

DDC S-SERIES RACK CONTAINMENT PLATFORM

Future-Ready Infrastructure for AI, HPC & High-Value Compute

Modern GPU clusters push power and thermal loads far beyond what traditional racks and room-based cooling were designed to handle. Operators now require a platform that protects high-value compute assets, stabilizes thermal conditions at extreme density, 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.



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. Stabilize the environment. Maximize performance.

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 data center layouts 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

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 meets the densities of today, but can also scale to up to 85kW airside cooling.



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 moderate-GPU 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.



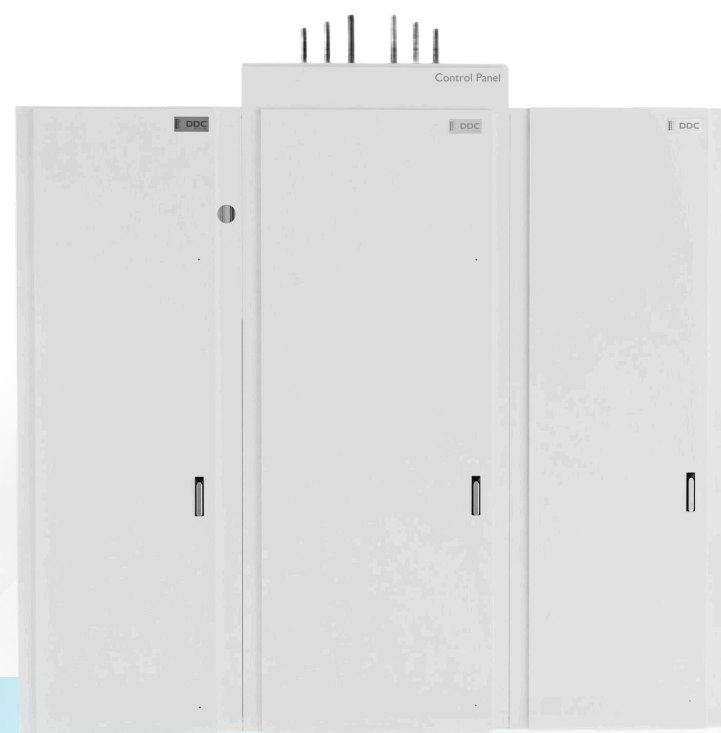
Key capabilities:

- Available as 42-inch-wide, deeper enclosure purpose-built for next-generation GPU clusters
- Optional liquid-to-chip coolant paths
- Compatibility with Daikin/Chillydyne 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.



Key capabilities:

- A three-cabinet module 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:** The S-Series is NEMA 3R outdoor rated and creates a stable micro-environment around high-value compute nodes, protecting against dust, humidity, condensation, hot spots, fire (with built in fire suppression) and airflow instability that commonly degrade GPU performance and lifespan.
- 2 Controlled Containment Environment:** Each S-Series unit acts as a “thermal boundary,” ensuring the rack environment—not the room—dictates operating conditions.
- 3 Adaptive Cooling Built In:**
S-Series enclosures support:
 - high-density air cooling
 - hybrid air + liquid
 - full liquid-to-chipOperators can start small and increase density without modifying the facility infrastructure
- 4 Scalable, Modular Growth:** Start with a single S-4 and scale to an entire AI pod mixing S-4, S-5, and GPUVault units—configured for the density requirements of each workload type.



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.