# COOLING CAPACITY CALCULATION EXAMPLES

| CONFIGURATION REVIEW | | TDP (WATTS) |
|---|---|---|
| CPU | AMD RYZEN THREADRIPPER PRO 3975WX | 280 |
| GPU | 5x NVIDIA RTX A100 | 5 x 300 |
| System Configured Total Power | | 1780 |
| COMINO RM V2-L Cooling Capacity | | 1900* |

| CONFIGURATION REVIEW | | TDP (WATTS) |
|---|---|---|
| CPU | AMD RYZEN THREADRIPPER PRO 3975WX | 280 |
| GPU | 4x  NVIDIA RTX 3090 24GB | 4 x 350 |
| System Configured Total Power | | 1680 |
| COMINO RM V2-L Cooling Capacity | | 1900* |

*\* − Maximum cooling capacity is ensured @ 20C intake air T and "performance mode" of the cooling system*

# COMINO RM V2-S



# SYSTEM OVERVIEW

| | |
|---|---|
| **Maximum Cooling Capacity** | **1400W**<br><br>*Maximum cooling capacity is ensured<br>@ 20C intake air T and "performance mode" of the cooling system* |
| **Motherboard** | Up to EATX |
| **GPUs** | Any, depending on power consumption |
| **Processors** | Up to 2 |
| **Sockets** | **Intel**: LGA2066, LGA1200*, FCLGA3647*, FCLGA4189*<br>**AMD**: TR4, AM4*, SP3*<br><br>*– available upon request |
| **RAM** | Up to 2TB, depending on the MB and the CPU |
| **Cooling Capacity** | 3x SFX, 80+ Platinum/Titanium<br>(750W each in standard configuration)<br><br>*To ensure ~95% power efficiency of our devices we use several PSUs both<br>working in a sweet spot of 50-70% load* |

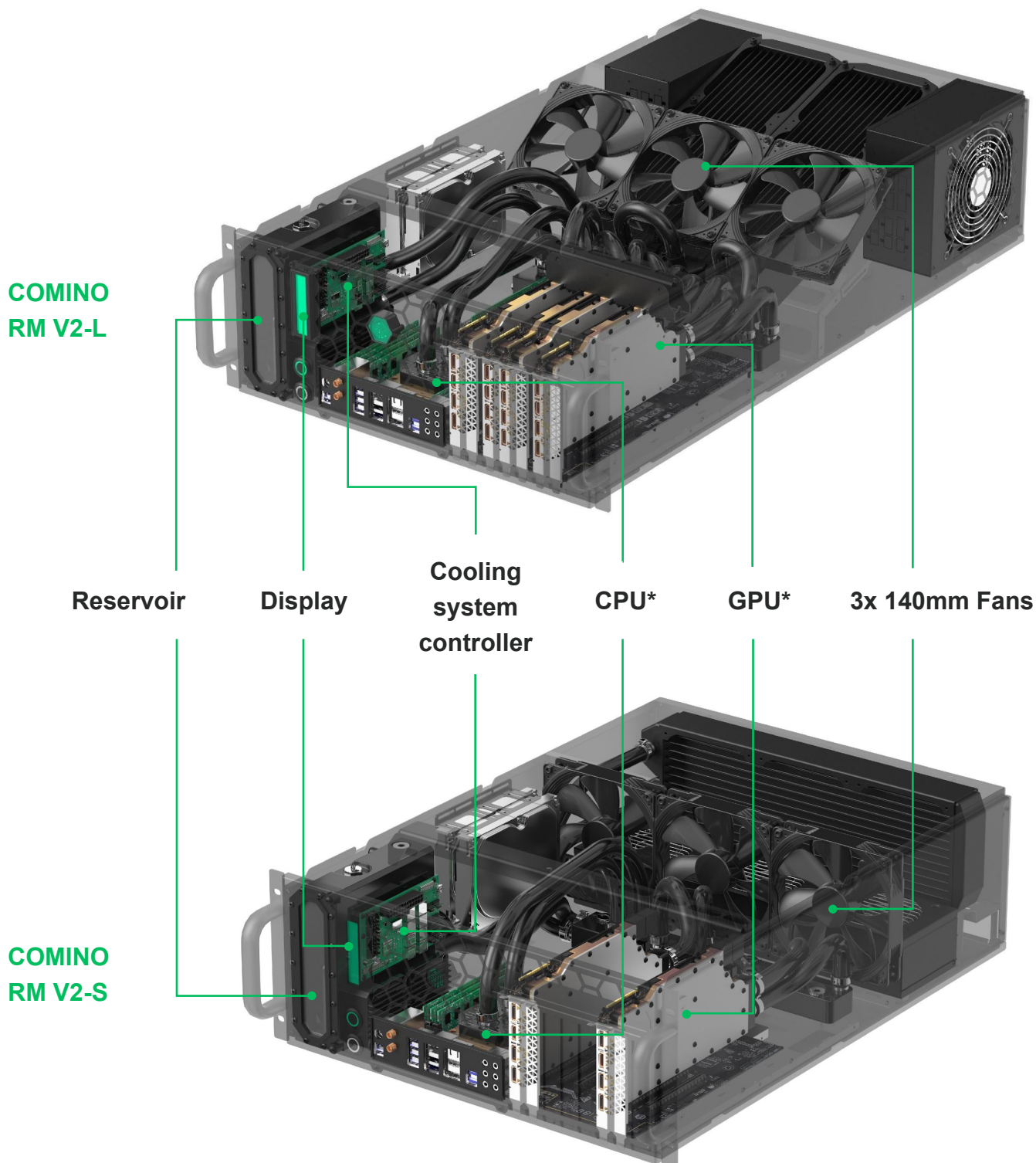Full tech spec on p.11

# RM V2-S
# COOLING CAPACITY CALCULATION
# EXAMPLES

| CONFIGURATION REVIEW | | TDP (WATTS) |
|---|---|---|
| **CPU** | AMD EPYC 7313P | 180 |
| **GPU** | 4x NVIDIA RTX A6000 48GB | 4 x 300 |
| **System Configured Total Power** | | **1380** |
| **COMINO RM V2-S Cooling Capacity** | | **1400*** |

| CONFIGURATION REVIEW | | TDP (WATTS) |
|---|---|---|
| **CPU** | AMD RYZEN THREADRIPPER 3970X | 280 |
| **GPU** | 2x NVIDIA RTX 3080 10GB | 2 x 320 |
| **System Configured Total Power** | | **920** |
| **COMINO RM V2-S Cooling Capacity** | | **1400*** |

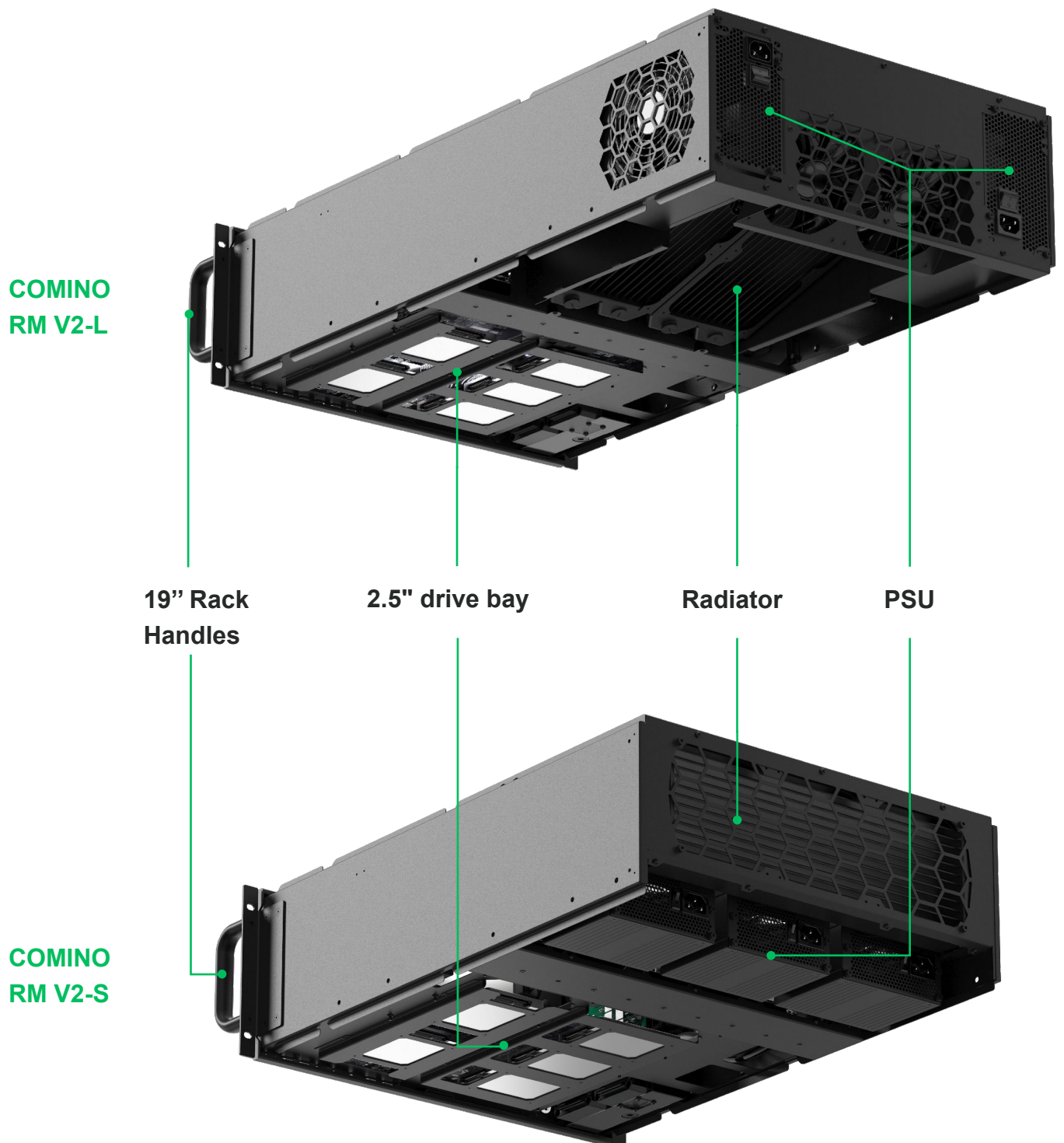*\* — Maximum cooling capacity is ensured @ 20C intake air T and "performance mode" of the cooling system*

# FRONT VIEW ILLUSTRATION

**COMINO
RM V2-L**

**COMINO
RM V2-S**

**Reservoir**  **Display**  **Cooling system controller**  **CPU\***  **GPU\***  **3x 140mm Fans**

\* Different configurations available.

# BACK VIEW ILLUSTRATION

**COMINO
RM V2-L**

**COMINO
RM V2-S**

**19'' Rack
Handles**

**2.5" drive bay**

**Radiator**

**PSU**

# MAX COOLING CAPACITY VS AMBIENT TEMPERATURE

The graph shows how the cooling capacity for the chosen profile depends on the ambient temperature.
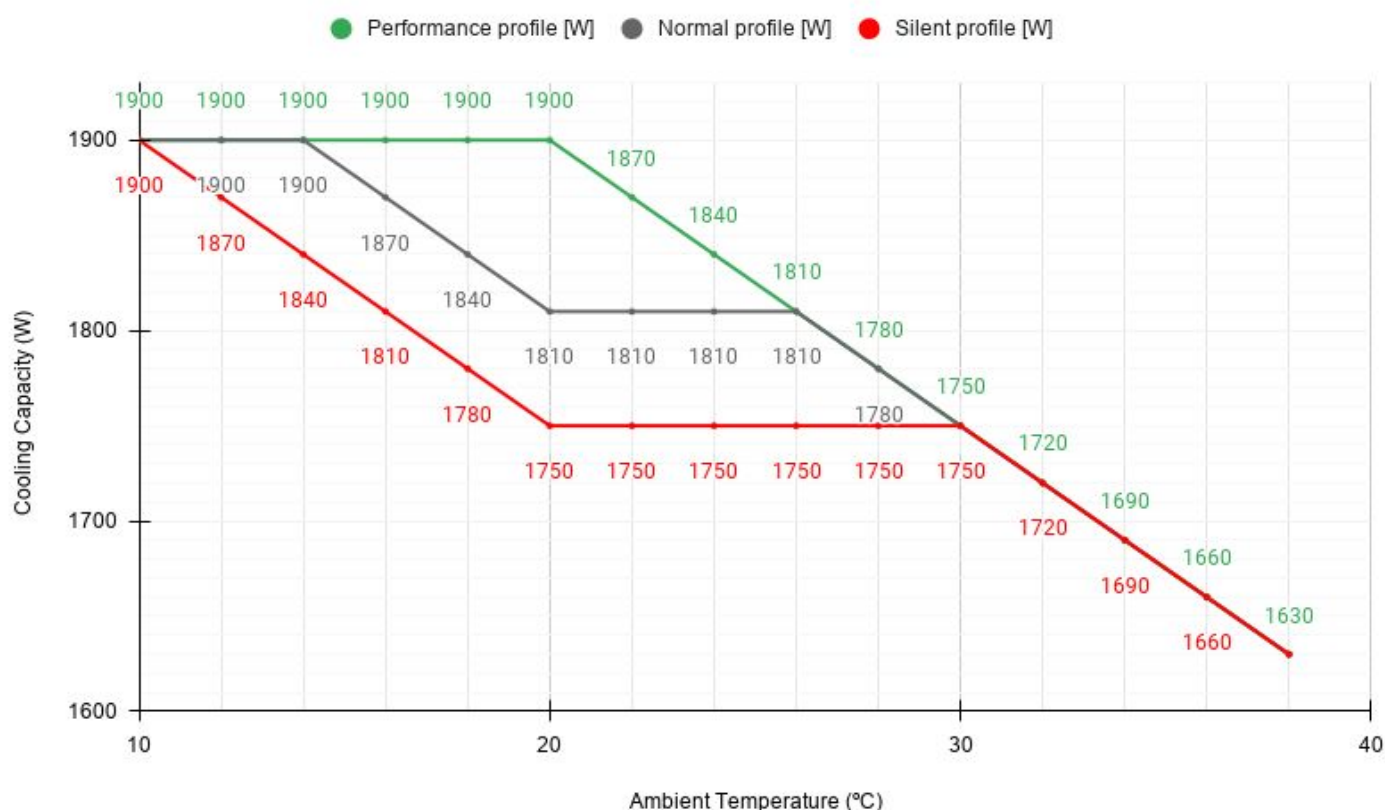
RESEARCHED PROFILES

- Performance: target coolant **T = 35ºC**
- Normal: target coolant **T = 40ºC**
- Silent: target coolant **T = 45ºC**

AMBIENT TEMPERATURE RANGE

10ºC – 40ºC

RESULT

MAX cooling capacity (1900W) at the performance-efficient profile usage is available at up to 20ºC. Efficiency degradations are found at higher ambient temperatures. To ensure the safety of internal components, the possibility of system operation at temperatures above 38ºC is blocked.

| | V2-S | V2-L |
|---|---|---|
| Chassis | Short | Long |
| **GPUs:** | Any, depending on power consumption | |
| examples for Nvidia | RTX 3080, RTX 3090, A100, A40, A6000 | |
| examples for AMD | Radeon 6800XT, 6900XT, PRO VII, Instinct MI100, Pro V520 | |
| **Processors** | Up to 2 | |
| Intel Core sockets | LGA2066 (default configuration), LGA1200, FCLGA3647, FCLGA4189 | |
| AMD sockets | TR4 (default configuration), AM4, SP3 | |
| RAM | Up to 2TB, depending on the MB and the CPU | |
| M2 drives | Up to 4x NVME | |
| 2.5" drives | Up to 5 (more drives upon request) | |
| 3.5" drives | Up to 2 (more drives upon request) | |
| **Motherboards:** | Up to EATX | |
| **Cooling Capacity:** | 1400W | 1900W |
| PSU | 3x SFX (750W in standard configuration) | 2x ATX-L (1500W in standard configuration) |
| Max PSU load | 100-240Vac 9-4A | 110-240Vac 16-9A |
| Noise level | Silent in the office job, low in 3/5 load, audible under the full load | |
| Lan | Up to 200 Gb/s | |
| OS | Ubuntu / Win10 (Pro/Home) / Windows Server | |
| **Liquid cooling:** | CPU + VRM (fullcover), GPU | |
| Reservoir | Comino custom 450ml with integrated pumps | |
| Pumps | 2x 18W | |
| Radiators | 1x 360mm core | 2x 360mm core |
| Fans | 3x 140mm Noctua NF-A14 iPPC 3000 rpm | 3x 140mm Noctua NF-A14 iPPC 3000 rpm<br>2x 120mm Noctua NF-F12 iPPC 3000 rpm |
| Installation | **Table:** Vertical / Horizontal;<br>**19" rack:** Horizontal with mount rails / ears kit | |
| Required rack space | 4U | |
| Dimensions (without rack-mounting handles) | 442 x 619 x 177 mm | 442 x 812 x 177 mm |
| Operating & storage temperature range | **Storage**: -5..50ºC<br>**Operating**: 3..38ºC | |

# COMINO RM V2
## CAN BE USED
## AS A WORKSTATION
## OR PUT IN A RACK

## GET SOCIAL

| | |
|---|---|
| Instagram | @cominotech |
| Facebook | @cominotech |
| YouTube | @cominotech |
| LinkedIn | @cominotech |

## CONTACTS

| | |
|---|---|
| **Website** | https://grando.ai/choose-a-gpu-machine-for-ai-deep-learning |
| **Email** | info@comino.com |

COMINO

For more product information

visit: **www.comino.com**