



Thermal Management
Innovation
an Eren Groupe Company

Air₂O Wall

The World's Most Efficient Fan Array



**Custom Engineered
Thermal Management Solution for Data Centers**





Product Description

Air₂O's Wall solutions are specifically designed to meet the needs of Data Centers. We understand the critical need for maximizing cooling output and efficiencies while minimizing the unit footprint and prioritizing ease of maintenance.

Our design enhancements and chosen components allows us to provide **“The World’s most efficient Fan Array”**.

We have adopted 3 main design concepts:



Modular Design

- Customized for different cooling capacities.
- The modular nature allows for more efficient use of space.
- Easier Maintenance for individual modules.



Redundancy

- Built-in redundancy. If one fan fails, the others continue to operate, maintaining cooling capacity (**Automatic Failover**).
- Capability of adjusting airflow on a real-time basis in response to the changing conditions in a data center.



Maintenance and Service

- Pull-Through Airflow: “The system features a pull-through airflow mechanism, where the fans are positioned at the end pulling air through the unit.”
- Easy fans access from the front for easy maintenance.
- Easy access of back mounted filters for cleaning and replacing.
- Uniform airflow.



Eco Tube Coil Enhancement

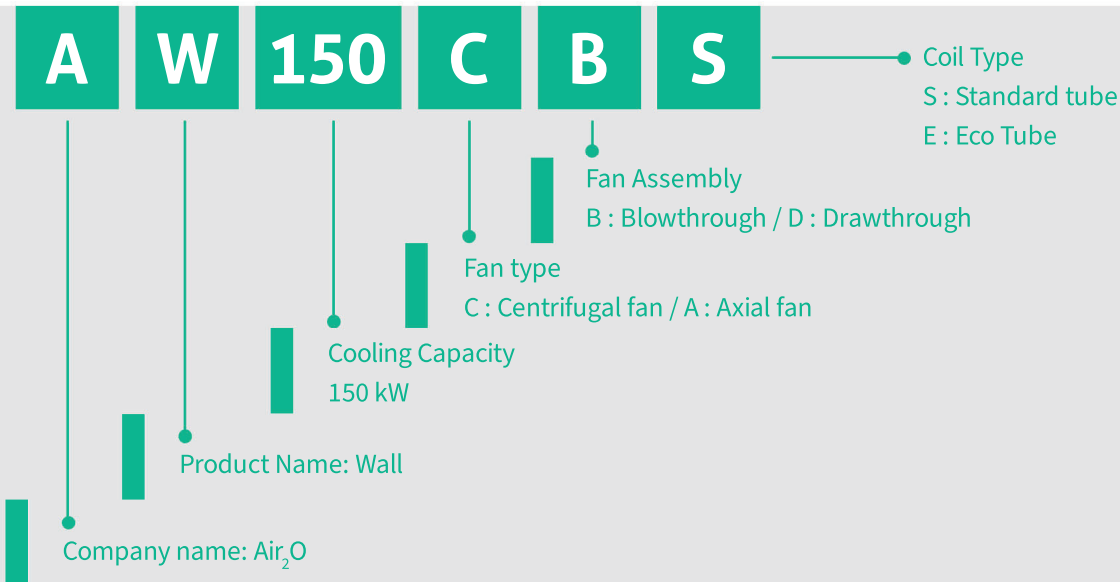
- Using Eco Tube coils makes our unit significantly more efficient and reduces energy consumption by remarkable value.

Features and Benefits

- Built-in Redundancy design
- Modular Design
- Vertical Backdraft Dampers
- Wide area coverage
- Aerodynamic coil solution for MAX. efficiency
- Easy Maintenance and Service
- Custom designs of standard components to meet unique project requirements
- Minimum footprint
- Constant duty cycle operation
- Blowthrough or Drawthrough configuration available
- Air₂O intelligent controls



Product Model Name Convention



Technical Data

Model	Gross cooling Capacity (kW)	Flow rate CFM (m ³ /h)	Dimensions (LxWxH) (in)
AW150CBS	150	20,000 (34,000)	91 x 70 x 91
AW225CBS	225	30,000 (51,000)	102 x 70 x 113
AW300CBS	300	40,000 (68,000)	125 x 70 x 116
AW450CBS	450	60,000 (102,000)	150 x 70 x 160
AW600CBS	600	80,000 (136,000)	163 x 70 x 182
AW665CBS	665	90,000 (153,000)	181 x 70 x 182

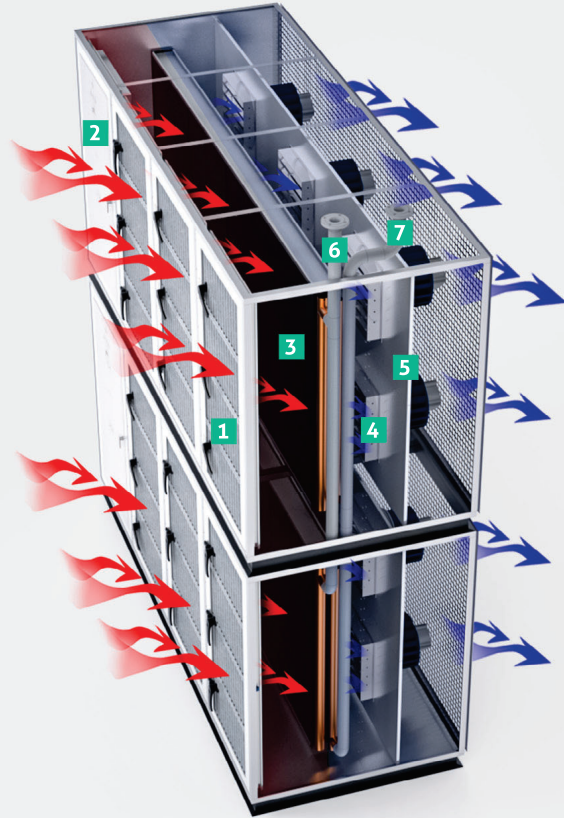
Return air (DB) 98°F (37°C) / Supply air (DB) 77°F (25°C)
 Entering Water 61°F (16°C) / Leaving Water 79°F (26°C)
 Maximum pressure drop of 20 ft of water or 60 kPa

Air₂O Custom Solutions:

■ Option for Manufacturing Custom Sizes based on your Data Center Requirements and dimensional constraints

Drawthrough Configuration

- 1** Air Filters
- 2** Control Panel
- 3** Eco Tube Coil
- 4** Vertical Backdraft Dampers
- 5** Air₂O Wall
- 6** Supply Water Connections
- 7** Return Water Connections



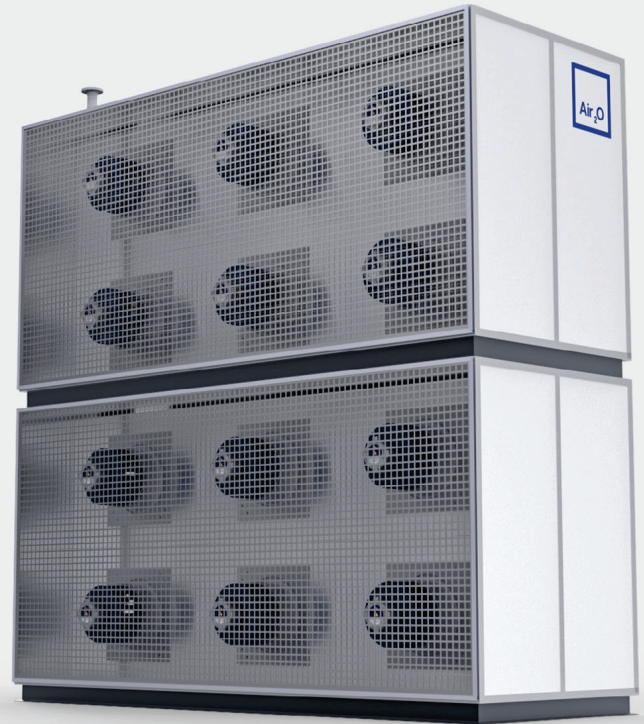
Modular Design

- Thanks to the modularity of the design, our units can be customized for a wide range of footprints and cooling capacities. Our team of experts can provide input to assist in product configuration and selection.
- The modular design allows for more efficient use of space - the arrangement and number of modules can be optimized specific to the application's needs.
- Maintenance is easier as individual modules can be serviced or replaced without needing to shut down the entire system. This minimizes downtime and ensures smooth operation.



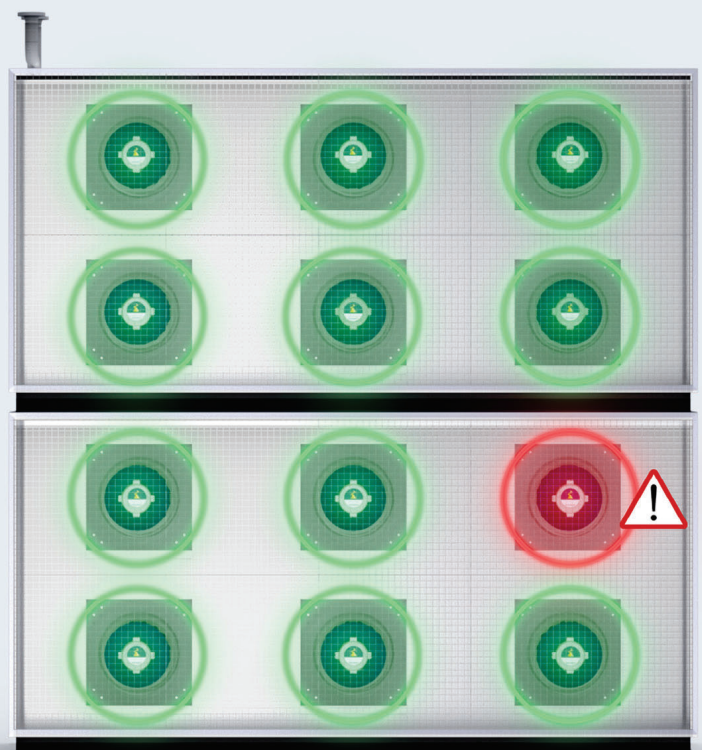
Maintenance & Service

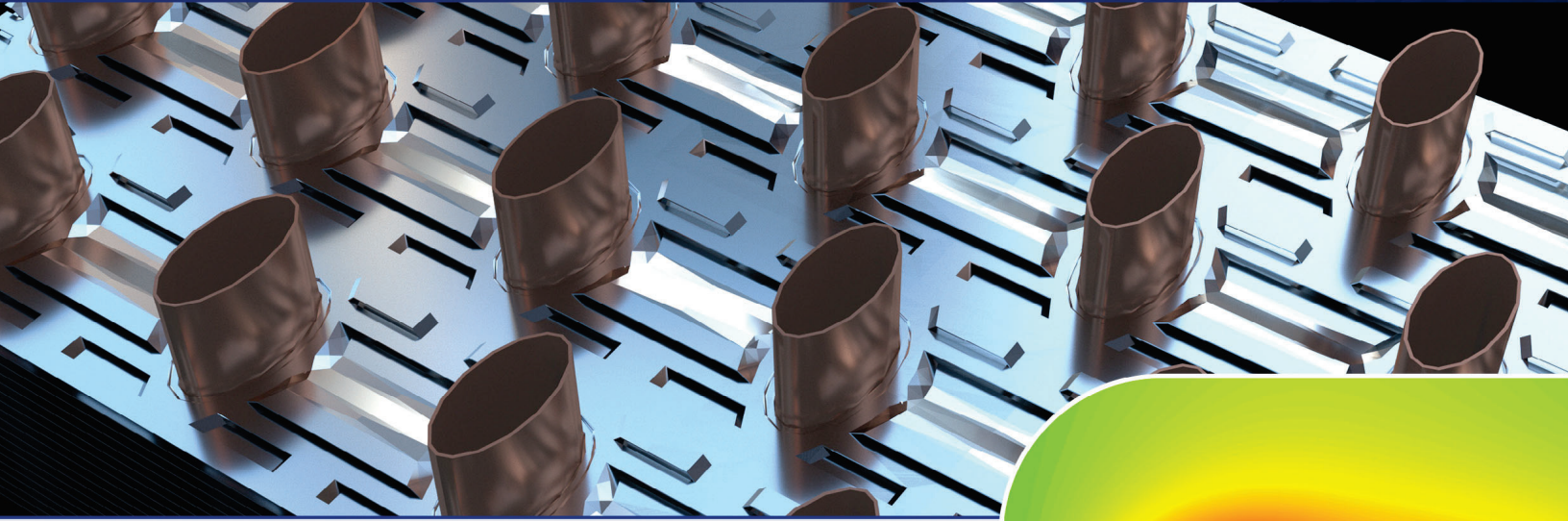
- Our Standard Air₂O Wall features drawthrough airflow configuration, where fans are positioned on the supply side of the Air₂O Wall.
- This configuration enhances maintenance and serviceability - there is easy access to the fans without much disassembly. The modularity allows for short downtime as the rest of the system remains intact while only the faulty fans are serviced.
- Filters are mounted at the back of the unit and on the access doors which allows easy cleaning and replacements. This setup also ensures that the coils remain easily accessible with minimal disruptions to the system.



Redundancy

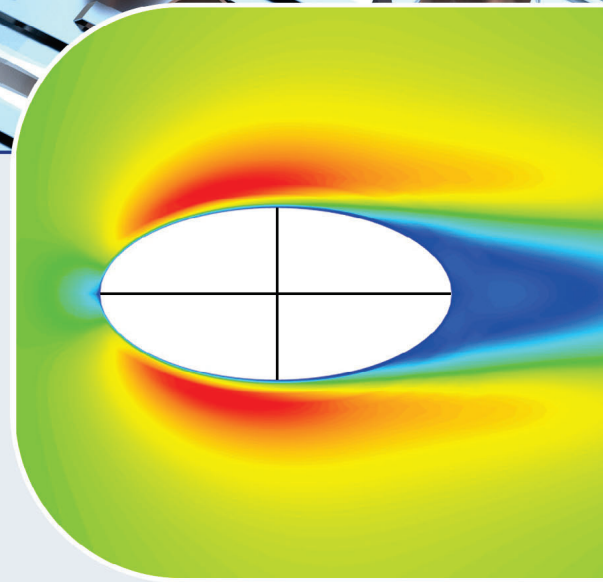
- Air₂O Wall units are designed with built-in redundancy, complemented by smart control systems. If one fan fails, the others automatically take over, maintaining the cooling capacity (Automatic Failover) and minimizing the risk of total system failure. The number of fans is carefully selected to optimize energy efficiency and cooling distribution.
- Air₂O Wall units can dynamically adjust airflow in real-time based on changing conditions in a data center. Sensors monitor temperature, humidity, and pressure throughout the space, providing continuous feedback to the control system. This allows for automatic adjustments to fan speeds and airflow distribution, ensuring smooth and efficient operation.





Eco Tube Coils

The internal cooling coil is the largest contributor to the internal static pressure and significantly affects overall efficiency. Using Eco Tube provides for a dramatic reduction within the internal pressure drop (up to 50%) resulting in significant energy saving.



Air₂O Wall Performance Comparison

	Standard Coil	Ecotube Coil
AirFlow (CFM)	58100	58100
Capacity per coil (kW)	196.5	196.3
Number of Coils	2	2
Total Capacity (kW)	393	392.6
Coil Face Area (Sq ft)	45.6	45.6
Air Pressure drop (in.w.g)	1.16	0.83 (-28%)
Total Internal Static Pressure drop	1.94	1.6 (-18%)
Power per unir (kW)	20.9	18 (-14%)
Energy Saving (Over a year)(kWh)	183189	157960 (-14%)

14% energy saving

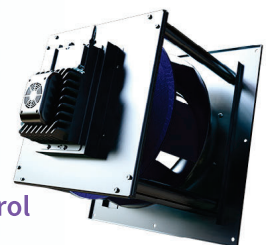
Filters

MERV 8/11 Removable filters are located at the rear for easy replacement and maintenance. Additional filter enhancements are available to maximize energy savings that:

- Maintains the MERV rating for the lifetime of the filter.
- Has 4X lifetime span which decreases filter and labor costs.
- Lower energy consumption.
- Typical ROI after 2 years.

EC Fans

- Higher Efficiency
- Compact Design
- Low Noise Levels
- Built in Controls allowing remote monitoring and control



OUR SERVICES



Comprehensive Startup and on-time delivery

Air₂O provides seamless delivery and startup support to ensure successful implementation.



24/7 Maintenance Support

Air₂O can provide 24/7 maintenance support to ensure optimum operation and reliability of your equipment.



Local and Remote Monitoring

Air₂O's advanced monitoring solutions ensure consistent uptime and optimal system performance by tracking your HVACD systems on-site or remotely.



Predictive Analysis Software

Our cutting-edge software enables real-time detection of potential issues, alerting you to problems before they escalate into costly failures.



Advanced Performance Prediction Software (DEN)

Our proprietary DEN software enables accurate forecasting of HVACD system performance, ensuring the design is efficient low-energy and sustainable.



Robust Supply Chain

Our extensive network of international suppliers guarantees the availability of components, minimizing delays and disruptions.

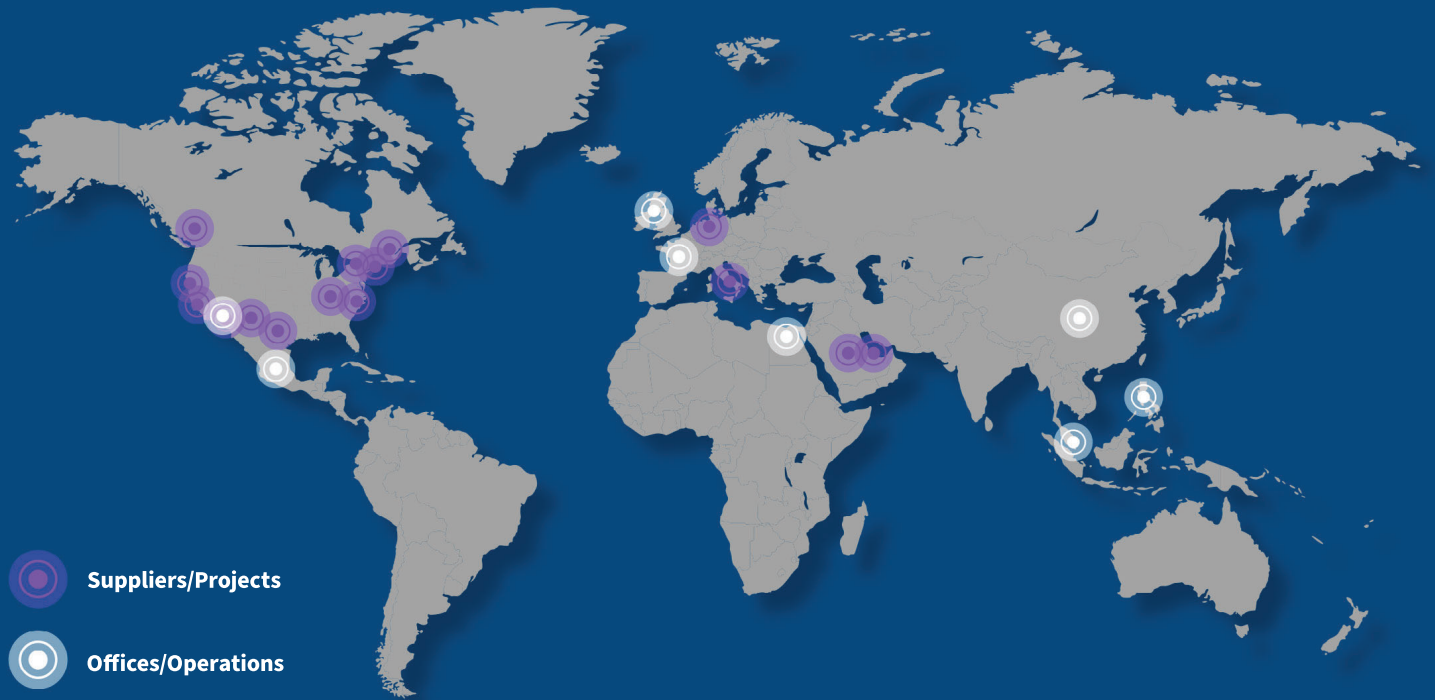
ISO 9001 Certified

As an ISO 9001 certified design and manufacturing organization, Air₂O maintains a QMS that addresses each of the eight ISO 9001 sections.

- Scope
- Normative reference (e.g. QMS fundamentals)
- Terms and definitions
- General QMS requirements
- Management responsibility
- Resource management
- Product realization (design excluded)
- Measurement, analysis and improvement



Air₂O Operations & Supply Chain



Air₂O sources the highest quality components from vendors worldwide for a consistent flow of products that ensures your project is completed on time and on budget, even during supply chain disruptions.

- Faster time to completion
- Minimize risk of project disruption
- Adjust quickly as requirements change



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**Thermal Management
Innovation**

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