STULZ

CLIMATE. CUSTOMIZED.

STULZ Custom Indoor AHU

Purpose-built solution for large and hyperscale data centers

STULZ air conditioning systems for mission critical applications – around the globe

For over 40 years we have been one of the world's leading manufacturers of air conditioning solutions for mission critical applications. We design, manufacture, deliver and support precision cooling solutions. To suit specific project requirements, we customize the solutions.

Our headquarters are in Hamburg, Germany. With 20 subsidiaries, 10 production sites, and sales and service partners in over 140 countries, we make sure we are close to our customers wherever they are in the world.

Technical excellence
It is the combination of decades of experience and a continuous innovative spirit that makes STULZ unique. From engineers to customer advisers, we collaborate in close-knit teams to develop and continually optimize our cooling solutions throughout the development cycle. It should come as no surprise that our systems are extremely energy efficient, reliable, and durable, setting the new benchmark in mission critical applications around the globe.

High quality service worldwide
Our factory trained and experienced sales and service partners are located in over 140 countries. The resulting proximity to our customers allows fast response time. In addition, regular training courses and an active exchange of information ensures high quality and an extensive knowledge of all our products. This way, you can be sure your products are in the best hands and get the right maintenance.

STULZ Custom Indoor AHU – Meets users unique requirements

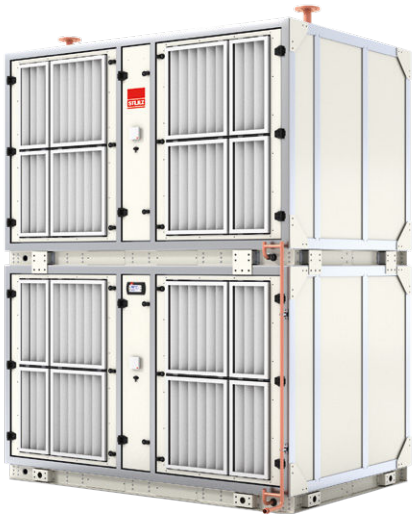
Breaking new ground
When it comes to large and hyperscale data centers, conventional systems reach their limits. STULZ is breaking new ground with custom horizontal and vertical orientation indoor AHU's to fit any space.

The unique design provides larger supply area enabling maximum cooling density, and allowing taller server racks with denser IT load per unit area.

Solutions from scratch
In collaboration with the customer, we develop the design concept, manufacture and deliver the optimal solution.

Customized Modularity – Maximizing cooling density

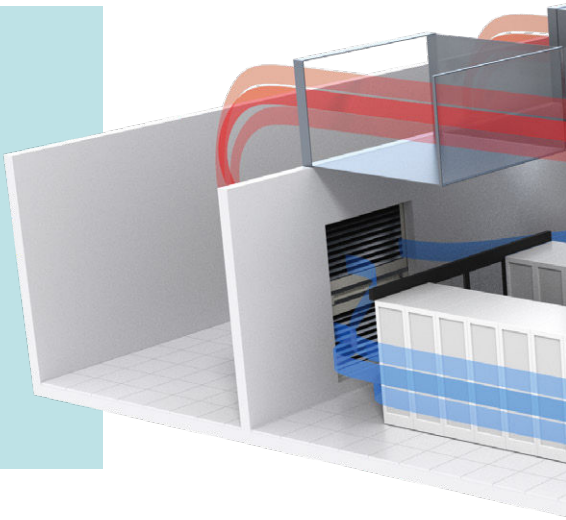
The STULZ Custom Indoor AHU is a purpose-built, modular solution that meets users unique requirements. The unit is customizable to project-specific sizing and to various site conditions. The design concept with zero side access results in an increased cooling capacity per wall length. Furthermore the modularity increases the operational reliability through redundancy.



User Driven. Custom Designed. Purpose Built.

Design Concept

- Compact footprint yet maximized cooling capacity
- Higher efficiency and lower noise level
- Robust, extruded aluminum construction with various panel thicknesses, including a thermal break option
- Zero side clearance, space-efficient, modular design
- Operational reliability and redundancy through modularity
- Provides uniform cooling along the entire length of the aisle due to the larger area of supply air

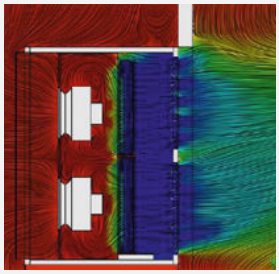


Efficiency

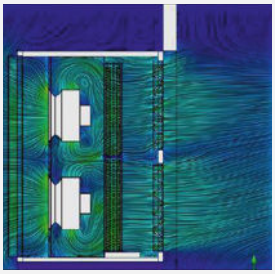
- Low pPUE values
- Best price-performance ratio
- Taller racks and higher heat loads possible because no raised floor is needed
- Supply air temperature within the range recommended by ASHRAE TC 9.9 guidelines
- Lowest AER (Airflow Efficiency Ratio) values, and therefore air conduction with maximum efficiency
- Use of EC Fan technology for maximum efficiency

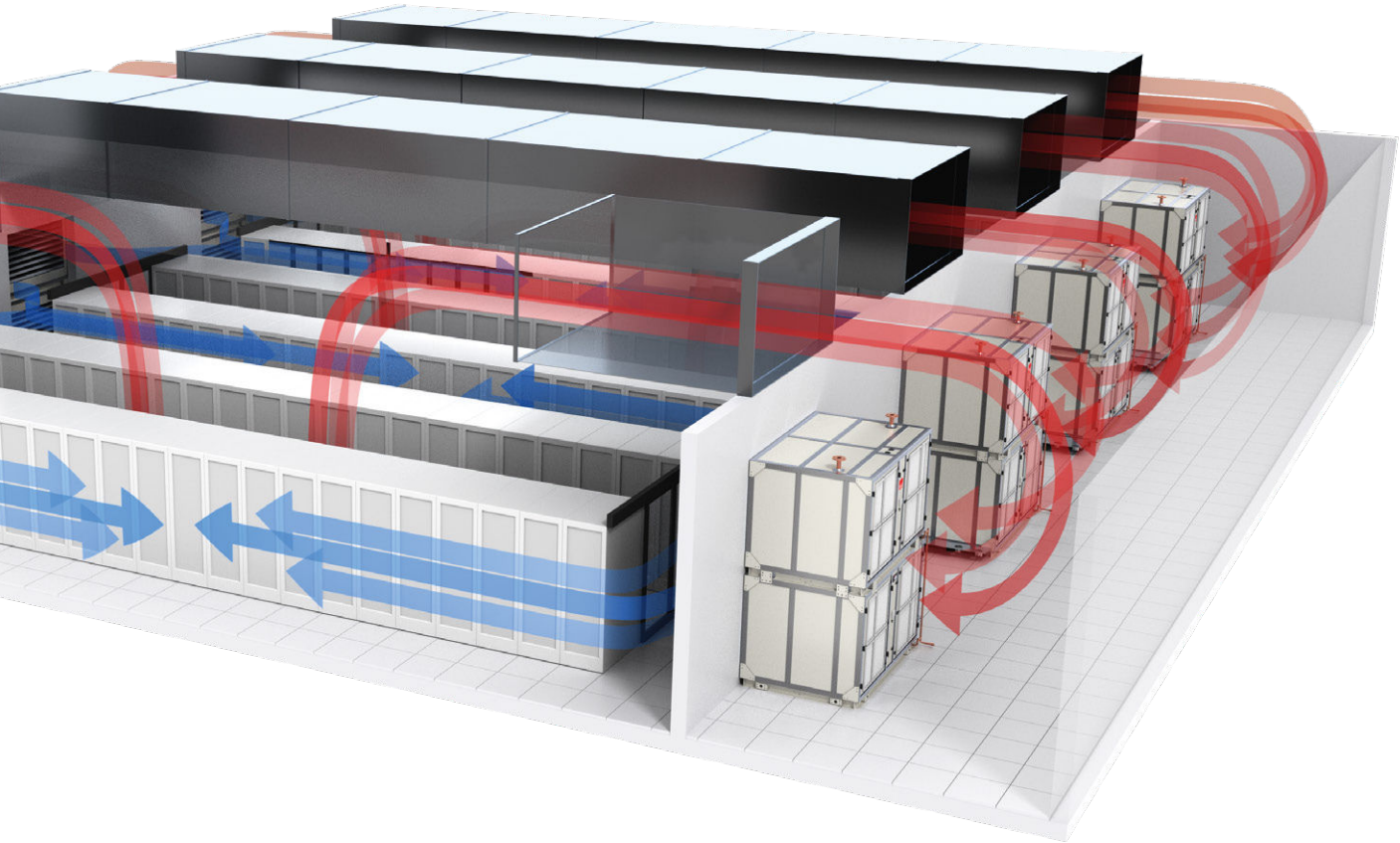
Efficiency through Custom Design

Even temperature distribution across supply air side



Uniform air velocity and pressure across supply air side





Customization

- Customization through various design options and cooling systems:
  Direct Expansion, Chilled Water, Direct Adiabatic, Free Cooling
- Different unit configurations: horizontal and vertical airflow, with and without duct system
- Ultrasonic Humidification for ducted and room mounted systems

Service / Maintenance

- Easy replacement of fans and filters through front access
- Quick installation
- Factory trained and experienced sales and service partners in over 140 countries
- Lowest total cost of ownership (TCO)

Customized Modular Design for Maximum Cooling Density

From extensive range of cooling capacities and systems to different unit configurations STULZ offers the optimum solution for your individual requirements. With the STULZ Custom Indoor AHU, our customers receive a purpose-built solution that has been ideally configured for their application.

Varying purpose-built solutions

Horizontal AHU
The horizontal AHU is available with Direct Expansion (DX) and Chilled Water (CW) cooling. A specialized fan wall array ensures uniform airflow while meeting low power consumption requirements. Counterbalanced fan inlet backdraft dampers minimize air recirculation.

Modular Split AHU
The modular split AHU is available with DX and CW cooling. A vertical center split allows the modular AHU to fit in service elevators and maneuver within tight spaces. Its modular design allows easy reassembly and rewiring on-site using minimal labor (via frame and electrical connectors). The unit can also be deployed and/or operated as a half unit by only utilizing one side, therefore increasing redundancy.

Horizontal Stackable Fan/Coil Unit
The stackable chilled water (CW) fan coil unit reduces the total footprint while maintaining unit serviceability. The AHU is designed to easily stack units securely. Electrical connectors are provided between stacked units to reduce on-site installation time and cost.

Horizontal Split Sectional AHU
The horizontal split sectional AHU is available with DX and CW cooling. It is sized and split to fit in a standard freight shipping container for intermodal transportation. The unit can be easily reassembled and rewired on site using minimal labor (via frame and electrical connectors). Air discharge sound attenuators are provided for low sound applications.

The standardized model

CAH-0200
The CAH-0200 horizontal AHU is the standardized building block, based on a highly successful custom design that is deployed in multiple locations. Its standardized design enables shorter delivery times while still offering various options or individual customization.

Technical Data		CAH-200	CAH-400
Cooling Capacity	kW	200	400
Airflow	m^3/hr	50,000	100,000
Dimensions (W x H x D)	mm	2,400 × 3,000 × 1,560	4,800 × 3,000 × 1,560
	in	157.5 × 118.1 × 61.4	189 × 118.1 × 61.4

* Return air conditions: 34 °C/93.2 °F/27 % r.h.

Options for customization

Tailor-made solutions for data centers are achieved by numerous options and equipment versions:

- Horizontal or vertical orientation
- Various voltages available in 50/60 Hz designs
- STULZ E^2 microprocessor with a range of BMS interface
- Different filter options available; MERV-8, 11, 14
- Stainless steel dual sloped construction drain pan
- Door interlocking
- Backdraft and control dampers
- Aluminum frame construction
- Various valves available:
  - Energy valve
  - PICV (Pressure independent control valve)
  - 2-way or 3-way control valves
- Steam canister humidification
- Built-in UPS for unit control
- Dual power with auto transfer switch
- And more!

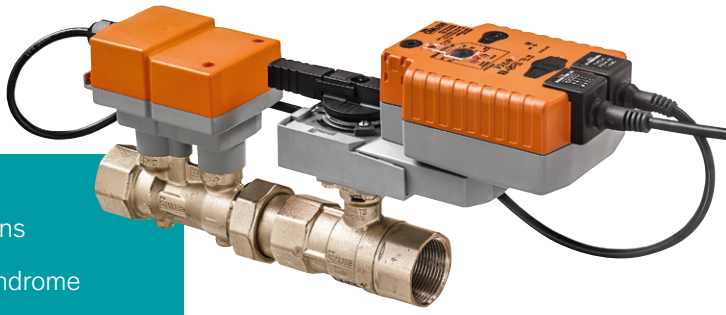
STULZ E² Control and Monitoring

- Different operating modes for maximum efficiency and reliability
- Multiple I/O capabilities for all major components to optimize control for energy savings
- Controller UPS available
- Suitable for connection to all common BMS systems
- Static pressure control provides even airflow, on demand at any room position, as well as precise control for containment

EC Fan

- Speed-controlled
- Nominal airflow rate at a fan speed optimized for partial load
- Multiple fan sizes available
- Increased airflow in each size
- Easy and fast replacement of fans and filters through front access
- Aluminum and composite blade options

PICV



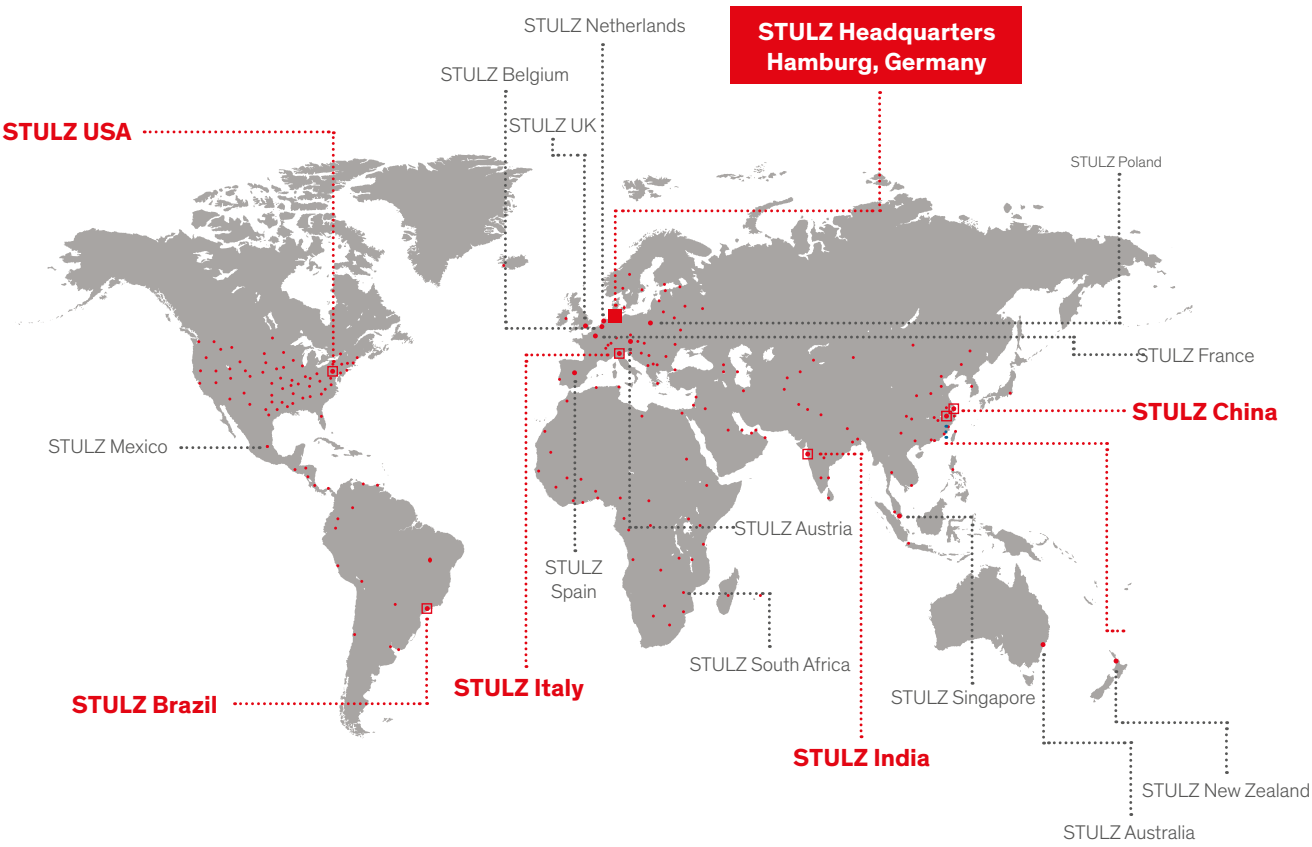
- Dynamic load balance across all operating conditions
- Eliminates problems associated with low delta T syndrome
- Precisely matches design requirements for capacity and delta T
- Maximizes energy savings of variable flow systems while addressing unique control challenges

More Information in our blog article

Globally close to you

As a company with locations across the globe, we have what it takes to provide data center operators, planners, and companies working in the highly-dynamic world of information technology (ICT and IT), with professional advice whenever and wherever they require it.

Since 1974, STULZ has seen continual international expansion of its air conditioning technology business, specializing in cooling data center and other mission critical installations. STULZ employs over 2,400 people worldwide in 20 subsidiaries and 10 production facilities in China, Europe, India, South America and the USA. Our solution partner network for sales and service is present in more than 140 countries.



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Close to you around the world

With specialist, competent partners in ten German branches and in subsidiaries and exclusive sales and service agents around the world.
Our ten production sites are situated in Europe, North America and Asia.

For further information, please visit our website at **www.stulz.com**

You can find out more on our product page.