

IT Cooling Solutions

STULZ Green Cooling

Energy efficiency for data centres and telecommunications



Worldwide Green Engineering by STULZ:
Save up to 90 % on your energy costs,
reduce CO₂ emissions



WORLD WIDE

**Professional, precision air-conditioning from STULZ.
Reliability and efficiency based on experience**

For decades, precision air-conditioning technology from STULZ has supplied air-conditioning all over the world with exceptional reliability and availability, even with high heat loads. However, it isn't just availability that is important to operators of data centres and telecommunications systems – energy-saving potential is also a decisive criterion when planning a system. Based on their many years of experience, our engineers and specialists know how to keep the cost of running an air-conditioning system especially low. Potential energy savings of up to 90 % can be achieved, and CO₂ can be considerably reduced!
Here we would like to show you how you can exploit this potential to the full.

It doesn't matter to us whether you are planning the construction of a new data centre or moving into, converting or extending an existing building. STULZ precision air-conditioning systems are always flexible, scalable and powerful – and, importantly, answer to your individual requirements.

Simply optimising some of the components in a system to achieve savings will often not be enough to continue to meet the challenges of a professional air-conditioning system in future. If you wish, we can optimise your entire system, preventing superfluous energy costs in the data centre from arising in the first place.

**STULZ worldwide. Individual air-conditioning systems
precisely tailored to your needs**

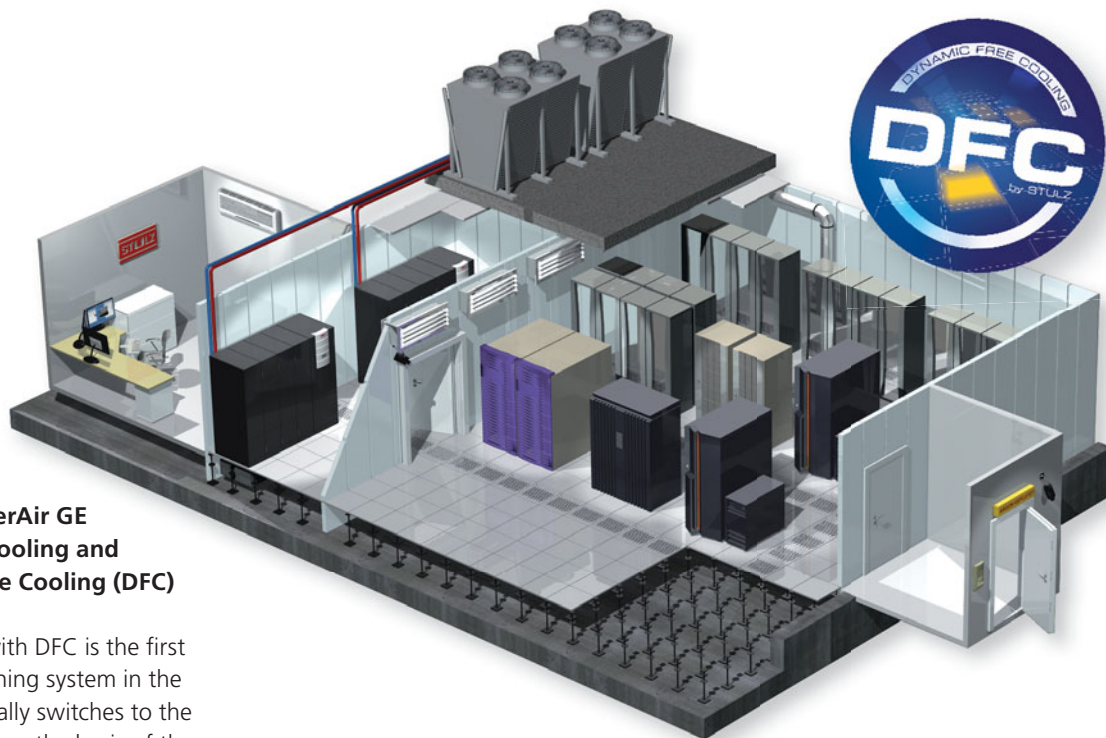
STULZ has put numerous projects with indirect and direct free cooling into operation all over the world, and knows all about the differences and highly individual requirements of every continent and every country. In order to always be able to offer just the right solution, we have developed flexible and scalable air-conditioning systems that precisely conform to a country's specific, typical parameters. What's more, using the sophisticated STULZ system cost calculation process, we can accurately calculate your potential savings.



Save up to **60%** on costs a year – with indirect free cooling

Systems with indirect free cooling are employed in temperate climate zones to the north and south of the equatorial zone. Indirect free cooling systems feature a water/glycol medium between the ambient air and the indoor air. This closed circuit benefits companies for whom narrow temperature and humidity tolerances are imperative, such as in ICT rooms, for

example. With the DFC system, compressor running time is considerably reduced whenever the ambient air temperature is below 18°C. So, depending on the region and external conditions, with indirect free cooling savings of up to 60% can be saved on air-conditioning costs!



Closed-circuit air-conditioning – CyberAir GE with indirect free cooling and STULZ Dynamic Free Cooling (DFC)

STULZ CyberAir GE with DFC is the first precision air-conditioning system in the world that automatically switches to the best operating mode on the basis of the heat load in the data centre and seasonal variations in ambient temperature. DFC combines compressor cooling and indirect free cooling in four stages in all, and automatically searches for the most economical operating mode.

CyberAir GE with DFC is available in 5 sizes.

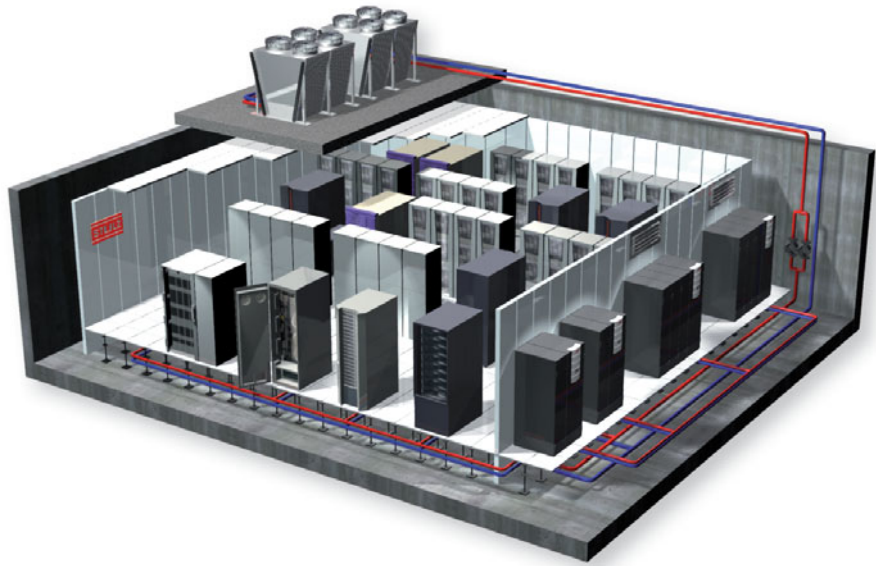
CyberAir GE



GREEN

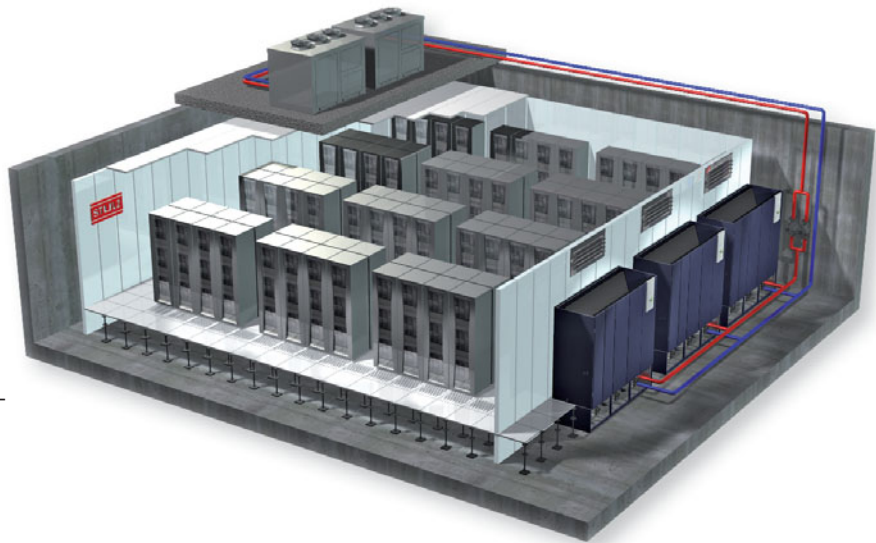
Liquid cooling – CyberCool GE Indoor Data Chillers with indirect free cooling

Water transports heat 3,500 times better than air. Without liquid cooling, extreme heat loads cannot be dissipated, which is why racks are increasingly cooled with water. STULZ CyberCool Indoor Data Chillers with energy-conserving indirect free cooling have been specially designed for indoor use, and reliably and quietly supply the chilled water you require.



Closed-circuit air-conditioning – CyberAir CWE and Outdoor Chillers with indirect free cooling

Working in combination with modern, free cooling chillers, STULZ CyberAir CWE air-conditioners ensure high cooling capacities and extremely energy-efficient operation – and, depending on the system’s location, can considerably reduce the running costs of the system as a whole. Thanks to the different sizes available, CWE air-conditioners are very flexible and perfectly suited to use in medium-sized to large data centres with traditional closed-circuit air-conditioning.



CyberAir CWE is available in 3 sizes.

CyberCool GE Indoor Data Chillers



CyberAir CWE



CyberCool CyberCool XT



ENGINEERING

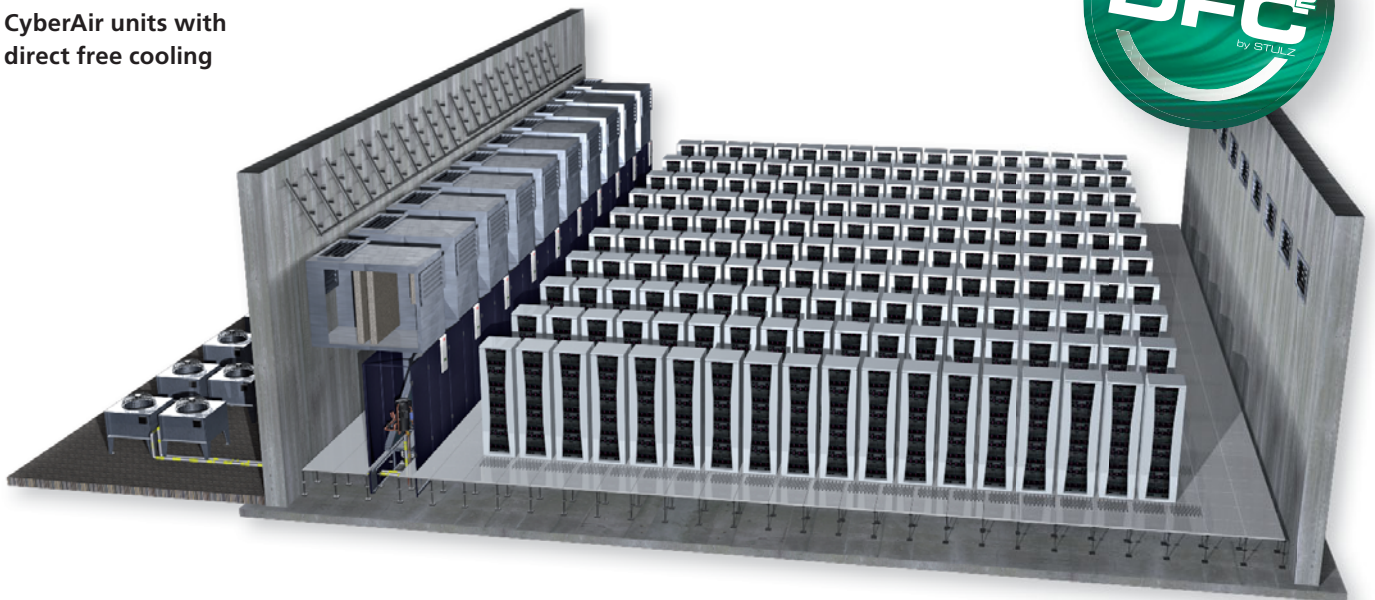
Save up to **80 %** on costs a year – with direct free cooling

Systems with direct free cooling are also used in temperate zones, but are additionally suitable for applications with wider temperature and humidity tolerances. In this field, in particular, the potential for cutting running costs is considerable. With this method of cooling, a high proportion of the ambient air is conditioned with filtering and humidifying systems and conveyed directly to the room. As with the indirect version, direct free cooling is also possible when ambient temperatures fall below 18°C. As a result, in most countries of the world, long periods of direct free cooling are possible, ensuring maximum energy efficiency.

No losses due to heat exchangers

To prevent additional losses through heat exchangers, we have developed a swivelling heat exchanger for this system. When direct free cooling is in operation, the heat exchanger, which has full electronic control, swivels to the side so that the conditioned ambient air can flow unhampered into the void under the raised floor.

**CyberAir units with
direct free cooling**



CyberAir



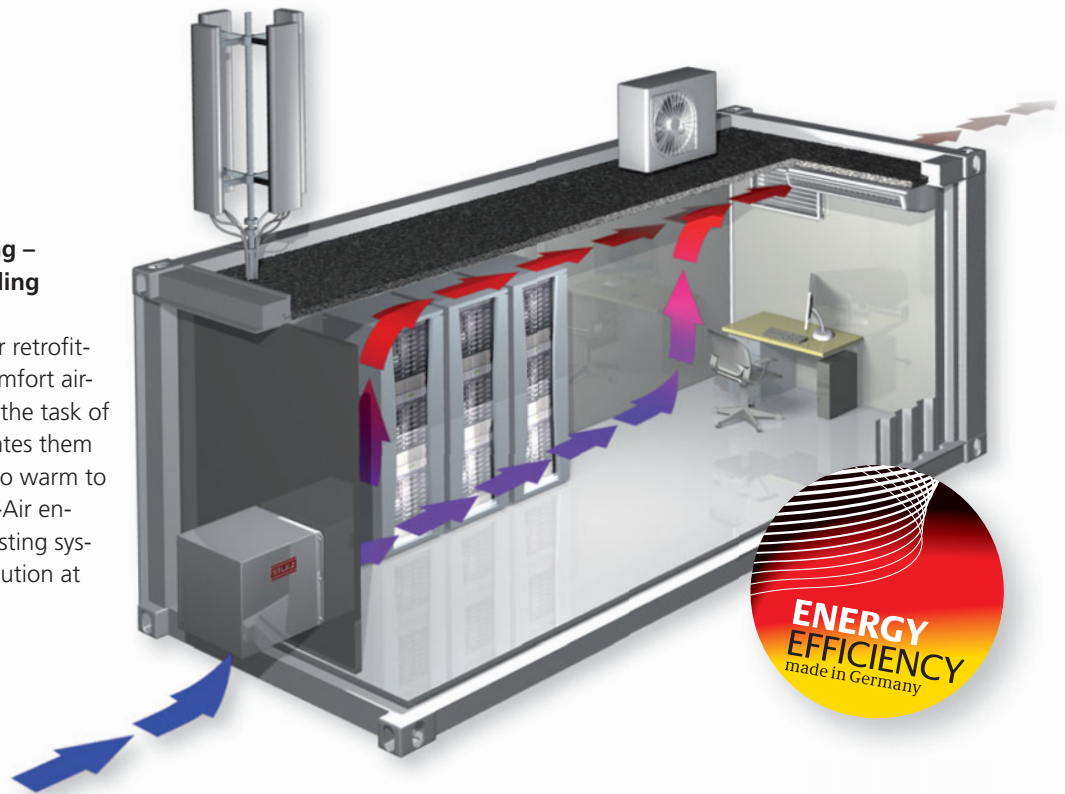
Save up to **90%** on costs a year – with air-conditioning solutions for telecommunications

Containers, shelters and base stations for telecommunications pose special challenges for air-conditioning technology. STULZ supplies three different systems all capable of utilising free cooling, tailor-made to your individual requirements. These precision air-conditioning units create precisely defined air conditions.

All units are designed for 24/7 operation, 365 days a year, and offer maximum reliability and availability. With Wall-Air, Tel-Air and Free-Air systems, you can cut the energy costs of your air-conditioning by up to 90%.

Closed-circuit air-conditioning – Free-Air with direct free cooling

Free-Air is especially suitable for retrofitting in existing shelters with comfort air-conditioning. Free-Air assumes the task of controlling the units, and activates them only when the ambient air is too warm to permit direct free cooling. Free-Air enables you to transform your existing system into an energy-efficient solution at low cost.



Tel-Air-2

Wall-Air

Free-Air



STULZ

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IT Cooling Solutions

Close to you all over the world.

... With specialist, competent partners in our subsidiaries and exclusive sales and service partners around the world. Our five production sites are in Europe, North America and Asia.