

A NEW WAY TO GET COOL

The Borealis™ CDU

One Platform, Three Operating Modes



Facility-to-Chip Control



- Modular & Scalable — Expands in 2-pump or 3-pump modules, orchestrating single-phase, two-phase, or hybrid loops.
- Facility-to-Chip™ Ready — Integrates with BAS/DCIM and rack endpoints (cold-plate, immersion, spray).
- Service-Friendly — Front/back access, isolation valves, and online filtration for easy maintenance.



Borealis™ CDU — Three Operating Modes



Shown
as a single
combination unit.

All Graphic content created by
Jeff Rhodes, Industrial-Designs.com.



Versatile Expandability



The vertical pump configuration of the Borealis™ not only provides ease of serviceability, but the horizontal plumbing allows for endless addition as the facility grows.

Borealis™ CDU — Three Operating Modes
Borealis™ is the intelligent command hub of Facility-to-Chip™ cooling — unifying single-phase, two-phase, and hybrid loops into one scalable, facility-integrated platform.

Mode A – Single-Phase (Water/PG):

Circulates water/glycol mix through cold plates, rear-door HX, or rack exchangers. Transfers heat to building chillers or dry coolers.

Mode B – Two-Phase (Dielectric):

Supports dielectric refrigerants such as Solstice® 1233zd(E). Condenses and subcools vapor from immersion or spray systems.

Mode C – Hybrid (Dual-Medium):

Operates liquid and refrigerant loops simultaneously — enabling mixed deployments (direct-to-chip on one loop, immersion/spray on another). Borealis™ orchestrates both with feed-forward & adaptive control, plus leak detection.

Borealis™ is the modular command hub for Facility-to-Chip™, Direct-to-chip and hybrid loop cooling — ALL IN ONE MODULAR AND ADAPTABLE SYSTEM.

Key Differentiators

Modular Scalability – Expandable up to 1600 kW with 2-pump and 3-pump modules.

Dual-Mode Retrofit Capable – Reconfigurable in-field for single-phase or two-phase.

Full Facility Integration – Direct control of roof units, fluid coolers, and refrigeration assets — regardless of supplier.

Why Choose Borealis™?

- **Future-Proof** — Seamless transition from glycol to two-phase, no rip-and-replace
- **Service-Friendly** — Front/back access, hot-swappable modules, automated diagnostics
- **ESG Leadership** — Low-GWP fluids, energy reporting, open validation

Validation & Standards

Designed in alignment with ASHRAE 90.4, 15, 191, and TC9.9 guidelines, with validation pathways open to OCP and OEM standards.