# Compute Series
# X7000-RM

## Self-Contained, Fully Liquid Cooled
## 5U Rackmount GPU Server

EK Fluid Works X7000-RM Rackmount GPU servers are designed to drop into any existing server rack environment, providing liquid cooled computing performance and reliability with unmatched simplicity and flexibility.



**Quick Specs:**

- 2$^{nd}$ & 3$^{rd}$ Gen AMD® EPYC™ CPUs
- Up to 7x GPUs
- 128GB to 2TB ECC Memory
- 3+1 3240W Constant Power, Hot-Swappable, Redundant PSU
- Self-Contained Removable/Replaceable CPU & GPU Liquid Cooling System

**Optimized For:**

- Data Science
- Machine Learning & Deep Learning
- Scientific Computing

## Innovation Sets Us Apart

**SELF-CONTAINED LIQUID COOLING**
No Reliance on Rack-Level or Facility Level Liquid Cooling Infrastructure

**MODULAR LIQUID COOLING UNIT**
Entire Liquid Cooling System Is Removable & Replaceable as a Modular Unit

**EASILY EXPANDABLE COMPUTE CAPACITY**
Industrial Quick Disconnect Couplings (QDCs) on GPUs Make Adding/Removing GPUs a Plug-and-Play Task

**HIGH EFFICIENCY 3+1 POWER SUPPLY**
Constant 3240W Power Supply with 4 Load-Sharing Hot-Swappable / Hot-Pluggable N+1 Redundant Power Cells

## Why Liquid Cooling?

**UNPARALLELED COOLING PERFORMANCE**
Water is more effective at removing heat, resulting in lower sustained operating temperatures.

**LONGER LIFESPAN**
Liquid cooling eliminates thermal fatigue, allowing components to stay cooler and last longer.

**GREATER PERFORMANCE OUTPUT**
Eliminating thermal throttling removes bottlenecks and increases performance output.

**INCREASED COMPUTE DENSITY**
Liquid cooled GPUs occupy less space, allowing 2x- 3x compute power in the same cubic footprint.

**ENVIRONMENTALLY FRIENDLY**
Liquid cooled computing components consume 10%- 15% less energy to produce the same power output as comparable air-cooled components.

| Motherboard | ASRock Rack ROMED8-2T | | | | | | |
|---|---|---|---|---|---|---|---|
| | Chipset | 7002/7003 | | | | | |
| | Socket | LGA 4094 | | | | | |
| | PCIe Lanes per GPU | 16 | | | | | |
| | Multi-Threading | Yes | | | | | |

| CPUs | AMD EPYC | 7502P | 7642 | 7702P | 7543P | 7643 | 7713P |
|---|---|---|---|---|---|---|---|
| | Frequency (GHz) Base / Boost | 2.5 / 3.35 | 2.3 / 3.5 | 2.0 / 3.35 | 2.8 / 3.7 | 2.3 / 3.6 | 2.0 / 3.675 |
| | Cores / Threads | 32 / 64 | 48 / 96 | 64 / 128 | 32 / 64 | 48 / 96 | 64 / 128 |
| | Cooling | Liquid | | | | | |

| Memory | 128GB (4 x 32GB ECC) to 2TB (8 x 256GB ECC) | |
|---|---|---|
| | DIMM Sockets | 8 x DDR4 |
| | Speed | 2666 / 3200 MHz |
| | Error Correcting | ECC |

| Expansion Slots | 7 x PCIe 4.0 x16 | |
|---|---|---|

| GPUs | NVIDIA RTX A6000, Quadro RTX 8000, Quadro GV100, Tesla V100, A100 | |
|---|---|---|
| | Max GPUs | 7 |
| | Cooling | Liquid |

| Storage | 1x NVMe M.2 SSD | |
|---|---|---|
| | Boot Drive | 1 x NVMe M.2 SSD PCIe 4.0 x4 (500GB, 1TB, 2TB) |
| | External storage via dual 10GbE LAN | |

| Power Supply | 3+1 Gold 3240W constant power, balanced load sharing design, hot swappable / hot pluggable redundant capability |
|---|---|

| I/O Ports | Front I/O |
|---|---|
| | 2 x USB (Type-A) |
| | Rear I/O |
| | 1 x USB 3.2 Gen 2 (Type-C) |
| | 2 x USB 3.2 Gen 1 |
| | 2 x 10GbE LAN |
| | 1 x IPMI LAN |

| Cooling | Self contained, modular & replaceable CPU & GPU EK custom liquid cooling system |
|---|---|
| | Integrated dual pump & reservior |
| | 3 x 360mm x 60mm newly designed low fin density radiators |
| | 6 x 120mm x 38mm industrial server-grade fans |
| | Quick Disconnect Couplings (QDC) |
| | xenowulf Smart Pump/Fan Controller |

| Chassis | 5U rackmount EK/xenowulf custom design | |
|---|---|---|
| | Dimensions: W x H x D (in) | 19 x 9 x 32 |
| | Dimensions: W x H x D (cm) | 48.3 x 22.9 x 81.3 |

| Warranty | Standard 1 year from ship date |
|---|---|