IT Cooling Solutions

CyberAir CWE/CWU

Precision air-conditioner unit for chilled water operation

STULZ

Energy efficiency in four sizes

CyberAir CWE/CWU air-conditioning systems deliver maximum cooling capacity. Each unit is made up of two modules, and with their standard door format they are easy to transport and flexible in their data centre installation options.
Maintenance-free high-efficiency EC fans inside the separate module and variable control concepts greatly reduce energy consumption and cut operating costs.

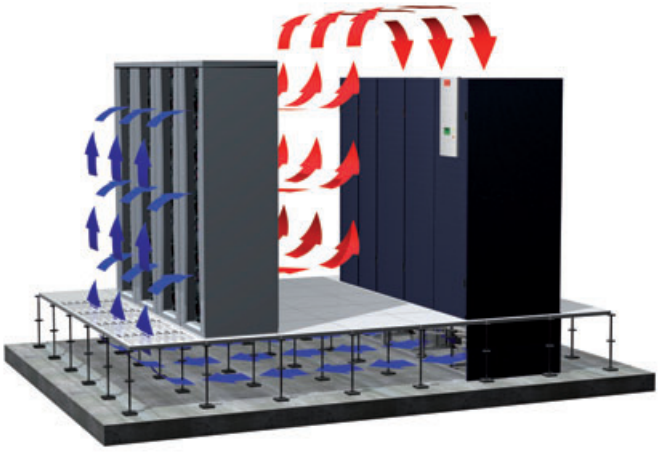
New: CyberAir 3 ASD 2050 with new fibreglass-reinforced plastic wheel fan

Working in combination with modern, free cooling chillers, STULZ CyberAir CWE/CWU air conditioners ensure energy-efficient operation and, depending on the system's location, can considerably reduce the running costs of the system as a whole.

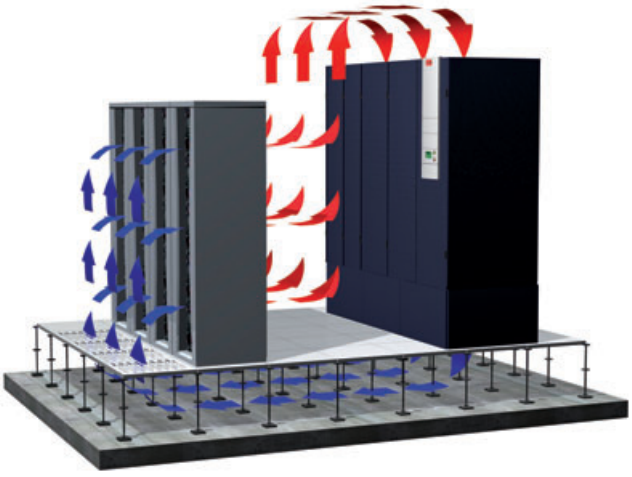
When planning the system layout, an allowance should be made for high chilled water temperatures, to ensure that the proportion of Free Cooling can be maximised to suit the annual operating hours.

Other technical features of the CyberAir CWE/CWU series

- Maximum useful cooling capacity with greatly reduced power input
- Flexible installation according to available space and site conditions
- C7000 controller/CW standby management
- Very service-friendly, with front access
- Energy-optimised heat exchanger for high water and return air temperatures

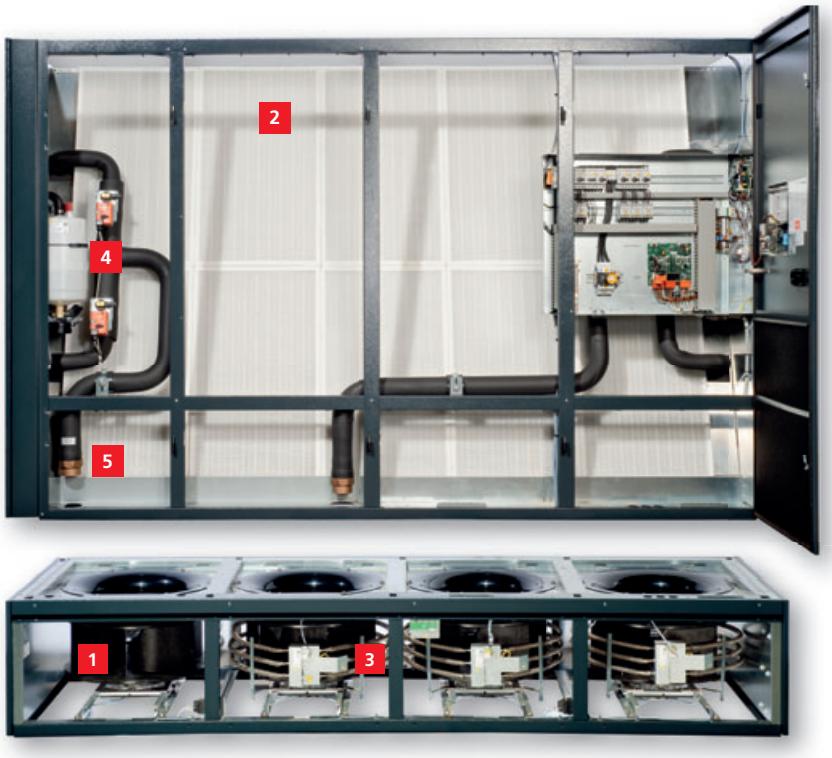


CWU version:
Fan unit installed under raised floor (power input of fans is up to 35 % less than when installed on the raised floor)



CWE version:
Fan unit installed on raised floor when height of raised floor is insufficient

CyberAir CWE/CWU



1. Reduced fan power consumption thanks to a new fan size with a diameter of 595 mm
2. More cooling capacity with optimized coil and filter surface
3. 4 EC fans with fibreglass-reinforced plastic wheel
4. 2-way valve
5. Different pipe connections available

Only components of the highest quality are developed for precision air-conditioning systems from STULZ. To develop them, we seek the cooperation of select engineering partners such as ebm-papst, who designed a fan with a fibreglass-reinforced plastic wheel according to demanding specifications from STULZ who designed a fan with a fibreglass-reinforced plastic wheel and vane-type blades precisely in line with STULZ specifications.

With the latest production techniques, it is possible to produce fully formed 3-D wheels that increase fan surface and reduce noise - and are a perfect fit for CyberAir.

The CyberAir ASD 2050 and 2400 units are only available with new fibreglass-reinforced plastic wheel fan.

The new R3G 595 fan was developed by STULZ and ebm-papst exclusively for use in STULZ precision air-conditioning systems.

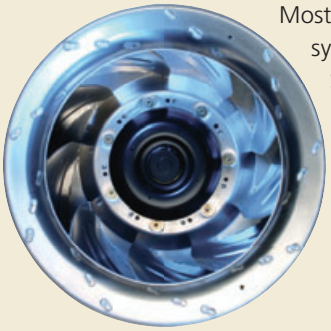
For the CyberAir ASD 2050 and 2400 units, we attacked the problem from the inside, using computational fluid dynamics (CFD) systems to analyse and build the new air conditioner according to air flow considerations. With the CFD analysis, we were able to find all areas in the air conditioner that have a negative effect on air flow and performance.

Thanks to the new fan and the CFD simulations, CyberAir has even better air conduction and takes full advantage of the positive effects that has on efficient operation.

The new units with 4 EC-fans are available in 2 sizes

CyberAir CWE/CWU

1. Optimised CW heat exchanger with low air and water-side pressure drop
2. Longer life and reduced pressure drop thanks to enlarged filter area
3. 3 EC fans
4. 2-way valve
5. Different pipe connections available



Most of the energy consumed in the data centre vanishes unused, because conventional air-conditioning systems react too slowly to changing load situations. But the intelligent electronic processor of the STULZ CyberAir regulates the output of fans and cooling circuit valves as quick as a flash and with the utmost precision.

The fans of the CyberAir ASD 1300 and 1600 units are powered as standard by the energy-saving EC DC motors.

The CyberAir units with 3 EC-fans are available in 2 sizes

Technical data

Technical data of CyberAir CWE / CWU									
Unit type		**ASD 2050 CWE/CWU**				**ASD 2400 CWE/CWU**			
Cooling capacity (total)	kW	196.8	217.7	213.3	238.4	222.1	233.4	237.4	250.4
Cooling capacity (sensible) kW	kW	166.5	217.7	183.7	238.4	182.0	233.4	196.1	250.4
Airflow	m³/h	42,000	42,000	47,000	47,000	44,000	44,000	48,000	48,000
Return air temperature	°C	24	30	24	30	24	30	24	30
Return air humidity	% rel.	50	30	50	30	50	30	50	30
Medium inlet temperature	°C	7	10	7	10	7	10	7	10
Medium outlet temperature	°C	12	15	12	15	12	15	12	15
Glycol content	%	0							
Number of fans (data per unit)		4							
Power consumption CWE[1]	kW	8.1	8.1	11.3	11.3	8.7	8.7	11.2	11.2
Power consumption CWU[1, 2]	kW	6.2	6.2	8.6	8.6	6.5	6.5	8.4	8.4
Width	mm	3,110				3,350			
Height	mm	2,495				2,495			
Depth	mm	980				980			
Humidifier capacity max.	kg/h	15							
Filter class		F5							
Heater									
Max. heating steps		3				3			
Max. heating capacity per step	kW	9				9			
Max. overall heating capacity	kW	27				27			

Technical data of CyberAir CWE / CWU									
Unit type		**ASD 1300 CWE/CWU**				**ASD 1600 CWE/CWU**			
Cooling capacity (total)	kW	126.4	120.5	132.2	129.8	151.4	147.2	166.5	165.3
Cooling capacity (sensible)	kW	97.9	120.5	104.5	129.8	118.9	147.2	133.2	165.3
Airflow	m³/h	22,000	22,000	24,000	24,000	27,000	27,000	31,000	31,000
Return air temperature	°C	24	30	24	30	24	30	24	30
Return air humidity	% rel.	50	30	50	30	50	30	50	30
Medium inlet temperature	°C	7	10	7	10	7	10	7	10
Medium outlet temperature	°C	12	15	12	15	12	15	12	15
Glycol content	%	0							
Number of fans (data per unit)		2				3			
Power consumption CWE[1]	kW	4.0	4.0	5.2	5.2	4.1	4.1	6.0	6.0
Power consumption CWU[1,2]	kW	2.8	2.8	3.6	3.6	2.8	2.8	4.2	4.2
Width	mm	2,150				2,550			
Height	mm	2,495							
Depth	mm	890							
Humidifier capacity max.	kg/h	15							
Filter class		F5							
Heater									
Max. heating steps		2				3			
Max. heating capacity per step	kW	9				9			
Max. overall heating capacity	kW	18				27			

Remarks: All data apply at 400 V/3 ph/50 Hz with 20 Pa ESP (external static pressure)
[1] The electric power consumption of the fans must be added to the room load
[2] Measured at a height of raised floor = 900 mm

Coil with
hydrophilic cooling fins

Optional
steam humidifier

EC fan with
optional electric heater

C7000 IOC with
optional expansion board

STULZ Company Headquarters

D **STULZ GmbH**
Holsteiner Chaussee 283 · 22457 Hamburg
Tel.: +49(40)55 85-0 · Fax: +49(40)55 85 352 · products@stulz.de

STULZ Subsidiaries

AUS **STULZ AUSTRALIA PTY. LTD.**
34 Bearing Road · Seven Hills NSW 21 47
Tel.: +61(2)96 74 47 00 · Fax: +61(2)96 74 67 22 · sales@stulz.com.au

AT **STULZ AUSTRIA GmbH**
Lamezanstraße 9 · 1230 Wien
Tel.: +43(1)615 99 81-0 · Fax: +43(1)616 02 30 · info@stulz.at

CN **STULZ AIR TECHNOLOGY AND SERVICES SHANGHAI CO., LTD.**
5505 room, 1486 Nanjing W Rd. JingAn · Shanghai 200040 · P.R. China
Tel.: +86(21) 3360 7133 · Fax: +86(21) 3360 7138 · info@stulz.cn

E **STULZ ESPAÑA S.A.**
Avenida de los Castillos 1034 · 28918 Leganés (Madrid)
Tel.: +34(91)517 83 20 · Fax: +34(91)517 83 21 · info@stulz.es

F **STULZ FRANCE S. A. R. L.**
107, Chemin de Ronde · 78290 Croissy-sur-Seine
Tel.: +33(1)34 80 47 70 · Fax: +33(1)34 80 47 79 · info@stulz.fr

GB **STULZ U. K. LTD.**
First Quarter · Blenheim Rd. · Epsom · Surrey KT 19 9 QN
Tel.: +44(1372)74 96 66 · Fax: +44(1372)73 94 44 · sales@stulz.co.uk

I **STULZ S.P.A.**
Via Torricelli, 3 · 37067 Valeggio sul Mincio (VR)
Tel.: +39(045)633 16 00 · Fax: +39(045)633 16 35 · info@stulz.it

IN **STULZ-CHSPL (INDIA) PVT. LTD.**
006, Jagruti Industrial Estate · Mogul Lane, Mahim · Mumbai - 400 016
Tel.: +91(22)56 66 94 46 · Fax: +91(22)56 66 94 48 · info@stulz.in

NL **STULZ GROEP B. V.**
Postbus 75 · 1180 AB Amstelveen
Tel.: +31(20)54 51 111 · Fax: +31(20)64 58 764 · stulz@stulz.nl

NZ **STULZ NEW ZEALAND LTD.**
Office 71, 300 Richmond Rd. · Grey Lynn · Auckland
Tel.: +64(9)360 32 32 · Fax: +64(9)360 21 80 · sales@stulz.co.nz

PL **STULZ POLSKA SP. Z O.O.**
Budynek Mistral · Al. Jerozolimskie 162 · 02 – 342 Warszawa
Tel.: +48(22)883 30 80 · Fax: +48(22)824 26 78 · info@stulz.pl

SG **STULZ SINGAPORE PTE. LTD.**
1 Kaki Bukit Road 1 · #02-44 Enterprise One · Singapore 415934
Tel.: +65 9674 3772 · andrew.peh@stulz.sg

USA **STULZ AIR TECHNOLOGY SYSTEMS (SATS), INC.**
1572 Tilco Drive · Frederick, MD 21704
Tel.: +1(301)620 20 33 · Fax: +1(301)662 54 87 · info@stulz-ats.com

ZA **STULZ SOUTH AFRICA PTY. LTD.**
Unit 18, Jan Smuts Business Park · Jet Park · Boksburg · Gauteng, South Africa
Tel.: +27(11)873 68 06 · Fax: +27(0)86 729 2313 · aftersales@stulz.co.za

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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.

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