

DELTAFlow~

DeltaFlow~™ Liquid Cooling Technology

ExpandOnDemand™ with the Industry's First Universal, Liquid-Cooled Data Center Platform Designed for Next-Generation Computing Applications

There's a common belief in our industry that next-generation infrastructure requires immense capital investment and complete data center overhauls. At Aligned, we're taking a slightly difference approach: Stay ahead of product innovation and make agility innate in our design. The future is flexible.

Liquid, Without the Lift

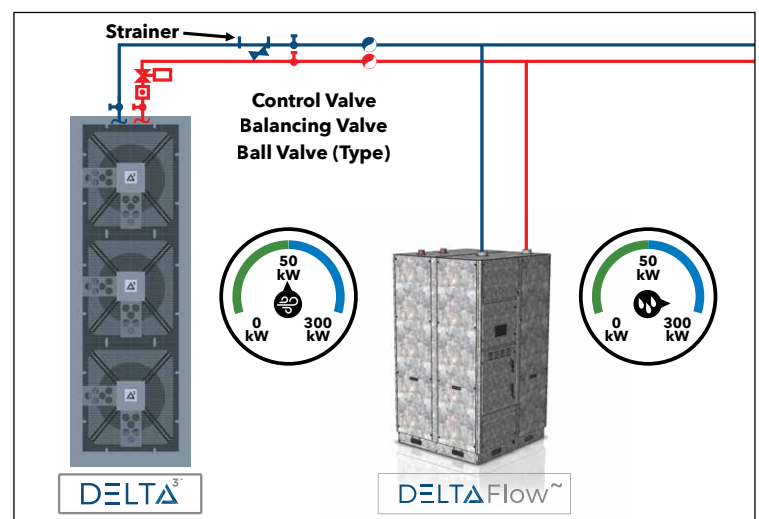
DeltaFlow~™ liquid cooling technology is Aligned's new patent-pending solution designed to support the high-density compute requirements of next-generation applications and high-performance computing (HPC), including artificial intelligence (AI), machine learning (ML), and supercomputers. DeltaFlow~ extends Aligned's ExpandOnDemand™ capabilities, offering customers the flexibility to seamlessly pivot and scale to support shifting computing environments—no matter their applications, density requirements, or cooling solutions.

- Turnkey solution delivered within a standardized delivery process to streamline liquid-cooled deployments
- Scalable, universal architecture supports customers' customization requirements
- Integrates with direct-to-chip, rear-door heat exchangers, and immersion cooling
- DeltaFlow~ also integrates seamlessly with Delta³, Aligned's patented air-cooled technology, which means unchanged power requirements and compatibility at existing facility water temperatures
- Customers can transition from air to liquid cooling seamlessly, even in live environments

Grow with the Flow, Even as Densities Rise

DeltaFlow~ uses facility chilled water to produce an isolated technology water/25% PG supply at the right temperature, flow, and pressure for optimal liquid cooling. The technology water/PG25 loop can integrate with direct to chip cold plates, rack mounted CDUs, immersion pod HXs, etc.

With DeltaFlow~, redundancy is achieved with fully redundant units connected to a technology water loop, offering superior reliability and serviceability compared to single CDU's connected to a row of racks, that offer partial redundancy by use of multiple internal back-up components.



DeltaFlow~ Specifications

- 500 kW heat rejection operating with 10°F dT technology water/25% PG
- 316 SS construction technology water pump with variable speed TEFC motor
- Brazed plate heat exchanger constructed with 316 SS plates and copper brazing
- Pressure independent facility water flow control valve with integral measurement of flow
- Programmable BACnet controller with distributed manager topology
- Large 10" touchscreen color display/interface screen
- 4" schedule 40, 316 stainless steel technology water connections
- Dual 460/3PH/60Hz power feeds (from external UPS) connect to unit mounted ATS: 24 FLA / 30 MCA / 50 MOP
- Dimensions 4' 8" (L) x 4' 10" (W) x 7' 10" (H)
- 3-1/8" Type L copper facility water connections
- 18 Ga. Galvalume steel exterior casing / 12 Ga. Galvanized steel base
- Certified in accordance with UL 60335-2-40
- Internal water leak detector
- Facility water process variables measured: inlet temperature and pressure, leaving temperature and pressure, flow
- Technology water process variables measured: inlet temperature and pressure, leaving/supply temperature and pressure, flow
- Manual isolation valves on all water in/out connections
- Strainers on facility and technology inlet water
- Technology water check valve
- Made in USA

"Aligned has been a leader and innovator in data center cooling for more than a decade. Providing customers the ability to scale seamlessly across rising rack densities is intrinsic to our data center designs."



Liquid
to the Rack



Liquid
to the Chip



Liquid
to the Tank



Liquid
to the X

Ready for What's Now, and What's Next

As part of our ongoing commitment to innovation, Aligned collaborates with leading chip and server manufacturers as well as our customers to ensure they have the advantage of scalable and universal architecture that supports both their current and future cooling requirements. Whether AI, ML, HPC, or Cloud, we can work with you to make sure you're computing environment is ready for what's now and what's next.

- Design core infrastructure to be adaptable and flexible
- Provide a pathway for customers to transition from air to liquid to hybrid or full immersion
- Design solution sets that offer turnkey options with flexibility for customization
- Design flexibility which allows the transition from air to liquid, or a hybrid of both, with minimal risk and lift—especially in a live environment
- Couple flexible design with a power-first land development approach and capital strength to reduce your time-to-market on large swaths of capacity

About Aligned

Aligned Data Centers is a leading technology infrastructure company offering innovative, sustainable, and adaptive Scale Data Centers and Build-to-Scale solutions for global hyperscale and enterprise customers. Our intelligent infrastructure allows densification and vertical growth within the same footprint, enabling customers to scale up without disruption, all while maintaining industry-leading Power Usage Effectiveness (PUE). By reducing the energy, water and space needed to operate, our data center solutions, combined with our patented cooling technology, offer businesses a competitive advantage by improving sustainability, reliability, and their bottom line. For more information, visit www.aligneddc.com and connect with us on [X](#), [LinkedIn](#) and [Facebook](#).