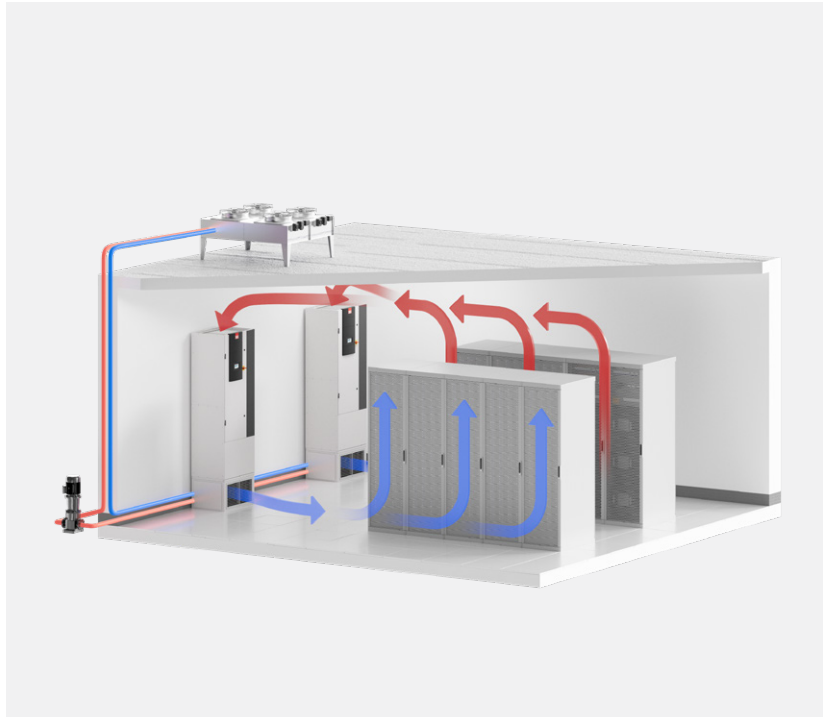


STULZ

CLIMATE. CUSTOMIZED.



CyberAir Mini

Sustainable solution in a compact design: maximum cooling capacity, minimal carbon footprint

The complete range of air conditioning technology – from one source.

For over 50 years, the STULZ family-run company has been synonymous with precision air conditioning at the highest level.

Our solutions for the air conditioning of business-critical applications and sensitive systems have made us a leading company in our industry.

Whether for data centers, industry or communication technology, the STULZ portfolio has a tailor-made cooling solution to suit your requirements.

We guarantee adherence to our uncompromisingly high requirements and quality standards both at our factory in Hamburg and all our production sites around the globe. Moreover, we work hard not only to satisfy our customers' individual wishes, but also to make sure our air conditioning solutions offer maximum energy efficiency and a minimal CO₂ footprint.

Our portfolio extends from traditional room cooling and High Density Cooling to chillers, Liquid Cooling solutions, air handling units and container modules, all the way to micro data centers, service, and our self-developed monitoring software. An all-embracing quality assurance system monitors all the details in development, production, implementation, and service.

Today, STULZ has a presence in more than 140 countries. STULZ GmbH has 24 subsidiaries, one software development company and ten production sites in Europe, India, China, and North and South America. We also have partner agreements with numerous sales and service partners on every continent. Our network of highly qualified specialists is a reliable guarantee of the highest standards.

The combined wealth of our experience, values, performance and service is what defines us and is especially valued by our customers. Air conditioning solutions – custom tailored and from one source:
ONE STULZ. ONE SOURCE.

ONE STULZ.

ONE SOURCE.



Precision air conditioning for small to medium heat loads

CyberAir Mini is an energy-efficient and noise-optimized unit series for small to medium heat loads. These modern and maintenance-friendly units only have a small footprint and can be easily installed in existing rooms thanks to their compact dimensions.

MiniSpace becomes CyberAir Mini

With our MiniSpace series, we brought a system onto the global market that reliably air conditions rooms subject to high heat loads. In further developing and integrating the MiniSpace in the CyberAir series, the aim was to provide even greater flexibility and user friendliness with the new model. The CyberAir Mini is designed for various mission-critical applications and therefore provides reliable and cost-effective air conditioning of small server, equipment, UPS, and battery rooms.



+ ADVANTAGES

- Maximum cooling capacity with a minimal footprint
- High energy savings thanks to intelligent control, EC technology, and the largest possible heat exchanger and filter surface areas
- Eco-friendly refrigerants for a small carbon footprint
- Highly reliable with a long service life in continuous 24/7 operation, 365 days a year
- Intuitive operation of the STULZ controller with clear and simple navigation and optional touchscreen
- Low noise emissions thanks to optimized unit design and EC fans
- Fast and simple installation and maintenance with sales and service partners in over 140 countries

+ OPTIONS

- Direct Free Cooling and Indirect Free Cooling for maximum energy efficiency
- Pressure independent control valve for CW systems with energy-efficient pumps
- Various installation and air conduction options for maximum flexibility
- Different filter classes available
- Various heating options
- Humidification

Minimal footprint for more white space in the data center

Maximum reliability and flexibility with a small footprint – the CyberAir Mini comes in four sizes and ensures economical and reliable operation for all applications. Thanks to their compact design, the various unit sizes all offer even more room for your IT equipment and come with diverse installation options to make optimum use of your room space.



Future-proof with low GWP refrigerants



Conforms to EU Directive 2006/40/EC 6
and the F-gas Regulation

STULZ offers efficient cooling solutions with low GWP refrigerants, minimizing your carbon footprint for the long term. With STULZ as your partner, you can satisfy the upcoming regulations for refrigerants, noise, and a reduced carbon footprint, for future-proof and environmentally friendly systems.

Available with:

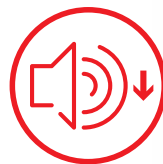
R513A: GWP = 631 (for A, G, GE, and ACW systems)

R454C: GWP = 148 (for G and GE systems)

Optimized unit design for sound insulation and maximum efficiency

The modern design of the CyberAir Mini series not only enables precise air conduction with low pressure losses – the optimized layout and EC fans also ensure low noise emissions.

During the unit's development, maximum energy efficiency was the key priority. To do this, we used EC technology and generous heat exchanger and filter surface areas, to cut running costs to the minimum. On top of this, options such as Direct and Indirect Free Cooling increase energy efficiency to the max.

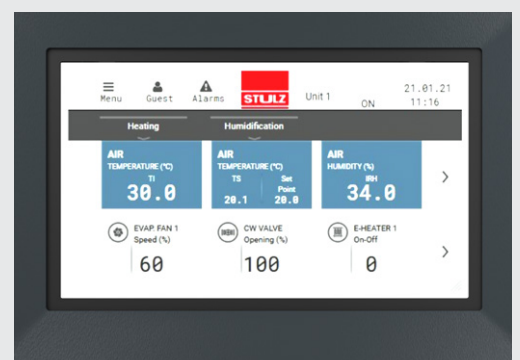


Precise control for maximum reliability

Thanks to its flexible and precise control of the room temperature and air humidity, the CyberAir Mini ensures maximum reliability in continuous 24/7 operation, 365 days a year. In addition, to achieve the highest standards of reliability and usability, STULZ develops the control system in-house, ensuring that software, hardware and air conditioning units are perfectly harmonized. An optional touchscreen offers clear and simple navigation and intuitive controller operation.

Further advantages:

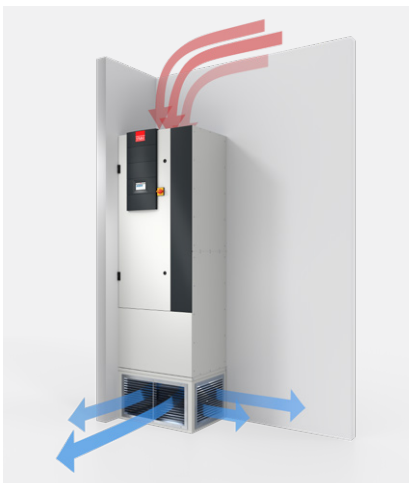
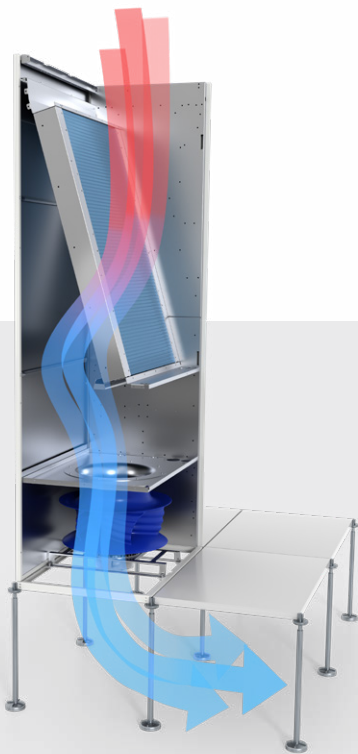
- Energy management: Helps to optimize the energy demand of interconnected systems and enables the operation of several air conditioning units in parallel across more than one machine
- Maximum reliability: Redundancy management, integrated standby management with backup operation, and differentiated warning and alarm system
- Very easy to service: Plug and play installation and optimized control parameters for simplified servicing
- Monitoring: Start-up is simplified by direct BMS interfaces on the controller, support for all relevant BMS protocols, and a compact datapoint list.



Flexible and efficient with different airflow directions

The modern design of our CyberAir Mini units allows maximum flexibility. Different air conduction variants (Upflow and Downflow) are available, as well as various intake and exhaust options.

Downflow units



Air conduction front and left



Air conduction left

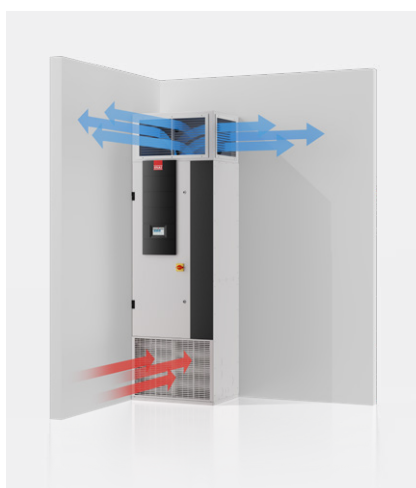
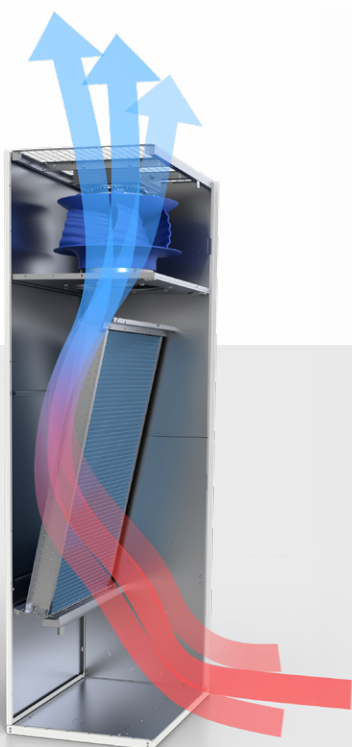


Air conduction all directions

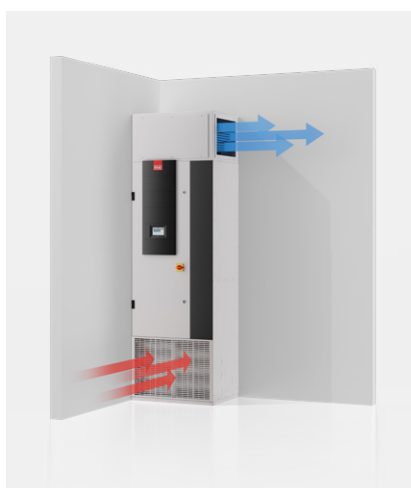
➤ The Plenum option allows exhaust and intake directions to be configured individually.



Upflow units



Air conduction front and left



Air conduction left



Air conduction all directions

The right system for your application

Energy efficiency, capital investment, operating costs, room size, noise protection, redundancy, local climate – every project has its own specific requirements when it comes to precise air conditioning. That's why STULZ offers you the opportunity to have the units precisely adapted to your project's individual requirements. The right air conditioning system is a crucial factor here. The CyberAir Mini is available in five different cooling systems, to help you achieve the ideal balance between investment, operating costs, and energy efficiency.

Air-cooled system based on the direct evaporator principle (A/AS)

Heat is extracted from the room air as it flows through the evaporator, and is then transferred to the refrigerant. The air conditioning unit and condenser are connected to one another by a closed refrigerant circuit. The refrigerant emits the heat to the outside air via the air-cooled condenser.

The AS system is equipped with stepless variable-speed EC compressors for maximum energy efficiency. The compressors feature integrated soft start and phase monitoring.



Liquid-cooled system based on the direct evaporator principle (G)

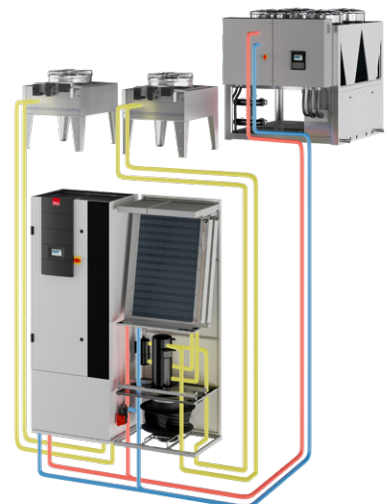
The water-cooled system works like the air-cooled system, with one difference: the heat from the refrigerant circuit is transferred to a cooling water circuit via a brazed plate condenser integrated in the air conditioning unit. This way, the amount of refrigerant required is low.

The heat in the cooling water circuit is then discharged into the outside air via an external dry cooler.



Chilled water system with redundant air-cooled system (ACW)

Two independent cooling systems (CW and A) are combined in a single air conditioning unit to guarantee maximum reliability. If the main chilled water (CW) system fails, the air-cooled (A) system keeps the air conditioning going without interruption.



Indirect Free Cooling for maximum energy savings.

Hybrid Free Cooling system (GE)

This system functions like the GS system, but additionally features an integrated Free Cooling coil. This way, energy-intensive compressor cooling can be partially or wholly dispensed with at low or temperate outside temperatures. The heat is transferred directly to the cooling water circuit by the integrated Free Cooling coil, and discharged into the outside air via an external dry cooler.



Minimal compressor running time

Using Indirect Free Cooling, the hybrid Free Cooling system exploits the cooling potential of outside air as soon as outside temperatures allow. This enables energy-intensive compressor cooling to be partially or even wholly dispensed with.

Minimal refrigerant quantities

As the hybrid Free Cooling system is liquid-cooled, it only needs a minimal quantity of refrigerant. The result is environmentally friendly operation with reduced greenhouse gas emissions, for a forward-looking investment in the future.



Chilled water system (CW)

The air conditioning unit with CW system manages without a refrigerant circuit of its own, but requires a separate chiller. The air conditioning unit and chiller are connected to one another by a closed water-glycol circuit.

Synchronized complete systems

You too can benefit from our perfectly harmonized air conditioning solutions with chillers for indoor and outdoor installation. We would be happy to advise you and work with you to devise the best solution for your particular case.

Service and maintenance

- Easily accessible connections for rapid installation
- Extremely maintenance friendly: all main components needing maintenance can be accessed from the front
- Easy filter replacement: slide in and out from the front
- Preventive maintenance
- Fast service response times
- Trained and experienced sales and service partners in over 140 countries



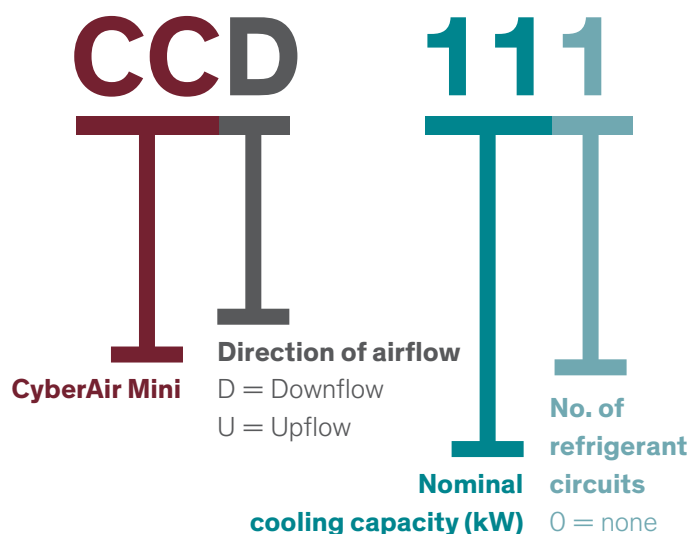
Climate. Customized. You have the challenge, we have the solution

From standard units to fully customized solutions – the ability to offer such a wide range to customers is the embodiment of our philosophy, **“Climate. Customized.”**

The CyberAir Mini offers a diverse range of options that leave nothing to be desired, whatever your requirements in terms of location, room planning, environment, noise protection, and safety. Our experts can offer you individual advice and will find the optimum solution for your needs.



Nomenclature



Cooling system

- A = air-cooled system
- AS = air-cooled with EC compressor
- G = water-cooled system based on the direct evaporator principle
- GE = hybrid Free Cooling system
- CW = chilled water system
- ACW = chilled water system with redundant air-cooled system

Technical data



Model		CCD 41 A	CCD 61 A	CCD 81 A	CCD 111 A	CCD 141 A	CCD 171 A	CCD 41 GE	CCD 61 GE	CCD 81 GE	CCD 111 GE	CCD 141 GE	CCD 171 GE
Cooling capacity ¹⁾	kW	5.9	8.2	10.3	11.3	14.1	16.8	8.1	10.3	12.2	13.6	20.5	22.7
Airflow	m³/h	1,800	2,100	2,700	3,100	4,800	5,200	1,700	1,900	2,700	3,100	4,800	5,100
EER ¹⁾		4.92	4.82	4.9	4.52	4.7	4.8	4.5	3.96	3.81	3.68	4.36	4.05
Sound pressure level ^{1) 3)}	dB(A)	60	63	67	70	67	68	59	62	69	72	70	71
Dimensions (height x width x depth)	mm	1,980 x 540 x 540		1,980 x 740 x 540		1,980 x 940 x 640		1,980 x 540 x 540		1,980 x 740 x 540		1,980 x 940 x 640	



Model		CCD 90 CW	CCU 90 CW	CCD 180 CW	CCU 180 CW	CCD 260 CW	CCU 260 CW	CCD 350 CW	CCU 350 CW
Cooling capacity ²⁾	kW	8.9		16.0		24.5		34.7	
Airflow	m³/h	2,800		4,500		6,600		9,200	
EER ²⁾		22.25	17.80	20.00	17.78	20.42	18.85	20.41	19.28
Sound pressure level ^{2) 3)}	dB(A)	46	50	53	54	55	56	58	59
Dimensions (height x width x depth)	mm	1,980 x 540 x 540		1,980 x 740 x 540		1,980 x 940 x 640		1,980 x 1,140 x 640	

Please note: All data apply at 400 V/3 ph/50 Hz with 20 Pa ESP

¹⁾ Return air conditions 33 °C/30% r.h.; glycol proportion: 0%; refrigerant: A systems R513A (GWP = 631); GE systems R454C (GWP = 148)

²⁾ Return air conditions: 26 °C, 40% r.h.; glycol proportion: 0%; water temperature: 10 °C/15 °C

³⁾ Sound pressure level at 2 m distance in free-field conditions

For technical data and conditions for the models below, please contact your local STULZ sales outlet: Upflow models, systems with variable-speed compressors, liquid-cooled models (G), Dual Fluid models (ACW), other operating conditions, 60-Hz connection

CLOSE TO YOU AROUND THE WORLD

STULZ Company Headquarters

STULZ GmbH

Holsteiner Chaussee 283
22457 Hamburg
Tel. +49 40 5585-0
products@stulz.de

For further information, please visit our
website at www.stulz.com or download our
STULZ Products and Services app.

AUSTRALIA
AUSTRIA
BELGIUM
BRAZIL
CHINA
FRANCE
GERMANY
INDIA
INDONESIA
IRELAND
ITALY
MALAYSIA
MEXICO
NETHERLANDS
NEW ZEALAND
POLAND
SINGAPORE
SOUTH AFRICA
SPAIN
SWEDEN
THAILAND
UNITED KINGDOM
USA

**+ 150 PARTNERS
WORLDWIDE**