

Highly-efficient Cooling for High-Density Data Center Deployments

Purpose-Built for Mega Efficiency & Scale

Delta Cube (Delta³) arrays capture and remove heat at its source, resulting in a hyper-scalable and ultra-efficient environment that dynamically adapts to your IT loads. The Delta³ design accommodates both new data centers and retrofit facilities, improving the efficiency of existing infrastructure and enabling you to Expand on Demand. The cooling system is based on innovative technologies addressing three aspects of thermodynamics: heat absorption, heat transport and heat rejection.

Heat Absorption

The Delta³ removes heat at the source, utilizing anemometry to measure velocity between hot and cold aisle to enable a higher Delta-T. Hot air is drawn from the racks exhaust and channeled through our highly efficient microchannel coils.

- Exponentially greater heat absorption than traditional environments
- Absorbs Delta-Ts as high as 45°F
- Accommodates high, low and mixed rack power capacities
Facilitates scale-up/scale-in-place
- Higher efficiencies: fan power is reduced to 1% of IT load versus 10% for a typical CRAH or CRAC unit

Heat Transport

The heat is transported from the Delta³ to Aligned's chiller units via chilled water loop in dramatically smaller diameter pipes than traditional systems.

- Reduces the water flow requirements by 50%
- Less water means less piping and pumping, resulting in a 75% reduction in piping costs

Heat Rejection

Our patented and award-winning data center cooling technology removes heat, rather than pushing cold air into the data hall.

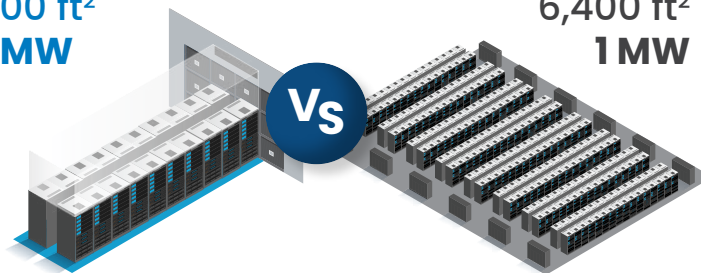
The Delta³ array provides 350 kW of heat rejection in just four feet, compared to 38 feet of traditional CRAH units. It also offers industry-leading Power Usage Effectiveness (PUE) and the ability to run waterless if needed.

Aligned vs. Legacy Data Center

Aligned 1MW Data Hall

- 200 Ft²
- 0 CRACs
- 1MW N+2
- 10 Cabinets per row
- 50 kW per cabinet
- 2 Rows

200 ft²
1 MW



6,400 ft²
1 MW

Legacy 1MW Data Hall

- 6,400 Ft²
- 12 CRACs
- 1MW N+2
- 16 Cabinets per row
- ~6.25 kW per cabinet
- 16 rows

Delta³ Cooling System

- Flexibility, adaptability and reliability at any load
- Efficiency in any climate with an industry-leading PUE
- High, mixed and variable rack densities of 1-50kW in the same row
- Increase density without reconfiguring infrastructure or stranding capacity
- Consume less space, electricity and water for significant cost savings



Advantages of Aligned's Delta³ Cooling Technology

Reliability

We deconstructed the standard chiller plant and put the major components in the most efficient and reliable places, and eliminating complexity in areas where most data centers fail.

- Delta³ requires minimal scheduled maintenance and is continually monitored with real-time data to provide our service department preventative maintenance alerts

Hyper-Scalability

Our technology is incrementally scalable which allows you to deploy what you need, where and when you need it, and reconfigure as your needs change

- Pre-fabricated components for easy, fast and efficient deployment
- Scale vertically or horizontally and support 1-50kW per rack within the same row

Responsiveness

IT loads can vary. Our technology quickly and easily responds, and optimizes in real-time.

- Delta³ Arrays are close-coupled with the racks, so the heat removal system instantly ramps up and down based on server demand
- Variable fan speeds and pumps respond in real-time to changing loads, so your system is responsive to today's and tomorrow's needs

Sustainability

Our cooling system delivers efficiency at any load, in any climate, and regardless of location to support your stewardship goals.

- The system utilizes less energy and less water (or waterless) to reduce resource usage
- Reduces environmental impact and lowers your Total Cost of Ownership (TCO)

Aligned  Sustainability

Aligned offers a standard delivery model that leverages our advanced supply chain methodology, Delta³ cooling system, and industry partners.



Contact Aligned to learn more about the Delta³ cooling technology.

sales@aligneddc.com
+1.833.425.4463

Corporate Headquarters

2800 Summit Avenue
Plano, Texas 75074

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.