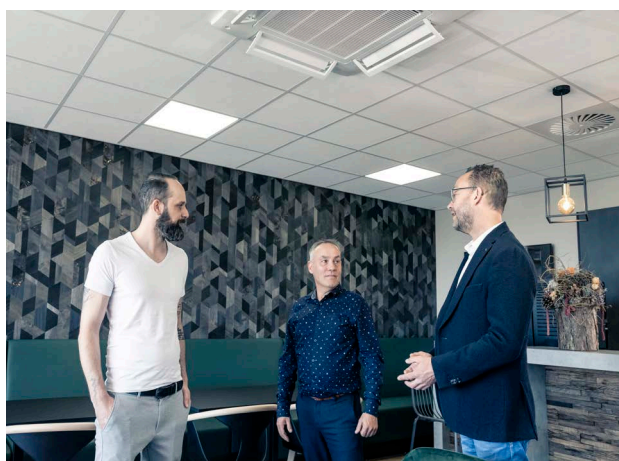


STULZ

CLIMATE. CUSTOMIZED.



STULZ BENELUX

An overview of our climate solutions

In addition to being the world's leading supplier, STULZ is also the partner in knowledge, advice and service in the field of climate solutions.

STULZ, the partner for climate control.

Since its foundation in 1959, STULZ has developed itself into a worldwide leading supplier of climate solutions. Precision cooling, comfort cooling, humidification and heat pumps, nowadays it is no longer a question of which separate system should be used, but more about what the best total solution is for the task in question. STULZ is your partner in climate solutions.

The originally German company is characterized by intensive contact with its customers, an innovative character and a pioneering role in the introduction of air conditioning in the Benelux. We are specialists in our field and possess a high level of technical expertise in areas such as datacenters that extends far beyond our core business. The STULZ product range includes not only precision cooling such as server room cooling, high-density cooling, chillers, container modules and air handling units with adiabatic cooling.

STULZ is also profiling itself more as the partner for climate control with products in comfort cooling, comfort air handling, humidification and heat pumps. STULZ offers climate solutions for every situation.

Since its foundation, STULZ has seen continuous international growth of its air conditioning technology business, specializing in air conditioning for datacenters and telecommunications installations. STULZ has 2,400 employees in Germany and twenty subsidiaries (in

France, Italy, Great Britain, Belgium, Brazil, the Netherlands, Sweden, New Zealand, Mexico, Austria, Poland, Spain, Singapore, China, India, Indonesia, South Africa, Australia and the United States).

The company also cooperates with sales and service partners in more than 140 countries, and therefore has an international network of air conditioning specialists. The company has factories in Germany, Spain, Italy, the United States, two in China, Brazil and India. STULZ has approximately 7,200 employees worldwide.

We are the partner for climate control. STULZ is characterized worldwide by expertise, experience and a comprehensive product portfolio.

This comes together with:

ONE STULZ. ONE SOURCE.

ONE STULZ.

ONE SOURCE.



Our product portfolio



ROOM COOLING

Most efficient precision air conditioning unit with highest flexibility for any application.



CHILLERS

Reliable chillers for maximum efficiency.



HIGH DENSITY COOLING

Precision air conditioning units for accurate cooling of high heat loads



AIR HANDLING

Air handling for cooling and heating for comfort and precision cooling.



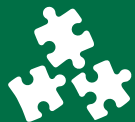
CHIP COOLING

Fluid cooling for extremely high heat loads via thermally conductive fluids.



HUMIDIFICATION

Hygienic humidification for safe storage, working environment and reliable production.



MICRO DATACENTERS

Scalable and self-sufficient all-in-one solutions for IT applications - from office to datacenter.



MONITORING

With STULZ software, you can monitor, analyze and control complete air conditioning systems.



SYSTEM INTEGRATION

Planning and implementation of custom-built, fully prefabricated data centers.



SERVICE

With skilled service technicians, STULZ offers the best service in the field of climate control.



SHELTER COOLING

Stable precision air conditioning with Free Cooling for self-sufficient use.



HEAT PUMPS

Latest generation heat pumps for maximum performance and efficiency.

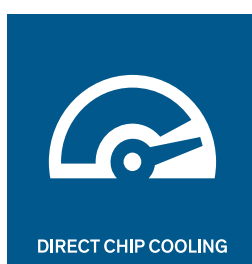
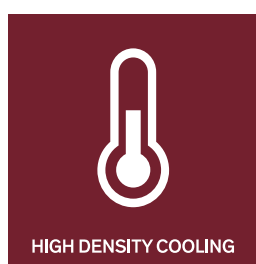
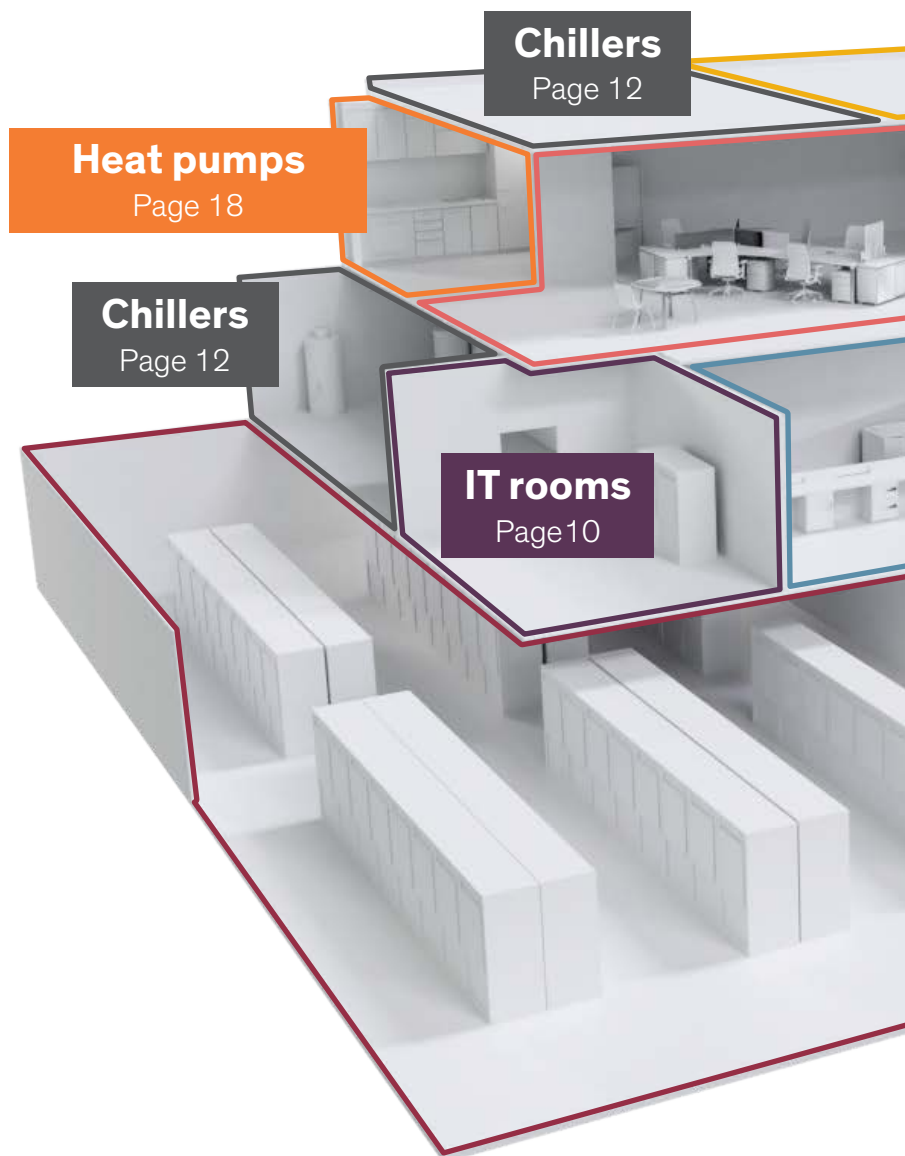
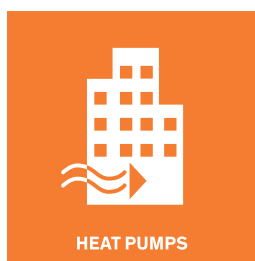


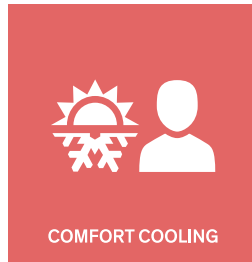
COMFORT COOLING

Smart products and solutions for all aspects of comfort cooling.

The right climate solution for every application

STULZ designs, develops, manufactures, supplies and installs climate solutions that are precisely tailored to individual project requirements. In addition, STULZ is a supplier of various high-quality cooling and heating systems. Our customers benefit from this approach in every respect, because they can truly expect and receive everything from STULZ. We are the partner for climate control.





Air handling

Page 14

Comfort cooling

Page 20

Air handling

Page 14

Humidification

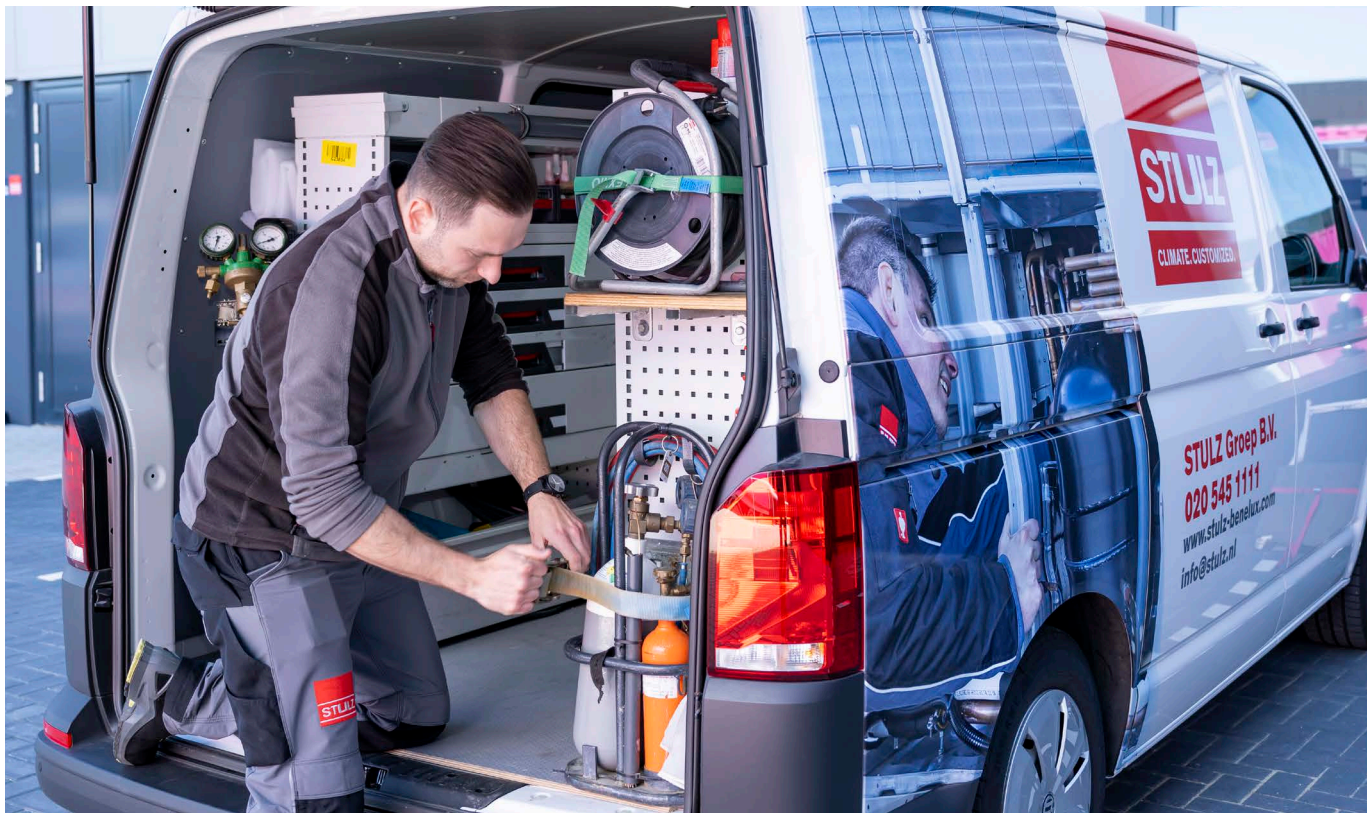
Page 22

Datacenters

Page 10

Shelter koeling

Page 16



Expert and flexible custom service

At STULZ, professional competence is not just a word, but is put into practice by a perfectly trained and attuned team of technicians with years of experience. With experienced and skilled service technicians, STULZ not only offers a nationwide service network, but also provides the knowledge and information in the field of climate solutions. STULZ has also invested in stocking items at no less than 3000 m². In this way, we are able to provide you, the customer, with the right service, at the right time.

Service anytime, anywhere

STULZ has had a comprehensive service department for many years. For precision air conditioning, a very short response time is often expected.

STULZ also offers this impeccable service for our other product groups. 7 days a week, 24 hours a day, 365 days a year, you can count on support from the STULZ Service Department. In this way, we want to offer installers and end users the top service expected of an A-brand.

Training Center

In our own training center we offer the possibility to train our technicians with all kinds of products and services. The courses are offered on a customized basis. For example, we have courses focused on skillful and efficient installation, commissioning and CompTrol® measurement and controlling technology.

Tailor-made service

To provide the most effective and reliable service, we adhere to the following formula.

Concept 	Every customer contact begins with our intensive advice. Our service is visible from the first step.
Realization 	In the technical realization, you can rely on the extensive knowledge of our experienced project managers.
Support 	We offer professional support throughout the project process and service throughout the life of the installation.
Future-proof solutions with all benefits	<ul style="list-style-type: none">• Reliable products• Low operating costs for the client/operator• Flexibility

Qualifications

STULZ is a member of the NVKL (Dutch Association of Companies in the field of Refrigeration and Air handling). STULZ has all the legally required qualifications for the installation and maintenance of refrigeration systems. STULZ thus complies with the RLK 1997 and is registered under number S-04050. Safety is our highest priority, and STULZ has the official VCA ** Certificate.



Climate. Customized.



Tailor-made solutions. For a perfect climate in any environment.

We have the solution You have the advantage.



- Location
- Planning
- Climate zones

- Environment
- Sound protection
- Heat recovery

- Reliability
- Integration and connectivity

- Inhouse engineering
- Inhouse software development

Whether a single system or several connected systems, STULZ's climate solutions meet all your requirements in terms of sustainability, reliability and energy efficiency.

From hardware to software, from design to production to installation, we can deliver complete air conditioning systems with maximum energy efficiency that meet your needs precisely, intelligently and reliably. With STULZ, you can be sure of operational reliability and comfort, while at the same time significantly reducing your equipment's energy costs and CO₂ emissions.



#1 Climate. Customized. **Standard solutions**

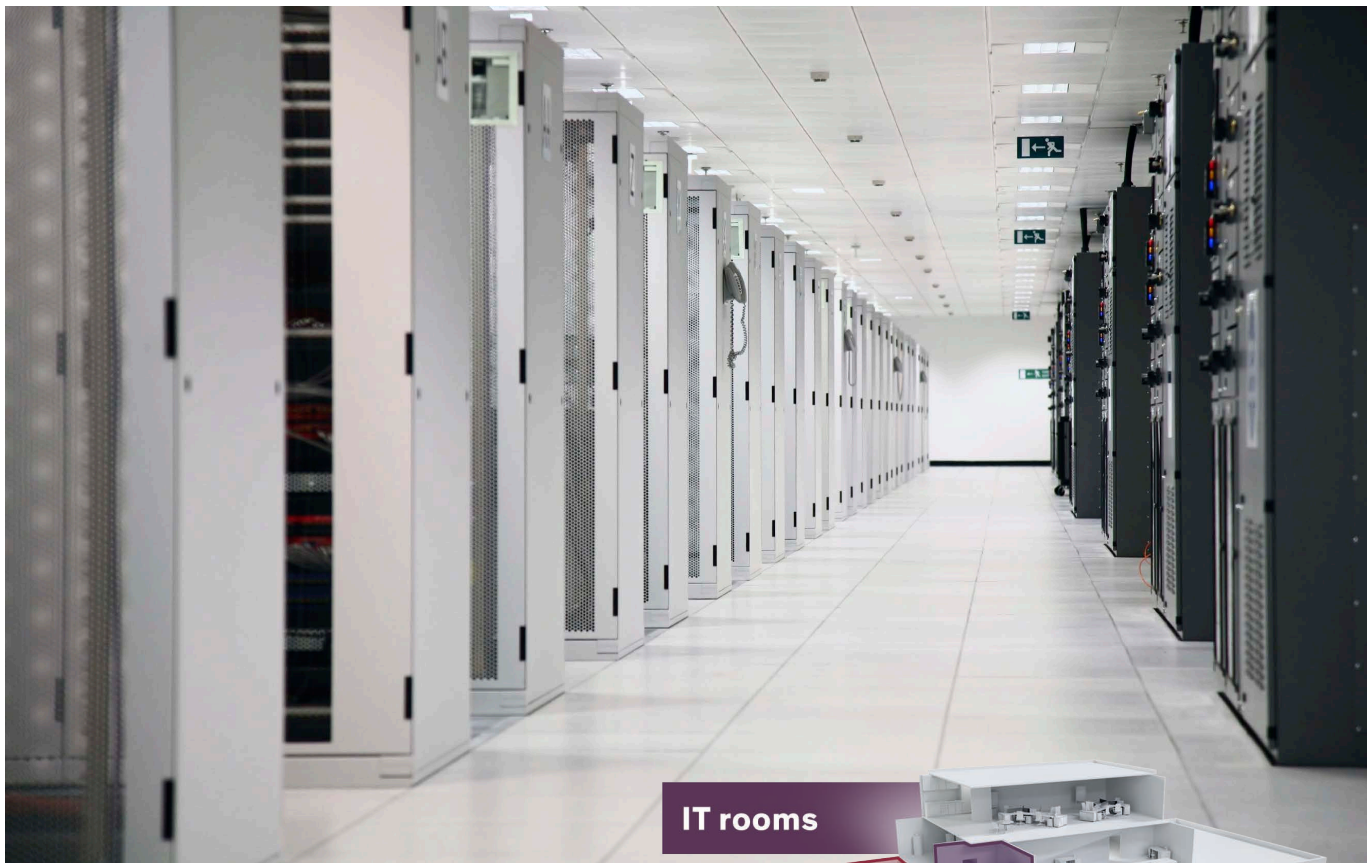
Make the most of the large selection of accessories and the options available for our standard solutions and adapt them to your individual requirements.

#2 Climate. Customized. **Standard solutions with special options**

In addition to our standard solutions, our technicians offer you many more options to personalize our solutions as much as possible.

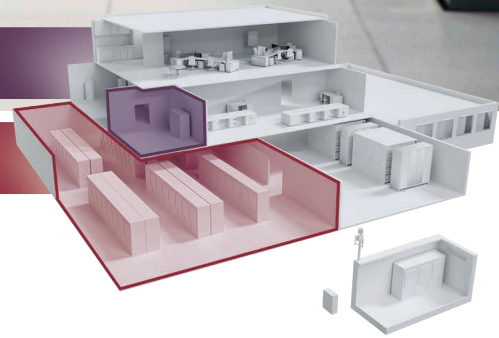
#3 Climate. Customized. **Tailor-made solutions**

Turn your desired concept into reality: aligned with your project plan, we implement and provide you with support for your perfect customized tailor-made solution. This gives you a unique system in which every detail is perfectly tailored to your demands.



IT rooms

Datacenters



Efficient precision cooling for optimal control of temperature and humidity.

Climate control in rooms where IT and server applications are used requires that very large amounts of heat be removed reliably and efficiently. With precision cooling from STULZ, you can rely on complete operational reliability. Our solutions offer continuous air conditioning with maximum energy efficiency, even at high heat loads.

From our product portfolio, you can easily put together your customized solution, perfectly tailored to the requirements of your IT rooms or datacenter. We are happy to advise and guide you. Small, large or hyperscale datacenters, hospitals, high-density applications, Industry 4.0 or production and storage areas - we will get you the solutions that cool your business-critical applications with uncompromising reliability and maximum efficiency. Our solutions feature state-of-the-art technology, and are easily scalable.

MiniSpace / CyberAir Mini**ROOM COOLING**

The MiniSpace is the answer to the question of how to most effectively and efficiently cool small technical or server rooms. The design of the unit makes a raised floor not absolutely necessary. Upflow, downflow and front outlet variants can be easily implemented.

Capacity: 6 – 32 kW

- ✓ Free Cooling
- ✓ Datacenters
- ✓ IT-rooms
- ✓ Hospitals

**CyberAir 3PRO****ROOM COOLING**

The CyberAir 3PRO is an example of flexibility and energy efficiency. Regardless of size, cooling capacity, airflow, heat exchanger or controlling: you can individually and precisely adapt your STULZ solution to the requirements of your datacenter.

Capacity: 22 – 260 kW

- ✓ Free Cooling
- ✓ Datacenters
- ✓ Hyperscale
- ✓ Hospitals
- ✓ High-Density
- ✓ Modular design
- ✓ IT-sector

**CyberRack****HIGH DENSITY COOLING**

CyberRack Active Rear Door is a heat exchanger door with EC fans for installation at the rear of server racks. This solution offers the possibility of using cooling systems that largely operate without energy-intensive mechanical cooling.

Capacity: 19 – 33 kW

- ✓ Free Cooling
- ✓ Datacenters
- ✓ Hyperscale
- ✓ IT-sector
- ✓ High-Density

**CyberRow****HIGH DENSITY COOLING**

The in-line solution CyberRow combines innovative horizontal airflow with the latest technology. Fluctuating loads on server racks, spatial constraints, missing raised floors and high-density are exactly the parameters for which the CyberRow was developed.

Capacity: 22 – 58 kW

- ✓ Free Cooling
- ✓ Datacenters
- ✓ IT-sector
- ✓ High-Density
- ✓ Hospitals

**Micro DC****MICRO DATACENTERS**

With the Micro DC, STULZ can offer a complete solution in one device. The all-in-one principle makes installation very simple and clear, because the Micro DC includes everything: rack, cable management, cooling mode, UPS, power supply, environmental monitoring and fire protection. Configure, connect and get to work!

Capacity: 5 – 120 kW

- ✓ Free Cooling
- ✓ Industry 4.0
- ✓ IT-sector
- ✓ Modular design
- ✓ High-Density
- ✓ Hospitals

**CyberCool Free Cooling Booster****FREE COOLING**

Systems with water-cooled chillers usually do not provide Free Cooling, even if the low outdoor temperatures at the site allow it. STULZ has developed a standard unit that takes advantage of the low outdoor temperatures and thus ensures efficient operation all year round.

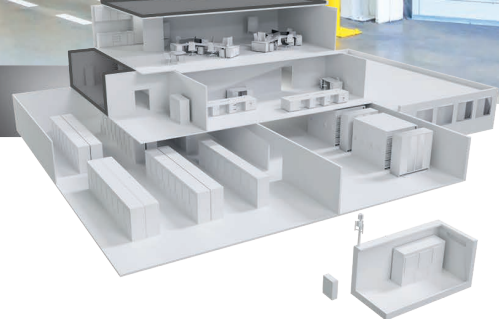
Capacity: 270 – 1.800 kW

- ✓ Free Cooling
- ✓ Industry 4.0
- ✓ IT-sector
- ✓ Plug-and-Play





Chillers



Maximum reliable chillers for precision cooling

Maximum efficiency and reliability: STULZ offers you chillers developed for maximum reliability in datacenters and industry and are manufactured under the most stringent conditions. The systems guarantee the greatest possible energy efficiency for every local temperature profile - 24 hours a day, 365 days a year.

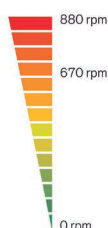
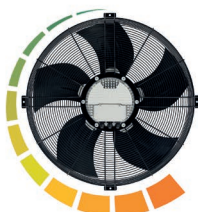
With the CyberCool 2 line, our engineers have developed a high end portfolio of air-cooled chillers at the cutting edge of technology, especially for datacenters. Customers appreciate the high flexibility of the series, which is designed in accordance with the latest efficiency aspects

and with indirect Free Cooling meets the highest demands for energy savings.

In addition, STULZ has the Explorer series. The STULZ Explorer is a chiller suitable for a wide range of applications. The Explorer series from STULZ offers cost-effective, state-of-the-art machines that can be adapted to a very wide range of customer requirements. Applications include air conditioning, process and industrial refrigeration, datacenters and telecommunications.

Standard edition

Low Noise edition



CyberCool 2

CHILLERS-AIRCOOLED

Maximum energy efficiency and optimum operational reliability for complex, demanding chilled water solutions without compromise. A completely new overall concept in which all components of the CyberCool 2 are matched to each other in such a way that a high level of energy efficiency is achieved with low noise emissions.

Capacity: 50 - 1.400 kW



Explorer WSA & WPA

CHILLERS-AIRCOOLED

With the Explorer series, STULZ is able to offer a budget-optimized chiller based on the latest technology and, thanks to its high degree of flexibility, can meet numerous customer requirements.

Capacity: 160 - 1.200 kW



Explorer WPA Mini

CHILLERS-AIRCOOLED

Free Cooling with small dimensions is combined in the WPAmini Explorer range. This chiller meets a wide range of requirements and offers the possibility of extending operating limits if necessary.

Capacity: 82 - 160 kW



CyberCool Indoor

CHILLERS-WATERCOOLED

STULZ CyberCool Indoor offers powerful and highly efficient cooling in the smallest space. The chiller enables flexible cooling solutions. The CyberCool Indoor is available in three different variants. The systems are scalable and can therefore be adapted to future requirements.

Capacity: 20 - 100 kW



CyberCool WaterTec

CHILLERS-WATERCOOLED

The water-cooled CyberCool WaterTec combines all the important factors: compact and maintenance-friendly design, optimized part-load Turbocor technology and predictive refrigerant minimization when using a refrigerant with an extremely low GWP.

Capacity: 250 - 1.510 kW



Explorer WSW

CHILLERS-WATERCOOLED

The water-cooled STULZ Explorer WSW completes our portfolio for chillers. In addition to efficiency, the budget-oriented solution also scores with small dimensions.

Capacity: 230 - 1.530 kW





Standard or customized, energy-efficient air handling

STULZ air handling units can be individually configured and manufactured to meet a wide range of requirements. From small datacenters with the need for rooftop installations to hyperscale datacenters without raised floors. In addition, the ClimaPac air handling unit from STULZ Tecnivel is ideally suited for comfort applications. With a Eurovent certification. In addition, we introduce the ClimaPac Compact which is also suitable for heating by means of heat pumps from Mitsubishi Heavy Industries.

With the opening at the end of 2019 of the new 50,000 m² production facility for manufacturing air handling units in Madrid, the go-ahead has been given for STULZ to introduce the ClimaPac range to the market. STULZ is intensively involved in the personalization of each offer by first conducting preliminary research and providing you with a recommendation tailored to your requirements. We offer general and customized air handling units for any type of installation.

In addition to air handling units for datacenters, STULZ now offers air handling for comfort applications. Whether for cooling, heating or ventilation, our air handling units are efficient to use and are also plug-and-play.

- ✓ Datacenters
- ✓ Offices
- ✓ Hospitals
- ✓ IT-rooms
- ✓ Production & storage
- ✓ Public buildings
- ✓ Shopping centers
- ✓ Hotels & restaurants
- ✓ Pharmacies & drugstores

STULZ Custom Indoor AHU

AIR HANDLING

When it comes to large and hyperscale datacenters, conventional systems reach their limits. The Custom Indoor AHU's new air conditioning concept not only saves space, but also enables highly efficient and powerful operation without the need for a raised floor.

Capacity: 200 kW

- ✓ Free Cooling
- ✓ Datacenters
- ✓ Hyperscale
- ✓ IT-sector



CyberHandler 2

AIR HANDLING

The STULZ CyberHandler-2 units with indirect and adiabatic Free Cooling are a turnkey complete solution with a wide range of cooling capacity and high reliability - flexible and easy to install.

Capacity: 25 – 325 kW

- ✓ Free Cooling
- ✓ Datacenters
- ✓ Hyperscale
- ✓ IT-sector
- ✓ Production
- ✓ Storage



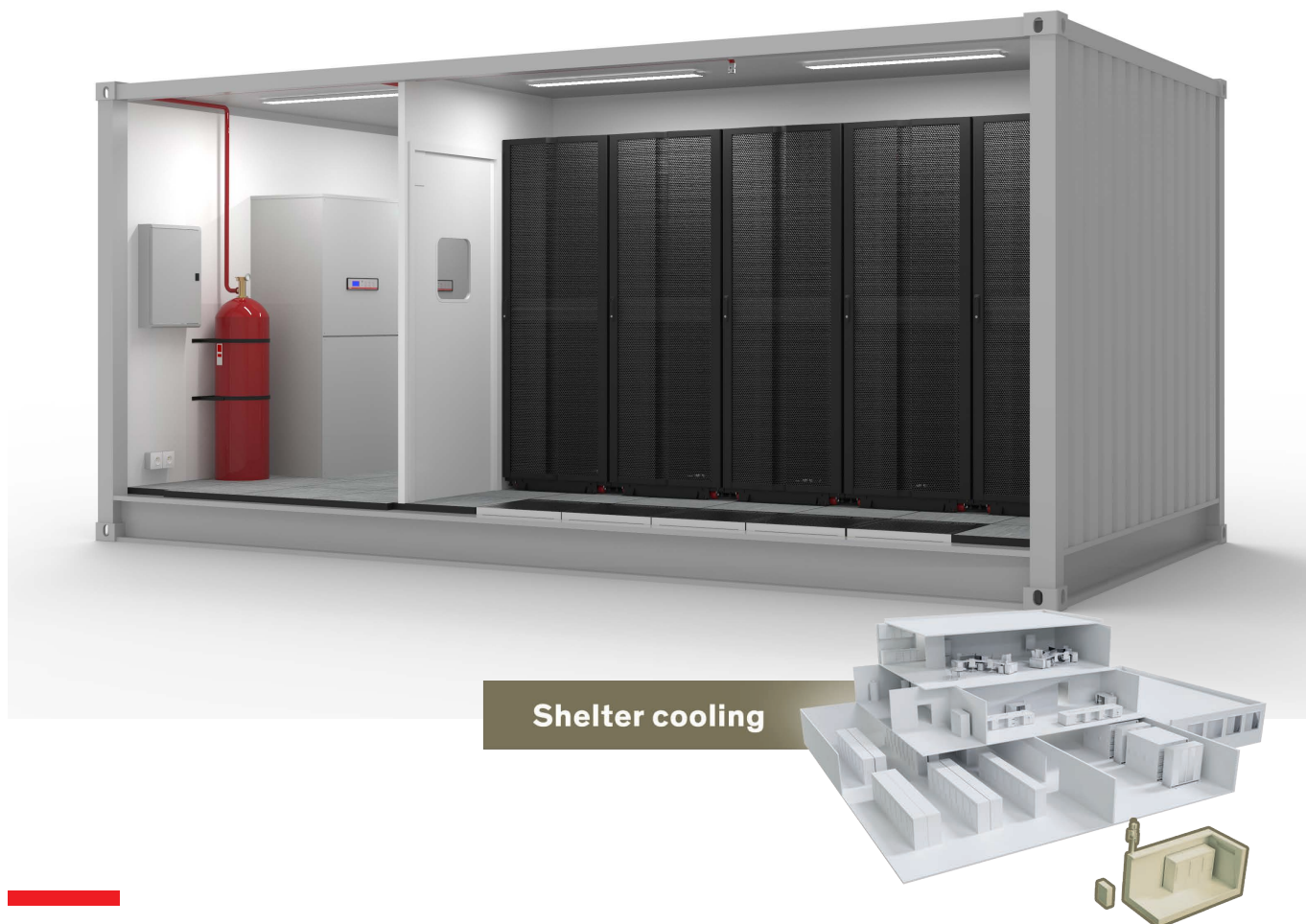
ClimaPac (Compact)

AIR HANDLING

The ClimaPac range of air handling units consists of a modular cabinet construction with 50 standard dimensions and complies with Eurovent certification and ERP standards. In addition, the air handling units can be equipped with different types of coating to meet all specific requirements.

- ✓ Comfort- applications
- ✓ Eurovent
- ✓ Controlling
- ✓ Cooling and heating with heat pumps





With shelter cooling you save costs without compromise

Save without compromise: we offer you four different solutions, tailored to your needs and with the option of using Free Cooling.

STULZ shelter cooling solutions are compact, robust and economical in use, guaranteeing reliable cooling for years, 24 hours a day. The systems also provide optimum connectivity for autonomous operation: remote monitoring and diagnosis through all interfaces is possible via a web interface. For you, this means rapid intervention and therefore immediate problem solving in all situations. The solutions are also immediately ready for connection and operation according to the plug-and-play principle and enable very long maintenance intervals.

Whether your critical application operates in a hot environment with temperatures of up to 55 °C, the ambient air is contaminated by particles, the temperature drops to -40 °C or your application has to operate permanently in a humid environment - you can rely on STULZ systems in any case, under any circumstance.



WallAir**SHELTER COOLING**

Space in telecommunications containers is scarce and expensive. The weatherproof WallAir units are mounted outside the container, making the best use of the available space.

Capacity: 4 – 16 kW

**TelAir****SHELTER COOLING**

TelAir units are designed for installation in telecommunications containers, technical and server rooms. The internal installation protects the units from environmental influences and vandalism. Due to the low noise emissions, the air conditioning systems can be used in residential areas without any problems.

Capacity: 4 – 16 kW

**SplitAir****SHELTER COOLING**

SplitAir is the energy and space-saving variant for the reliable cooling of containers and modular buildings. The unit consists of an evaporator and a condenser and, because of the possibility of mounting the indoor unit both as a ceiling and wall unit, it can also be used in tight spaces.

Capacity: 5 – 16 kW

**ShelterAir****SHELTER COOLING**

Comfort air conditioning units are still used for cooling in many IT rooms and small datacenters. The advantages of Free Cooling are therefore not used and a lot of energy is used for air conditioning. To significantly reduce energy costs, base stations can be retrofitted with the STULZ ShelterAir unit.

Capacity: 3,5 – 15 kW

**CabinetAir****SHELTER COOLING**

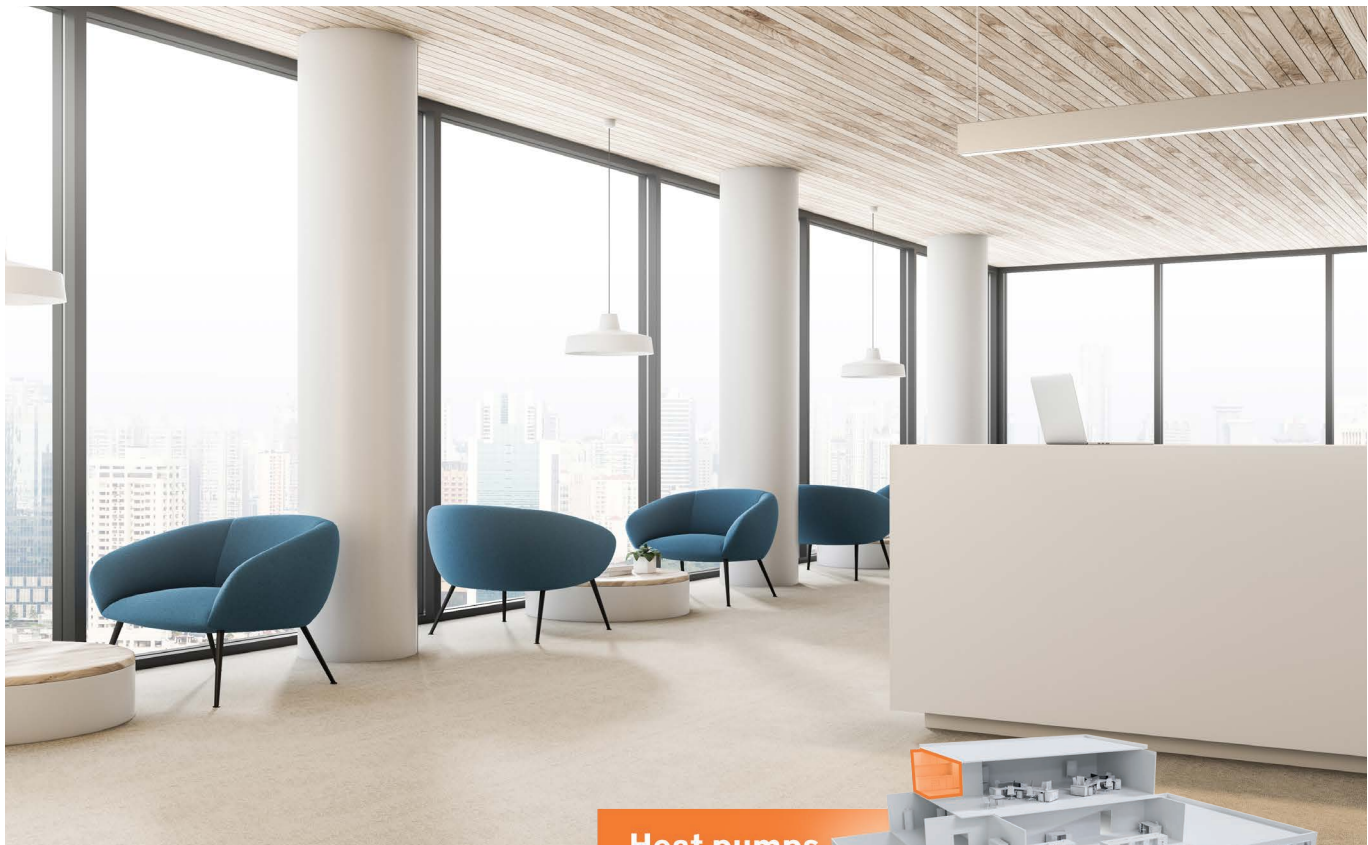
The CabinetAir PRT with Direct Free Cooling provides maximum energy efficiency for your installation cabinet. It not only reduces operating costs to a minimum - in combination with 48 V DC, it also ensures maximum reliability: if the main power fails, backup ventilation with Free Cooling ensures that your equipment continues to operate uninterrupted.

Capacity: 1 – 2 kW



The solutions of the STULZ shelter cooling range are suitable for numerous applications. Because of the emergency operation with Free Cooling and the connectivity, these devices are the optimal solution for your critical applications.

- ✓ Shelter cooling
- ✓ IT-rooms
- ✓ Modular design
- ✓ Free Cooling



Heat pumps

Efficient and sustainable heating with our heat pumps

Mitsubishi Heavy Industries and S-Klima heat pumps are technically advanced solutions developed by specialists, work very efficiently and provide the user with optimal comfort in addition to significant energy savings.

Our heat pumps can be used wherever maximum efficiency and optimum reliability are required. This applies, for example, to residential buildings, offices and hotels but also to commercial and industrial projects and public buildings such as hospitals. In addition, sustainability is becoming increasingly important when choosing the right climate system.

S-Klima and Mitsubishi Heavy Industries' heat pumps and chillers, compared to direct evaporation systems, require only a fraction of the amount of refrigerant - which is an important factor in view of current laws and regulations. STULZ supplies compact, high-efficiency heat pumps for cooling and heating. Thanks to DC inverter technology, the units are always particularly efficient and meet the requirements for energy efficiency classes A++ to A+++, even at partial load. The refrigerant used is R32. Heat is transferred to the indoor unit via water. Our heat pumps are eligible for an ISDE subsidy. Check the website of the RVO for the most current amounts (The Netherlands).

Heat pumps from Mitsubishi Heavy Industries and S-Klima are efficient to use and designed by specialists in the field. Our heat pumps are the most technically advanced solutions.

- ✓ Offices
- ✓ Hospitals
- ✓ Housing
- ✓ Production & storage
- ✓ Public buildings
- ✓ Shopping centers
- ✓ Hotels & restaurants
- ✓ Pharmacies & drugstores

SAS / SAL / SAX

HEAT PUMPS

Heat pumps from S-Klima can be used wherever maximum efficiency and optimum reliability are required. This applies for example to offices and hotels, but also to commercial and industrial projects and public buildings such as hospitals. Both hybrid and all-electric.



Aquapura

HEAT PUMP BOILER

The Aquapura monobloc high-efficiency heat pump for domestic water heating is a modern, efficient and clean solution that guarantees the comfort of your home, while respecting the environment and nature.



Q-ton

HEAT PUMPS

Do you want to efficiently supply hotels, industrial complexes, residential complexes, stores and offices with hot water? With the Q-ton, which works with CO2 as a refrigerant from Mitsubishi Heavy Industries, we offer you the new generation of air-water heat pumps.

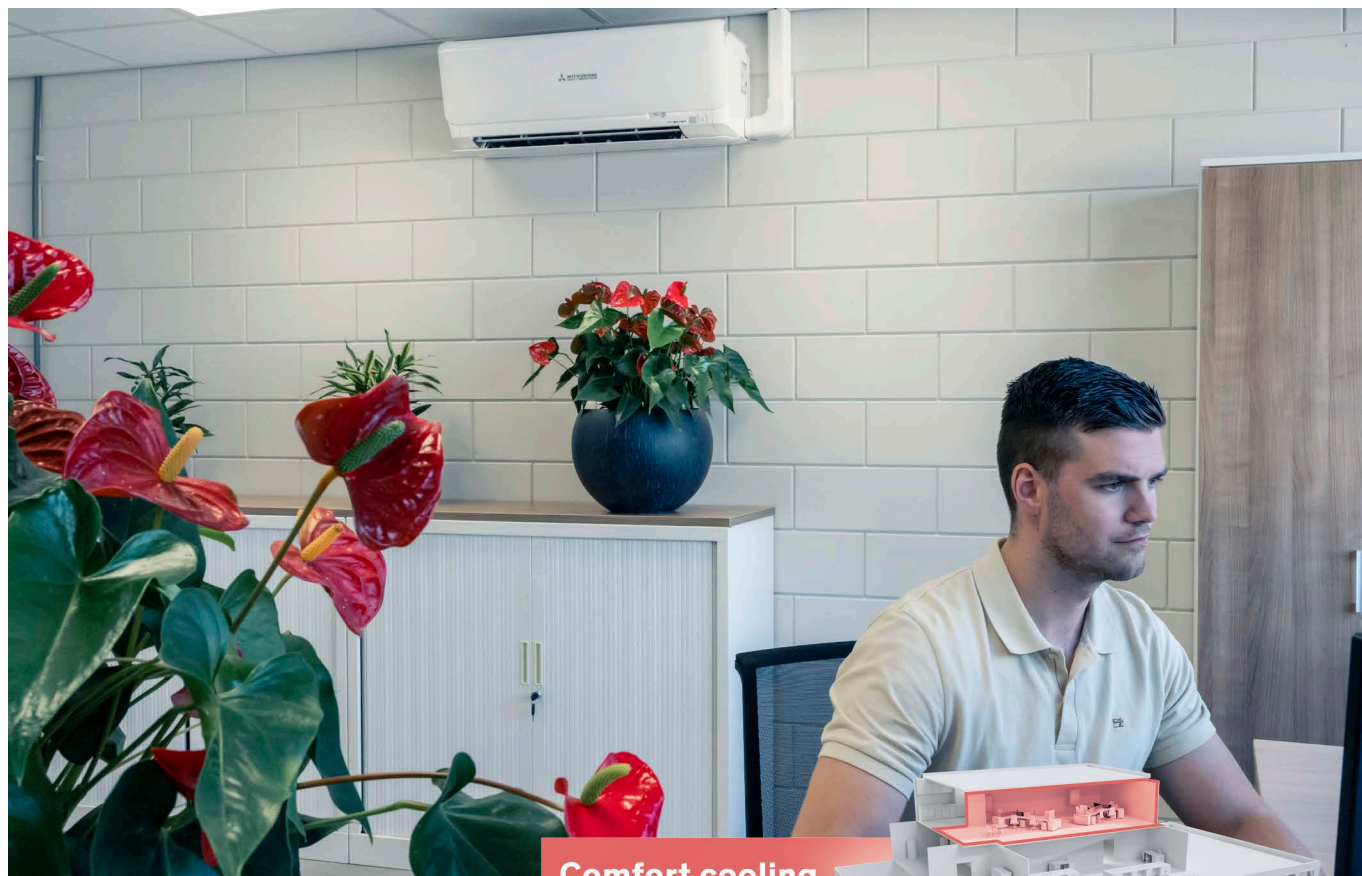


Hydrolution

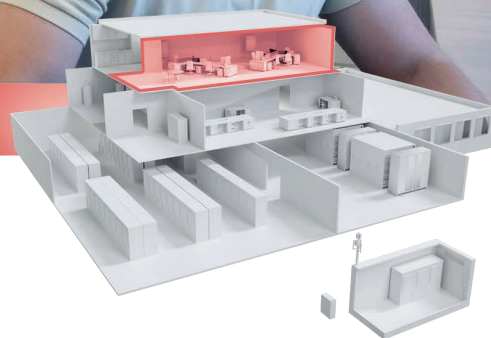
HEAT PUMPS

The Hydrolution air-to-water heat pump system from Mitsubishi Heavy Industries is a major innovation in the heating field, offering great economic and environmental benefits. Both hybrid and all-electric.





Comfort cooling



Top quality in any air conditioning concept

STULZ stands for high quality air conditioning systems at all levels. In the Netherlands we are importer for the systems of Mitsubishi Heavy Industries. We bring comfort cooling to a higher level and offer you the total solution.

If the layout of stores, offices and technical rooms is the focus, the freely configurable range of the FDS series is particularly well suited. The compact outdoor and indoor units reliably heat and cool as a mono or simultaneous multi split system 365 days a year. The smallest range is covered by the (multi)split air conditioning systems of the S/SX series. The right choice, if a pleasant living and working climate is to be realized in small commercial buildings or residential buildings with up to six rooms.

VRF air conditioning systems of the KX series heat and cool all types of rooms efficiently. Outdoor and indoor units of different types can be combined almost without limit, set individually and controlled and monitored centrally or

individual. In short: Our air conditioning systems are developed for the highest demands, characterized by flexibility and have one of the lowest energy consumptions in the market.

- ✓ Shopping centers
- ✓ Offices
- ✓ Public buildings
- ✓ Hotels & restaurants
- ✓ Housing
- ✓ IT-rooms

KX-Serie

COMFORT COOLING

The KX series provides efficient air conditioning of larger buildings. The KX series stands out in terms of comfort and energy efficiency. Indoor and outdoor units can be combined with each other almost infinitely and can be centrally and remotely controlled and monitored. In short, the VRF series from Mitsubishi Heavy Industries are the indoor climate systems for the highest demands.



SX-Serie

COMFORT COOLING

Designed for cooling and heating in the small power range, the environmentally friendly SX series is mainly used in small commercial buildings or houses with up to 6 rooms. The indoor units are particularly quiet, all outdoor units operate safely down to -15 °C outdoor temperature and are equipped with the energy-efficient inverter technology.



FDS-Serie

COMFORT COOLING

Our extremely compact outdoor and indoor units for heating and cooling provide an ideal working environment in open-plan offices 365 days a year and an optimally comfortable climate in stores, for example.



S-Serie

COMFORT COOLING

Monosplit systems cost-effectively cool and heat individual spaces such as small stores or bedrooms. This creates an ideal comfortable climate all year round.



Comptrol

COMFORT COOLING

The operation of air conditioning systems can become even more economical, comfortable and safe thanks to smart measurement and control technology. Mitsubishi Heavy Industries' innovative Comptrol products are designed specifically for air conditioning systems to take comfort to a whole new level.

Continuous remote monitoring enables early detection of faults, for example. The modular series offers a suitable system for any task, from a single local solution to integration into existing building management systems.

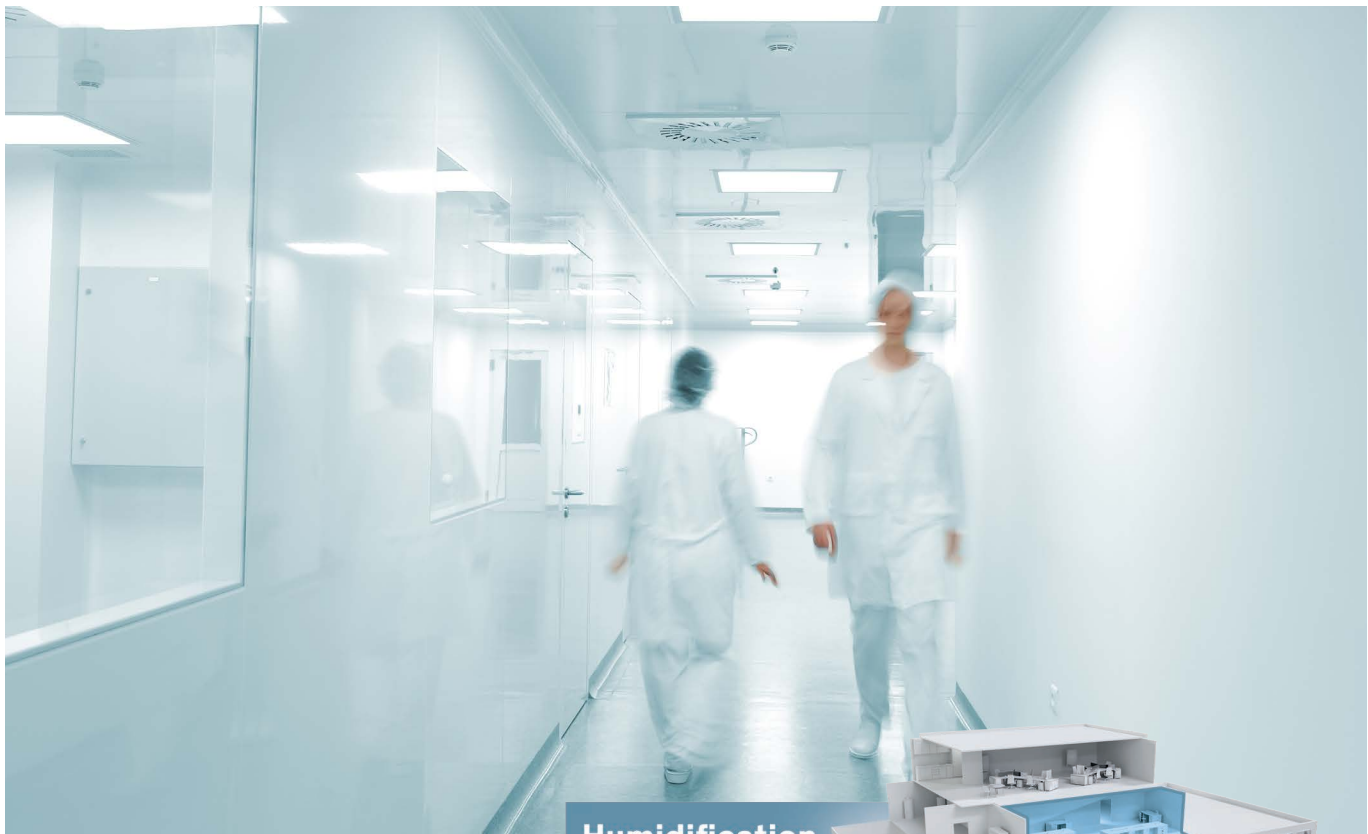


EC-Tower

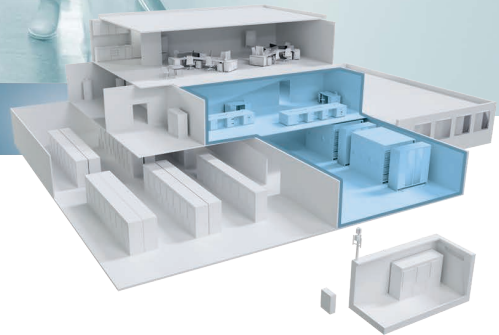
COMFORT COOLING

The high heat load in technical rooms requires the application of an air conditioning system. Often, standard split systems from the so-called comfort air-conditioning sector are used. Unlike the STULZ EC-Tower, comfort air-conditioning systems are not designed for continuous operation in plant rooms. In plant rooms, where heat must be continuously dissipated, failure of the cooling system leads to crisis situations.





Humidification



Optimal air quality with the most optimal humidification

From showrooms to clean rooms: STULZ and CAREL humidification systems provide the ideal air quality and a healthy indoor climate in any environment.

With over three decades of experience, STULZ belongs to the experienced suppliers of air humidification systems. In cooperation with CAREL, one of the market leaders in control and humidification technology, STULZ markets a wide range of isothermal and adiabatic humidification systems on the market. They offer the best answer to your specific needs such as: energy savings, hygienic safety and precise control for a healthier indoor climate.

CAREL's adiabatic air cooling systems reduce energy consumption for chillers, drycoolers and other air conditioning and refrigeration applications. They are designed with a focus on hygiene by preventing water

stagnation during downtime. Also, the system flushes first, before start-up. They are easy to install for new construction and renovation.

In addition to CAREL humidifiers, STULZ of course also represents the ultraSonic®, the ultrasonic humidifiers from STULZ itself. These are available from 0.4 to 18 kg/h.

With the CAREL and STULZ humidification systems, you can find an optimal, tailor-made every situation an optimal, tailor-made solution. Our sales engineers and product specialists will be happy to help you find a solution.

- ✓ Datacenters
- ✓ Offices
- ✓ Hospitals
- ✓ IT-rooms
- ✓ Production & storage
- ✓ Public buildings
- ✓ Shopping centers
- ✓ Hotels & restaurants
- ✓ Pharmacies & drugstores

Isothermal humidification

HUMIDIFICATION

Products like the compactSteam, humiSteam, heaterSteam, gaSteam and ultimateSam cannot be missed when we talk about isothermal humidifiers. These machines produce steam which is quickly absorbed by the air and does not contain bacteria.

1,5 - 1.100 kg/h



Adiabatic humidification

HUMIDIFICATION

The capacity of our adiabatic humidifiers is enormous. Products within this range include the humiFog, optiMist, chillBooster and the humiSonic.

0,5 - 1.200 l/h



Why humidification?

Low humidity affects both comfort and the people's well-being/health. In winter, when in enclosed and heated spaces the relative humidity of the air drops, respiratory problems and conditions that adversely affect the eyes, skin, nose and mouth increase. Humidity levels that are too low facilitate the growth and spread of bacteria and viruses in the atmosphere, while excessively high humidity levels promotes the growth of mites and fungi.

Accurate humidity control reduces the problems caused by a dry environment, while increasing comfort and protecting equipment.

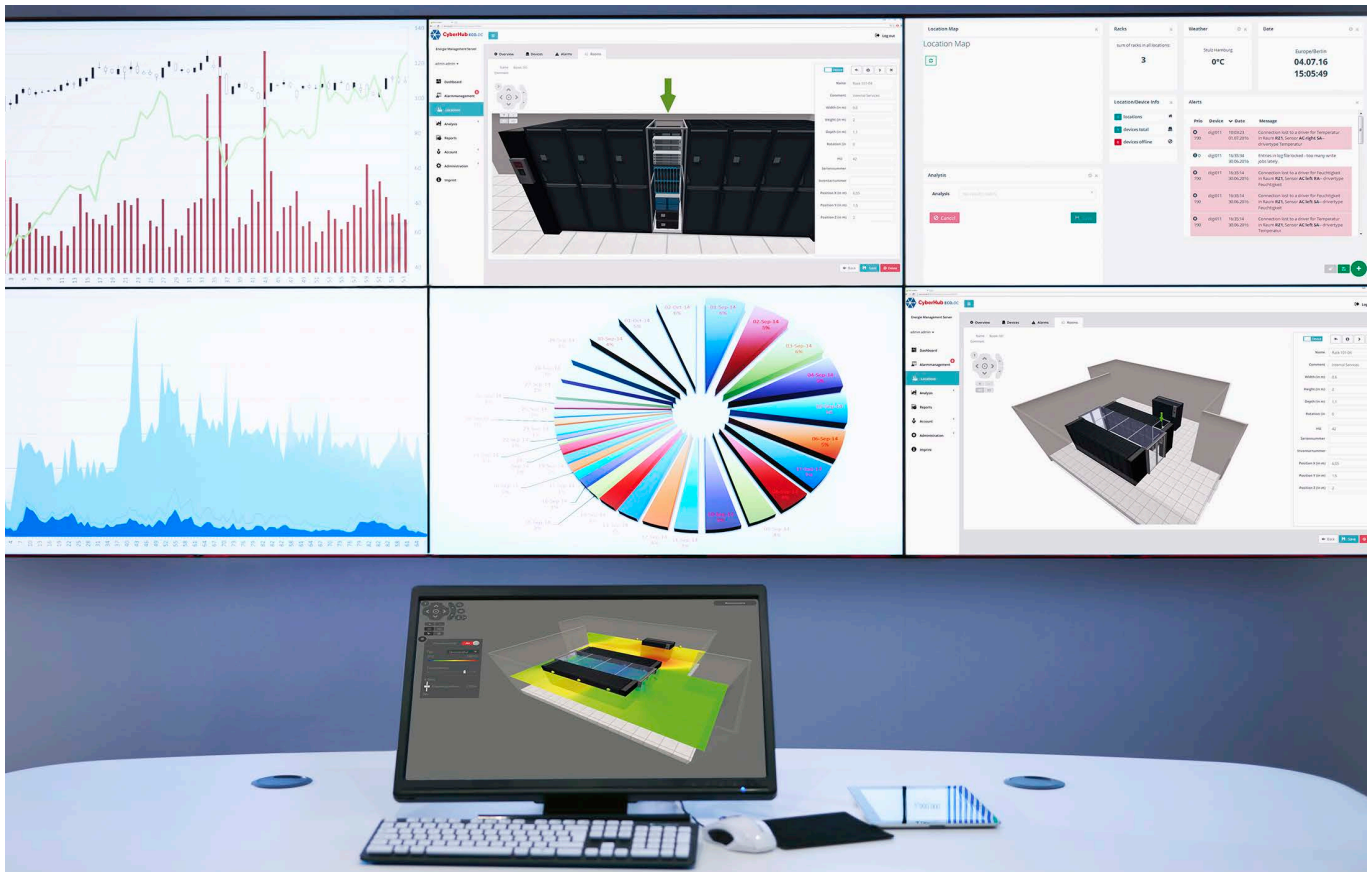
Internet of Things goes hand in hand with humidification.

The Internet of Things (IoT) helps you automatically measure, analyze and predict the way the device operates and thereby improve. Data monitoring and real-time analytics via the Internet, ensure efficiency and continuity.

A reliable and accurate technology for high-tech applications. Some key advantages are:

- Obtain very efficient and accurate feedback on the situation;
- Being able to intervene immediately and only then and where necessary;
- Combined with big data, rapid analysis possible for optimal service delivery.





Monitoring around the clock

With CyberHub ECO.DC, information on air conditioning, energy consumption and the installed hardware is collected and can be analyzed in a central application. The monitoring solution helps you achieve three goals: Cutting operating costs, reducing the impact of unplanned downtime significantly, and ensuring quick response time to external influences or defects. With CyberHub ECO.DC, you have the possibility to optimize your air conditioning system to the maximum of its potential. If you need support in energy matters, STULZ is always available as your partner for energy advice. Our software provides the data and together we develop the ideal optimization options to ensure that your data center is as efficient and fail-safe as possible.



CyberHub ECO.DC monitors your data center – including servers, switches, UPS, air conditioner, PDUs, and the whole environment (temperatures, humidity, pressure, energy) – around the clock. This not only greatly enhances reliability – it also reveals previously undiscovered potential savings and enables them to be exploited. Almost no data are left unrecorded, thanks to the high degree of compatibility. CyberHub ECO.DC supports numerous industry standard protocols, and therefore functions as a higher-level system that can display and analyze a wide variety of information.



Control

CyberHub ECO.DC makes control easy. It monitors, plans and manages entire air conditioning systems.



Status reports

Individual status messages are created in the system created, automatically or manually generated and sent. This saves you many actions.



Planning

Thanks to the space overview, the software solution easily finds suitable spots and thus simplifies the planning of racks for servers.



Monitoring

CyberHub ECO.DC monitors your computer center 24 hours a day, 7 days a week. This significantly reduces the chance of system failure, but also recognizes hidden energy saving opportunities.



Management

Control requires overview, therefore all components such as racks or servers are assigned certain names, comments, serial and inventory numbers.



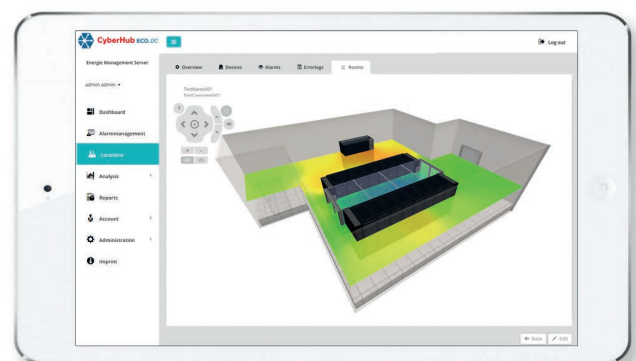
Analysis

CyberHub ECO.DC continuously collects data and turns it into easy-to-understand diagrams for minimizing risk and reliability.

3D visualization – uncovering weak points!

Optimization of air conditioning units works with state-of-the-art software solutions such as CyberHub ECO.DC. This generates with a few clicks 3D thermal images. This allows you to adjust your air conditioning directly and flexibly to the current heat load.

- Operating costs can be reduced by up to 30% without compromising reliability.
- Measurement of static pressure in the double bottom for optimal cooling and reduction of energy requirements.



- Overheating alarm: With the thermal image there is always an overview of the operating state of the servers. Hotspots are detected and air conditioning can be adjusted immediately.

With the software solution, operators can dynamically adjust their air conditioning to the respective need and identify hidden energy saving opportunities. In addition, numerous industry standard protocols are supported, creating an advanced system that can display and analyze a lot of information.



Software for intuitive control and consulting

Added value is our motivation: the perfect cooperation between controllers, software and air conditioning units offer additional possibilities for safety and efficiency. That's why we develop hardware, software and control in-house.

System design used to be a complicated task. With e-Solutions, our partners now have access to comprehensive configuration software for complex KX series VRF systems. The latest version of e-Solutions was developed for the design of two- and three-pipe systems. It determines the suitable models and sizes and compiles a complete equipment list. In addition, electrical diagrams and technical drawings are generated.

In addition, modern control and regulation technology enables the air conditioning system to be controlled even more economically, comfortably and safely. For example, with the hardware and software of the CompTrol series.

- **Intuitive navigation:** STULZ controllers can be programmed according to your project specific requirements.
- **Intelligent control:** optional sequencing with standby functions enables flexible loading and unloading of individual climate modules within a group.
- **Maximum flexibility:** support for all common BMS protocols
- **Reliable documentation:** recording of the indoor climate and monitoring and reporting of all malfunctions.



Are you looking for innovative and unconventional solutions in operational safety and energy efficiency? STULZ offers you everything you need - quickly, safely and individually.



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More information



Our brands



STULZ products for precision cooling and humidification are of high quality. For more than 70 years the solution for datacenters and IT rooms.



Top quality from the leading innovator: Air conditioning systems and heat pumps from the Japanese technology group with an excellent reputation worldwide.



S-Klima is part of STULZ and specializes in the field of comfort cooling and heat pumps.



CAREL produces both adiabatic and isothermal humidification systems. They offer the best answer to your specific needs.