STULZ

CLIMATE. CUSTOMIZED.

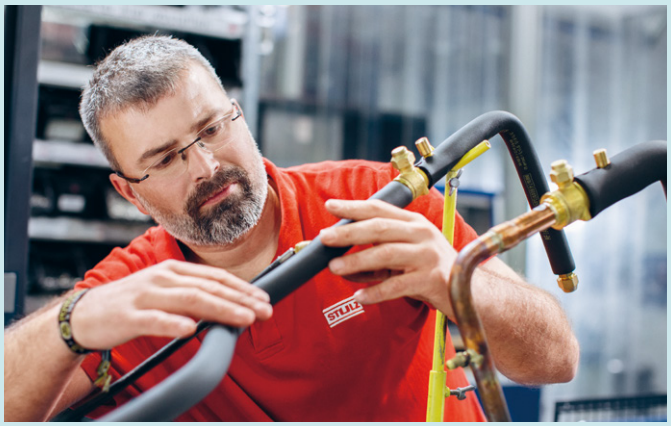
CyberCool 1

Chiller with Free Cooling for a minimal footprint

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. For our customers, we develop and produce air conditioning systems and chillers, plan individual air conditioning solutions, implement the systems and keep them up and running with our own Service.

Our headquarters are in Hamburg. With 19 subsidiaries, 10 production sites, and sales and service partners in more than 140 countries, we make sure we are close to our customers wherever they are in the world.



Technical peak performance from Germany
It is the combination of decades of experience and a continuous innovative spirit that makes STULZ unique. From engineers to customer advisers, we work in closely intertwined teams, which jointly develop and continually optimize our air conditioning and chiller systems throughout all stages of development. So it should come as no surprise that our systems are extremely reliable and durable, and set the benchmark for energy efficiency around the globe.

Service 24/7/365
In Germany, 140 highly qualified service engineers at 10 sites guarantee fast, expert solutions to your problems – around the clock. For 40 years, our customers have placed their trust in STULZ Service's technical expertise, comprehensive resources and seamless availability.

Minimal footprint, maximum cooling capacity

For many years, our CyberCool 1 units have been among STULZ's most energy-saving and reliable chiller solutions.
To increase energy efficiency, we have optimized our air cooled chiller and now offer the perfect solutions for applications in small and medium-sized data centers and in industrial and process engineering.

With the Free Cooling function of the CyberCool 1, now applications with a small cooling capacity can also benefit from Free Cooling.

Advantages at a glance

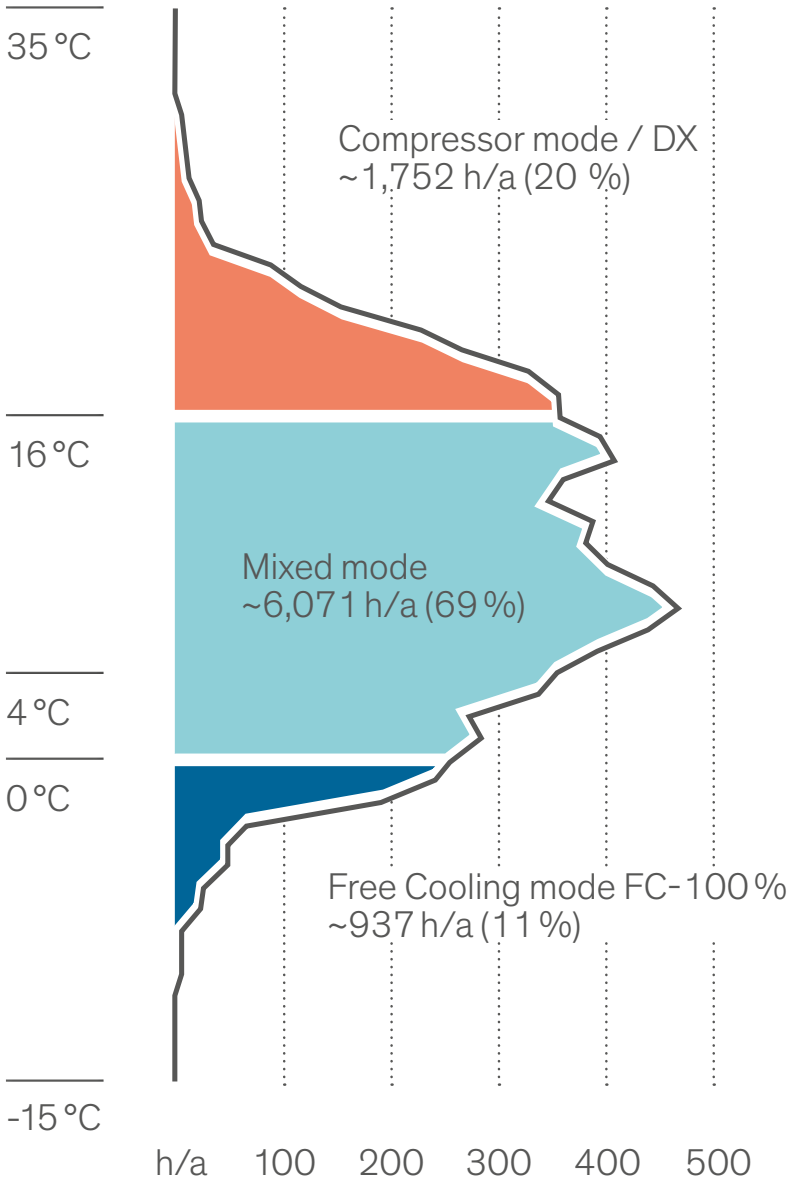
- Maximum potential savings thanks to Free Cooling
- Maximum cooling capacity with a minimal footprint
- Cools reliably and precisely
- Long service life
- Compact design for easier transport and installation
- Large variety of options
- Noise-reduced version available

Performance test for more transparency

At our test center, you can have CyberCool 1 units tested under your individual operating and site conditions.
This creates transparency and confirms the unit's performance and energy consumption.

Free Cooling also for a small cooling capacity

Hamburg



Basis for calculation: 30 % ethylene glycol

* Cold water inlet / outlet: 18 °C/12 °C
External air: 35 °C

Free Cooling is an intelligent solution for reducing energy-intensive compressor mode and dramatically cutting operating costs. Cooling with outside air is an excellent way of ensuring the required cooling capacity while simultaneously increasing energy efficiency, especially in temperate climates.

Even the smallest versions of our chiller are available with Free Cooling. This way, you can ensure your applications have the most energy-efficient operation with a small footprint.

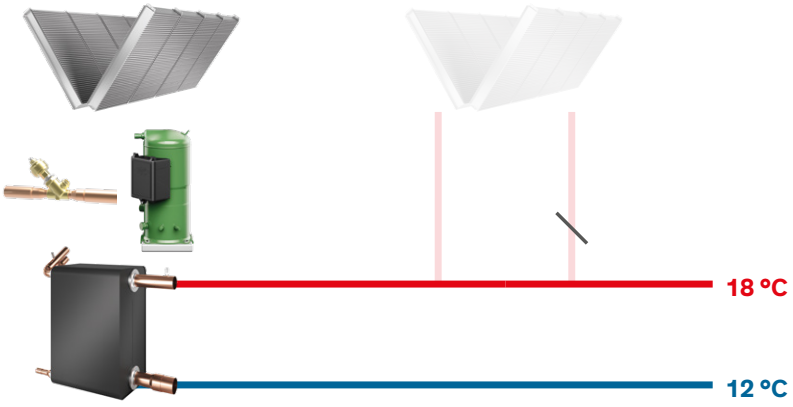
Free Cooling delivers energy savings of up to 40 %.

Operating modes

CyberCool 1 offers three operating modes and always determines the best mode in each case, depending on the outside temperature – reliably throughout the year, whatever the local temperature profile.

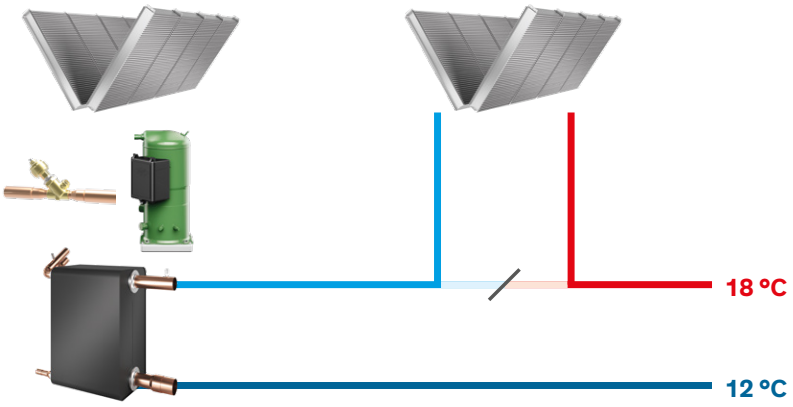
DX mode

At high outside temperatures, the entire cooling capacity is achieved using compressors. Thanks to state-of-the-art components, the CyberCool 1 also works efficiently in this mode.



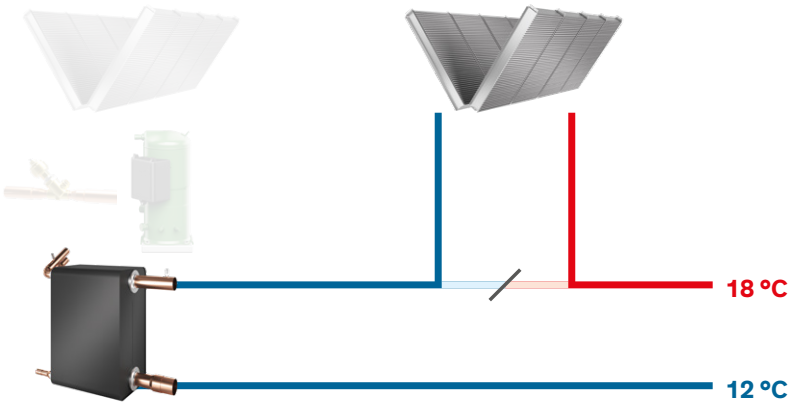
Mixed mode

Mixed mode is a combination of Free Cooling and compressor cooling. This mode uses the Free Cooling coils for pre-cooling the chilled water, and can therefore dramatically reduce the power consumption of the compressors.



Free Cooling

At low outside temperatures, the water is cooled solely by outside air. Energy consumption is reduced to a minimum.



Climate. Customized.
Project-specific adaptations

Thanks to the diverse options and equipment versions available, you can perfectly adapt CyberCool 1 chillers to your particular requirements.

- Free Cooling for maximum potential savings
- Compressor soft start to prevent current spikes
- Winter kit (down to –40 °C)
- Optional: Corrosion protection of all heat exchangers against aggressive ambient air, e.g. for installation sites near industrial facilities, by the sea, close to airports, and much more
- Coil protective grill as protection against large dirt particles and vandalism
- Hydraulic pump kits
- Integrated/separate buffer tank
- Frost protection heating (evaporators/buffer tank)
- Other supply voltage
- Summer kit (up to +45 °C)
- Liquid receiver
- Hot-gas bypass
- Rotalock valve on intake/pressure side
- Shock and vibration absorbers for damping vibrations
- And many additional options

System solutions from a single source

CyberCool 1 chillers achieve maximum energy efficiency in combination with STULZ CyberAir 3PRO CW air conditioning units. Each individual solution and component from STULZ has been selected and developed with the aim of reducing operating costs to a minimum.

The C7000 controller developed by STULZ networks and controls all units, and keeps everything working in perfect harmony.

Investing in the quality, reliability and efficiency of STULZ air conditioning and chiller solutions pays off during operation after just a short time.

You can find more information on the CyberAir 3PRO CW on our product page www.stulz.com/cyberair-3pro-cw

Controller

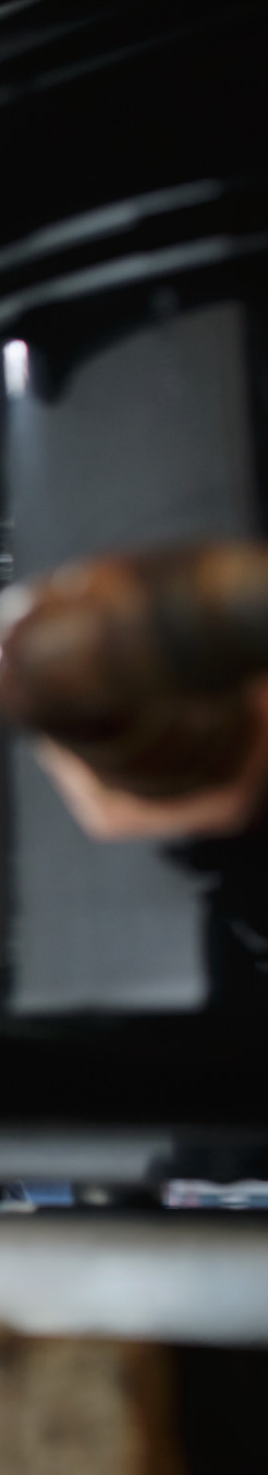
To ensure the highest possible standards when it comes to reliability and efficiency, the controller and chiller must work in perfect harmony. That is why here at STULZ we research and develop our controllers ourselves. The CyberCool 1 is ideal for integration in existing systems and can be controlled to perfection by the STULZ controller.

- Hardware and software developed in-house
- Project-specific software adaptations
- Connection to building automation systems: Compatible with all common BMS protocols
- Several chillers are operated in parallel
- Sequencing for runtime compensation/alarm switching
- Programming of customized emergency routines
- Sophisticated warning and alarm system

Reliability – Made in Germany

High-quality components from a leading brand manufacturer coupled with craftsmanship and engineering skill Made in Germany are a guarantee of high quality and reliable units over their entire lifecycle.

In order to satisfy STULZ quality requirements, CyberCool 1 chillers are subjected to post-production tests for performance, leakage and pressure resistance. This equipment function test is part of each production process, and is performed on our in-house test rig.



Technical data

CyberCool 1

CSO **1922** **A**

CyberCool chiller

Installation
O = outdoor

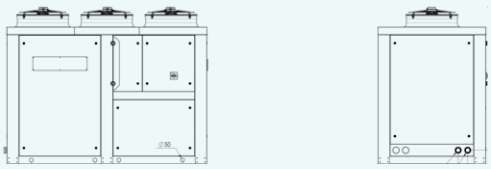
Noise class
S = standard
L = quiet (leise)

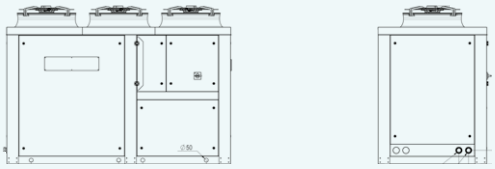
Nominal cooling capacity (kW)

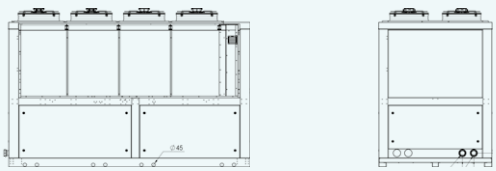
No. of refrigerant circuits
1 = 1 circuit
2 = 2 circuits

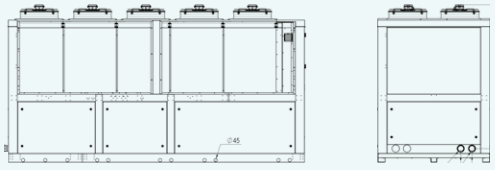
Refrigerant system
A = air cooled

Overview of sizes and nomenclature

BG 1	L × B × H (mm)
	2,500 × 1,350 × 1,945

BG 2	L × B × H (mm)
	2,800 × 1,350 × 1,945

BG 3	L × B × H (mm)
	3,000 × 1,500 × 2,125

BG 4	L × B × H (mm)
	4,000 × 1,500 × 2,125

Technical data

Standard version without Free Cooling

Model		CSO 391 A	CSO 541 A	CSO 601 A	CSO 681 A	CSO 771 A	CSO 1072 A	CSO 1192 A	CSO 1352 A	CSO 1582 A	CSO 2022 A	CSO 2342 A
Operating point 12 °C/7 °C [1]												
Cooling capacity	kW	38.7	52.4	58.6	66	75.5	104	116.2	131.5	154.4	197.9	229.6
Total power consumption	kW	13.9	18.1	20.1	22.3	26.6	37.7	41.8	47.8	54.6	69.7	81
EER		2.78	2.89	2.91	2.96	2.84	2.76	2.78	2.75	2.83	2.84	2.83
Noise												
Noise level at a distance of 1 m [2]	dB(A)	66	67	68	69	70	71	71	71	73	71	73
Dimensions												
Length	mm	2,500	2,500	2,500	2,500	2,500	3,000	3,000	3,000	3,000	4,000	4,000
Width	mm	1,350	1,350	1,350	1,350	1,350	1,500	1,500	1,500	1,500	1,500	1,500
Height	mm	1,945	1,945	1,945	1,945	1,945	2,125	2,125	2,125	2,125	2,125	2,125
Empty weight	kg	720	777	787	806	818	1,466	1,471	1,519	1,546	2,010	2,033
Operating weight	kg	734	792	804	823	839	1,490	1,498	1,550	1,582	2,054	2,080

Noise-reduced version without Free Cooling

Model		CLO 391 A	CLO 541 A	CLO 601 A	CLO 681 A	CLO 771 A	CLO 1192 A	CLO 1352 A	CLO 1582 A
Operating point 12 °C/7 °C [1]									
Cooling capacity	kW	37.9	52.4	58.6	66.1	77.4	116.2	131.8	154.6
Total power consumption	kW	14.3	18.1	20.1	23.2	26.7	43.5	49.3	56.2
EER		2.66	2.89	2.91	2.84	2.9	2.67	2.67	2.75
Noise									
Noise level at a distance of 1 m [2]	dB(A)	59	60	61	61	62	63	62	64
Dimensions									
Length	mm	2,500	2,500	2,500	2,800	2,800	3,000	4,000	4,000
Width	mm	1,350	1,350	1,350	1,350	1,350	1,500	1,500	1,500
Height	mm	1,945	1,945	1,945	1,945	1,945	2,125	2,125	2,125
Empty weight	kg	720	777	787	871	881	1,494	1,759	1,789
Operating weight	kg	734	792	804	890	901	1,520	1,794	1,828

Comments:

Unless otherwise specified, all data are based on standard versions of the units.

[1] Chilled water inlet/outlet: 12 °C/7 °C, outside air: 35 °C, ethylene glycol: 30 %

[2] Noise level at a distance of 1 m in free-field conditions (to ISO 3744)

Standard version with Free Cooling

Model		CSO 391 A	CSO 541 A	CSO 601 A	CSO 681 A	CSO 771 A	CSO 1072 A	CSO 1192 A	CSO 1352 A	CSO 1582 A	CSO 2022 A	CSO 2342 A
Operating point 12 °C/7 °C [1]												
Cooling capacity	kW	38.7	52.4	58.6	66	75.5	104	116.2	131.5	154.4	197.9	229.6
Total power consumption	kW	13.9	18.1	20.1	22.3	26.6	37.7	41.8	47.8	54.6	69.7	81
EER		2.58	2.73	2.76	2.82	2.73	2.69	2.71	2.68	2.76	2.77	2.78
Noise												
Noise level at a distance of 1 m [2]	dB(A)	66	67	68	69	70	71	71	71	73	71	73
Dimensions												
Length	mm	2,500	2,500	2,500	2,500	2,500	3,000	3,000	3,000	3,000	4,000	4,000
Width	mm	1,350	1,350	1,350	1,350	1,350	1,500	1,500	1,500	1,500	1,500	1,500
Height	mm	1,945	1,945	1,945	1,945	1,945	2,125	2,125	2,125	2,125	2,125	2,125
Empty weight	kg	720	777	787	806	818	1,466	1,471	1,519	1,546	2,010	2,033
Operating weight	kg	734	792	804	823	839	1,490	1,498	1,550	1,582	2,054	2,080

Noise-reduced version with Free Cooling

Model		CLO 391 A	CLO 541 A	CLO 601 A	CLO 681 A	CLO 771 A	CLO 1192 A	CLO 1352 A	CLO 1582 A
Operating point 12 °C/7 °C [1]									
Cooling capacity	kW	37.9	52.4	58.6	66.1	77.4	116.2	131.8	154.6
Total power consumption	kW	14.3	18.1	20.1	23.2	26.7	34.5	49.3	56.2
EER		2.47	2.73	2.76	2.82	2.88	2.59	2.58	2.67
Noise									
Noise level at a distance of 1 m [2]	dB(A)	59	60	61	61	62	63	62	64
Dimensions									
Length	mm	2,500	2,500	2,500	2,800	2,800	3,000	4,000	4,000
Width	mm	1,350	1,350	1,350	1,350	1,350	1,500	1,500	1,500
Height	mm	1,945	1,945	1,945	1,945	1,945	2,125	2,125	2,125
Empty weight	kg	720	777	787	871	881	1,494	1,759	1,789
Operating weight	kg	734	792	804	890	901	1,520	1,794	1,828

STULZ Company Headquarters

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

STULZ Subsidiaries

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

STULZ Australia Pty. Ltd.
34 Bearing Road
Seven Hills NSW 21 47
Tel. +61 (2) 96 74 47 00
sales@stulz.com.au

STULZ Austria GmbH
Industriezentrum NÖ – SÜD,
Straße 15, Objekt 77, Stg. 4, Top 7
2355 Wiener Neudorf
Tel. +43 1 615 99 81-0
info@stulz.at

STULZ Belgium BVBA
Tervurenlaan 34
1040 Brussels
Tel. +32 (470) 29 20 20
info@stulz.be

STULZ Brasil
Ar Condicionado Ltda.
Rua Cancioneiro de Évora, 140
Bairro - Santo Amaro São
Paulo-SP, CEP 04708-010
Tel. +55 11 4163 4989
comercial@stulzbrasil.com.br

STULZ Air Technology and
Services Shanghai Co., Ltd.
Room 406, Building 5
457 North Shanxi Road
Shanghai 200040
Tel: + 86 21 3360 7101
info@stulz.cn

STULZ France S. A. R. L.
107, Chemin de Ronde
78290 Croissy-sur-Seine
Tel. +33 (1) 34 80 47 70
info@stulz.fr

STULZ-CHSPL (India) Pvt. Ltd.
006, Jagruti Industrial Estate
Mogul Lane, Mahim
Mumbai - 400 016
Tel. +91 (22) 56 66 94 46
info@stulz.in

PT STULZ Air Technology
Indonesia
Kebayoran Square blok KQ unit A-01
Jalan Boulevard Bintaro Jaya,
Bintaro Sektor 7,
Tangerang Selatan 15229
Tel. +62 21 2221 3982
info@stulz.id

STULZ S.p.A.
Via Torricelli, 3
37067 Valeggio sul Mincio (VR)
Tel. +39 (045) 633 1600
info@stulz.it

STULZ México S.A. de C.V.
Avda. Santa Fe No. 170
Oficina 2-2-08, German Centre
Delegación Alvaro Obregon
MX- 01210 México
Distrito Federal
Tel. +52 (55) 52 92 85 96
ventas@stulz.com.mx

STULZ GROEP B. V.
Postbus 75
180 AB Amstelveen
Tel. +31 (20) 54 51 111
stulz@stulz.nl

STULZ New Zealand Ltd.
Unit 0, 20 Cain Road
Penrose, Auckland 1061
Tel. +64 (9) 360 32 32
sales@stulz.co.nz

STULZ Polska SP. Z O.O.
Budynek Mistral.
Al. Jerozolimskie 162
02 – 342 Warszawa
Tel. +48 (22) 883 30 80
info@stulz.pl

STULZ Singapore Pte Ltd.
1 Harvey Road
#04-00 Tan Heng Lee Building
Singapore 369610
Tel. +65 6749 2738
sales@stulz.sg

STULZ South Africa Pty. Ltd.
Unit 3, Jan Smuts Business Park
Jet Park, Boksburg
Gauteng, South Africa
Tel. +27 (0) 11 397 2363
aftersales@stulz.co.za

STULZ España S.A.
Calle Carabaña, 25C
28925 Alcorcón (Madrid)
Tel. +34 (91) 517 83 20
info@stulz.es

STULZ Sverige AB
Västertorpsvägen 135
129 44 Hägersten
Stockholm, Sweden
Tel. +46 8 12157550
info@stulzsverige.se

STULZ U. K. Ltd.
First Quarter,
Blenheim Rd. Epsom
Surrey KT 19 9 QN
Tel. +44 (1372) 74 96 66
sales@stulz.co.uk

STULZ AIR TECHNOLOGY
SYSTEMS (STULZ USA) , INC.
1572 Tilco Drive
Frederick, MD 21704
Tel. +1 (301) 620 20 33
info@stulz-ats.com

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.