DDC SOLUTIONS
a member of DAIKIN group

DDC S-SERIES RACK CONTAINMENT UNITS

Deploy AI capacity faster, in any data center

Modern GPU racks now draw 50–120+ kW, far beyond what traditional racks and room-based cooling were designed to handle. And power and time to deploy are now the real constraints. Operators now require a platform that protects high-value compute assets, deploys in weeks instead of months, and scales cleanly as hardware generations accelerate.

The DDC S-Series Rack Containment Platform is engineered specifically for this new era of density. More than a cabinet or cooling solution, it is an integrated protection and thermal management environment that ensures GPUs, CPUs, and memory-dense systems operate safely, efficiently, and without interruption. And it's backed by the Daikin Group.

Solution Overview

The S-Series is a modular family of next-generation containment systems—**S-4, S-5, and GPUVault**—designed to meet operators where they are today and take them to where AI infrastructure is heading tomorrow. Each model provides a different level of thermal capability, but they all share a single mission:

Protect the asset. Standardize across sites. Future-proof for any density.

By bringing containment, airflow engineering, liquid-ready integration, environmental monitoring, water and fire protection to the rack, S-Series creates a controlled micro-environment that traditional room and aisle containment cannot match.



Why Containment at the Rack Matters

Traditional data centers rely on room-scale cooling and environmental controls. But modern AI nodes no longer behave like traditional servers. They:

- Run hotter and at higher sustained utilization
- Are far more vulnerable to thermal cycling
- Carry significantly higher cost per node
- Require predictable, stable environmental conditions to avoid performance degradation

The S-Series solves this by placing cooling, pressure regulation, filtration, and safety systems directly around the equipment, ensuring:

- Controlled temperature & dew point
- Consistent high-pressure airflow or liquid delivery
- Contained risk in the event of leak, smoke, or component failure
- Full isolation from room-level variability
- A neutral, quieter room, with no hot aisle or plenum to manage

This is asset protection at the rack level.



S-Series Product Line

S-4

Enterprise-Ready Containment for Standard-to-High Density Rows

The S-4 is the foundational S-Series model, designed for operators who need reliable high-density air cooling and strong physical/environmental protection. It supports 15–85 kW on air, and any density when DLC is added.



Key capabilities:

- High-efficiency air containment for stable thermal conditions
- Supports standard row solution, 24–31.5 inch (600–800 mm) racks
- Protection against contaminants, pressure changes, and airflow disruption
- Integrated monitoring for temperature, humidity, and airflow integrity
- Ideal for CPU-dense and mixed AI + enterprise deployments

S-5

Extreme-Density Containment for Next-Gen Racks



The S-5 builds on the S-4 with a unit design engineered for air + liquid-to-chip readiness, but at 42” width for the latest GPUs and sizing requirements of roll-in CDUs. It delivers up to 100 kW of airside cooling, and any density with DLC.

Key capabilities:

- Available as 42-inch-wide, deeper enclosure purpose-built for next-generation GPU clusters
- Optional liquid-to-chip coolant paths
- Compatibility with Daikin/Chilldyne CDU systems, or any other CDU provider
- Dynamic Density Control™ for real-time airflow and pressure optimization

GPUVault

Maximum Protection for Retrofit Environments



GPUVault is a flexible module designed for facilities with ceiling height, MEP, or water-routing constraints. It runs GPU-class workloads with as little as 10 ft of ceiling height.

Key capabilities:

- A three-cabinet module (two IT racks) with integrated central air-handling unit
- Support for 36-inch and 42-inch racks
- Side-car water loop design that eliminates overhead water lines
- Up to 200 kW airside cooling in a sealed, isolated environment

Core Platform Advantages

1. **Asset Protection First:** NEMA 3R-certified protection against falling water, integrated fire suppression available, and a stable micro-environment that shields GPUs from humidity, hot spots and airflow instability.
2. **Standardize Across Sites:** One unit and one facility interface everywhere, with no new cooling design per building.
3. **Future-Proof for Any Density:** Air, hybrid or full liquid-to-chip with any CDU. Add density without changing the broader infrastructure.
4. **Scalable, Modular Growth:** Start with a single S-4 and scale to a full AI pod of S-4, S-5 and GPUVault units.
5. **Intelligence at Every Rack:** Rack-level DCIM, plus power-aware cooling that ramps up before the heat arrives.
6. **Deploy in Weeks, Not Months:** Just add chilled water and power.

A Platform Built for the AI Era

The S-Series Rack Containment Platform gives operators the confidence to deploy dense compute anywhere—whether upgrading legacy rooms, building new GPU clusters, or expanding to edge sites. Contain the rack, not the room.

See it in person.

Visit the DDC AI Cooling Showcase in San Diego, or request a site model for your data hall **at 1.877.205.5971 or www.ddcsolutions.com.**