



IT Cooling Solutions

# CyberCool Chillers



**STULZ**



# STULZ quality – now setting standards in chiller technology

Through our commitment to product development and quality control, STULZ has established a leading position in air-conditioning technology.

To meet the changing needs of the global market, our product portfolio has now been extended to include the new **CyberCool** Chiller range.

- High-quality components from leading brand manufacturers and production certified to ISO 9001:2000 ensure the high level of quality and reliability you expect throughout the units' life.



- **CyberCool** presents a comprehensive range of compact chillers with cooling capacities from 36 to 235 kW, offering optimum choice and flexibility. CyberCool can be tailored to match your installation requirements through a range of standard options and intelligent control strategies, which make them amongst the most environmental friendly and energy-saving chillers on the market.
- STULZ is renowned for its dependable applications advice together with the high level of technical support and after-sales service provided throughout installation, commissioning and maintenance.





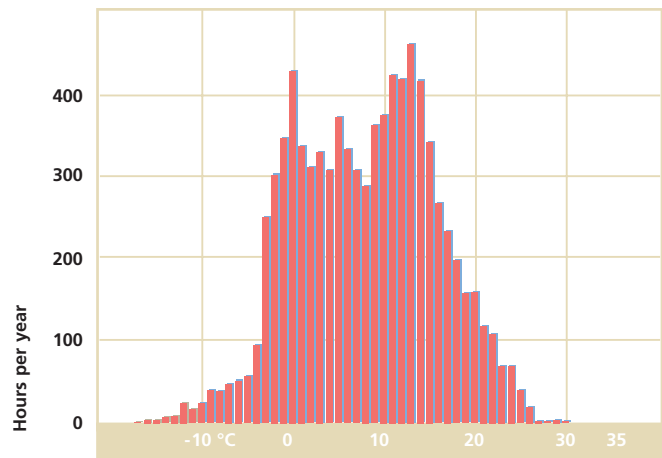
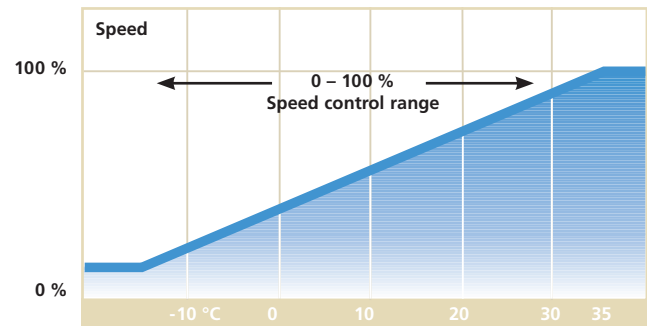
# CyberCool CSO series for maximum efficiency throughout the year

CyberCool Chillers are designed to work reliably and with the highest efficiency, all year round, regardless of local ambient temperature conditions. The chiller uses sophisticated, demand-driven control strategies, with free cooling to take advantage of lower temperatures. This cuts back on compressor operation and generates energy savings of up to 40 %.

**CyberCool units are designed for energy-saving and quiet operation.**

- Speed-controlled condenser fans for slow-running operation at low outside temperatures
- Quiet and highly efficient scroll compressors
- Reduced noise emission through timing control

Energy is saved thanks to fan speed control based on external temperatures



Statistical temperature profile using the city of Munich as an example

- Compact, fully packaged and pre-wired chillers for external installation
- Simple and rapid installation and commissioning
- 3 sizes and 11 models with a capacity range from 36 to 235 kW
- External temperature range from -10 °C to +40 °C as standard

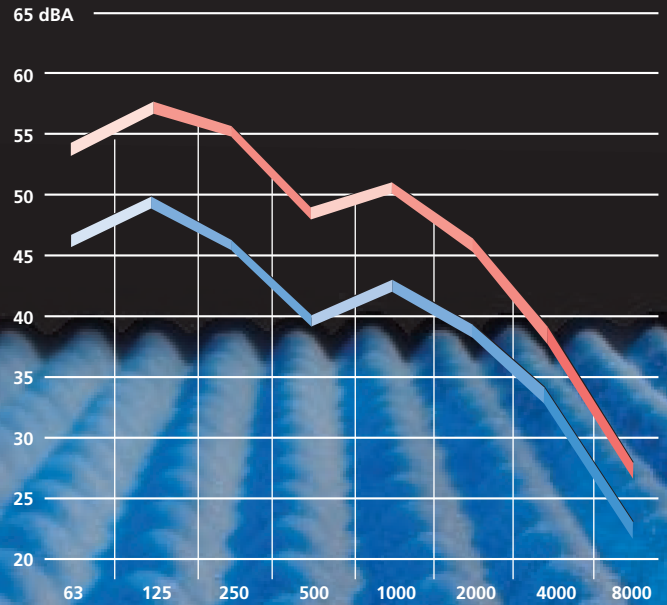


## Flexibility and reliability

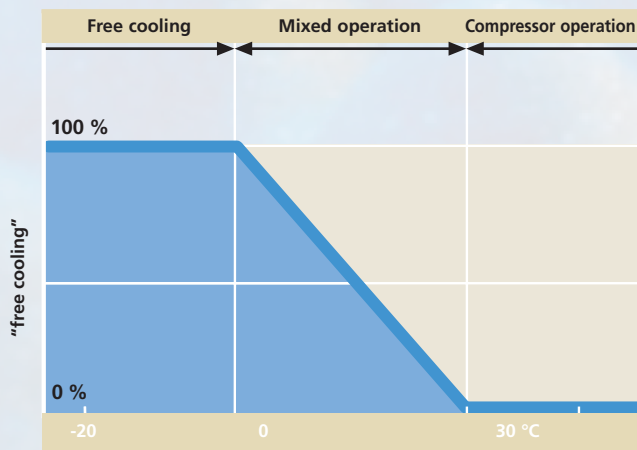
- Air-conditioning technology – from comfort to precision units
- Industrial technology
- Process engineering



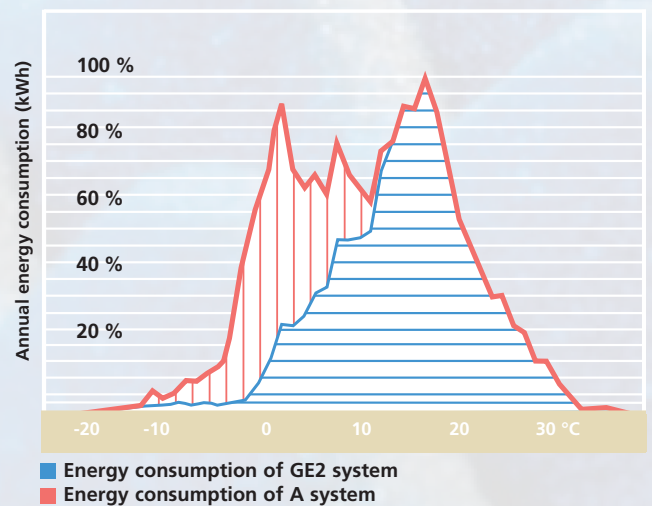
Sound spectrum of CyberCool CLO design compared with other standard chiller units



Energy saving through free cooling and mixed operation



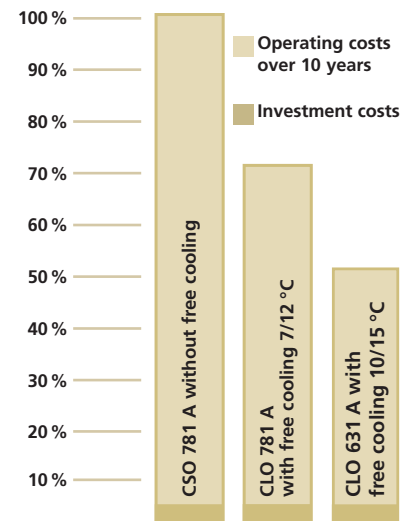
Comparison of annual energy consumption of an air-cooled system (A) and a GE2 free cooling system



# CyberCool CLO series – the new league in energy and noise reduction

Environmental compatibility and the consideration of life cycle costs play a major part when selecting chiller units. CyberCool units in CLO design have distinct advantages in this respect:

- Reduction in life cycle costs. Free cooling operation is available as an option across the complete CyberCool range. The free cooling control strategy makes the best possible use of local ambient conditions, minimizing running costs and maximizing the chillers' operating life.
- Acoustically lined compressor enclosure
- Sound-optimised design of condenser fans in the low speed range
- Noise level reduced by up to 10 dBA, corresponding to a halving of the perceived noise



Life cycle costs for 10 years without and with free cooling



CLO 1272A with optional extras



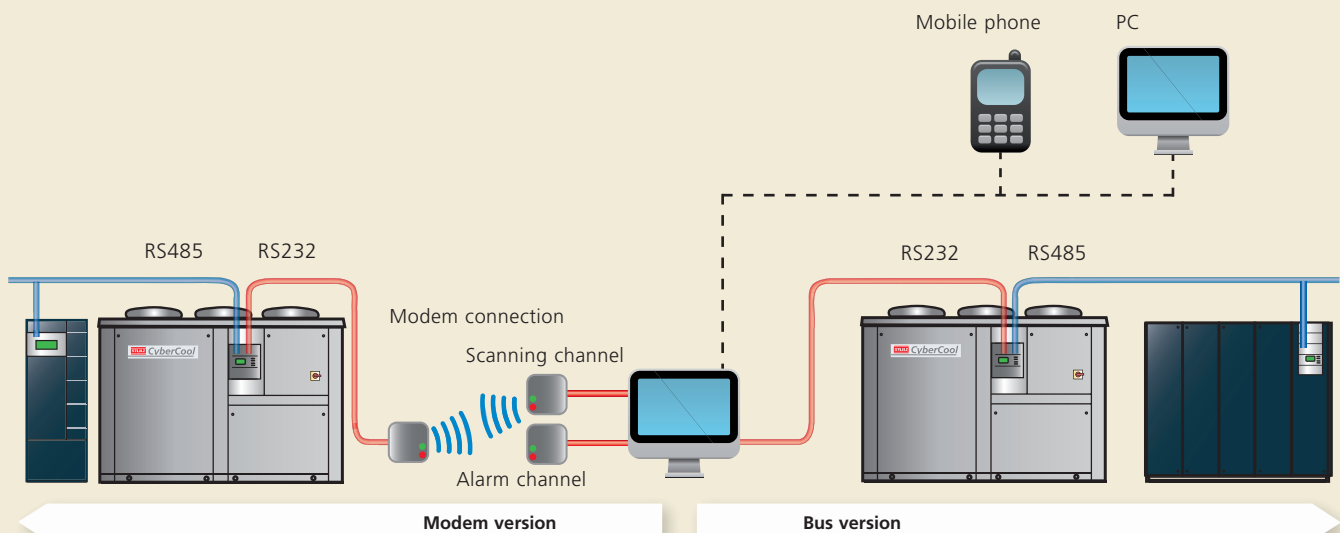
# C6000 – Sophisticated control system for intelligent operation

CyberCool Chillers have the benefit of the STULZ C6000 enhanced microprocessor controller, which offers sophisticated control capabilities. This controller incorporates a convenient LCD interface that is highly regarded by clients of STULZ air-conditioning systems.

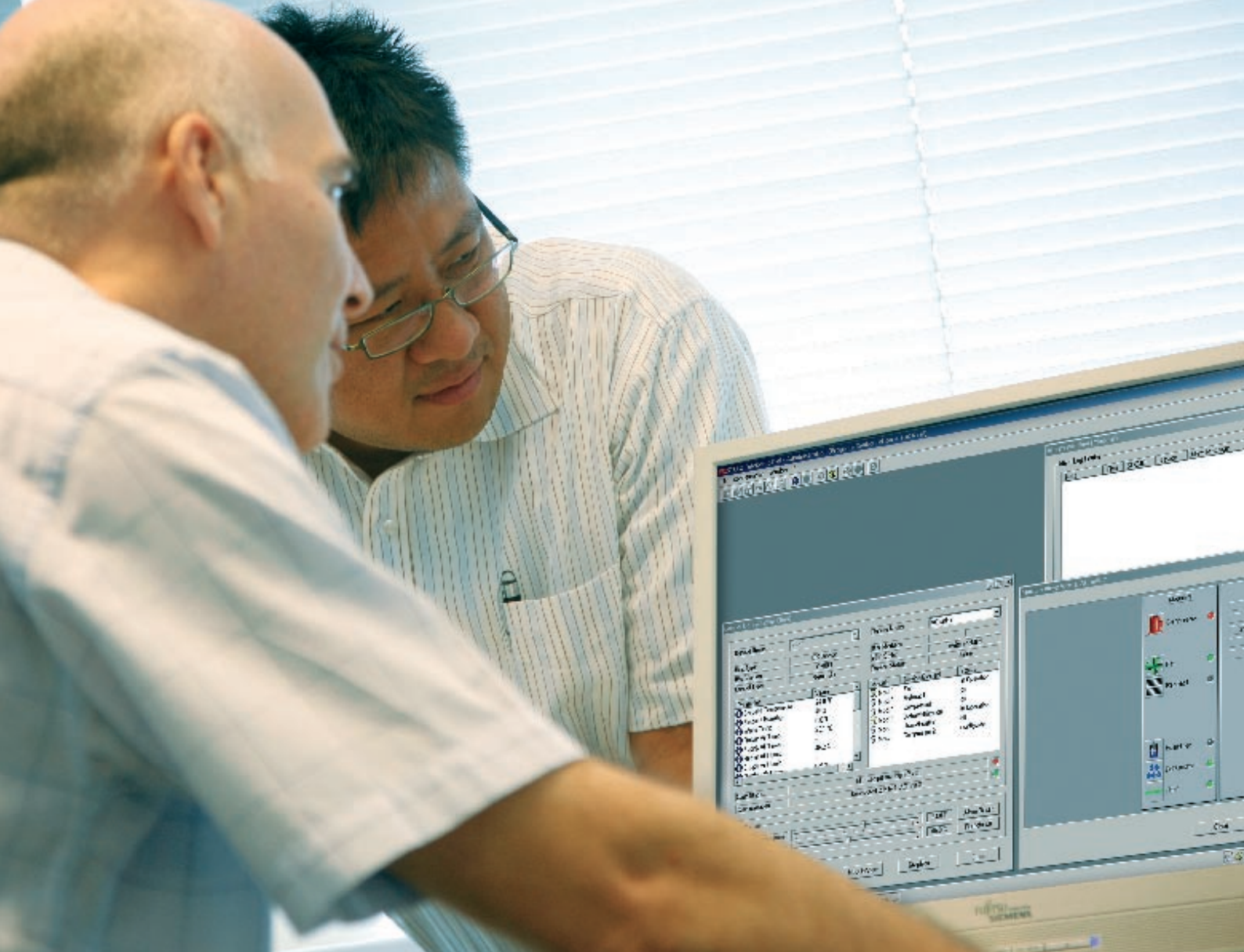
- Factory settings allow rapid and uncomplicated commissioning.
- Self-explanatory user guidance in Windows technology and several languages.

## Connection of up to 32 STULZ units (CyberCool, air-conditioning units) via the C6000 MIB gateway:

- STULZ Tele CompTrol building management system via direct bus or modem
- BMS of recognised manufacturers via Modbus
- Communication via IP protocols SNMP, HTTP







# C6000 connectivity network solutions for in-house and remote monitoring

## The STULZ Tele CompTrol BMS system

- Monitoring and control of STULZ chillers and air-conditioning units
- Graphic display of all unit parameters
- Monitoring, sending and storing of unit alarms
- Alarm forwarding with fault message to PC or mobile phone via SMS

BMS supplier	Data protocol	Gateways for the STULZ C6000 controller system
STULZ, TeleCompTrol Other suppliers	SDC Modbus RTU	MIB7000
Other suppliers Other suppliers	SNMP HTTP	WIB8000

# Options providing the perfect solution for every application



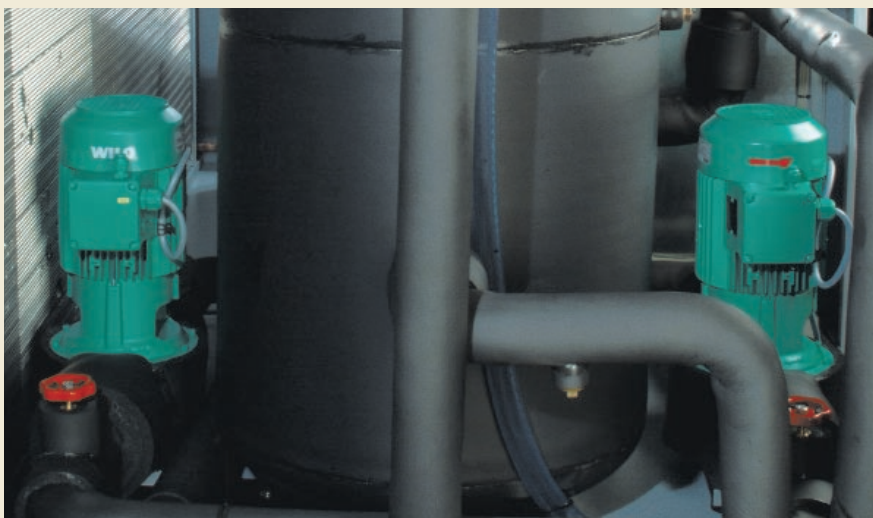
## Mechanical options

- Anti-vibration mounts
- Special paint finishes
- Panel/floor panel system



## Options for the water circuit

- Water pressure gauge
- Throttle valve
- Hydraulic kit 1 (pump plus accessories)
- Hydraulic kit 2 (as kit 1 plus standby pump)
- Hydraulic kit 3 (as kit 1, but with speed-controlled pump)
- Hydraulic kit 4 (as kit 3 plus speed-controlled standby pump)
- Integrated/separate buffer tank
- Free-cooling operation
- Evaporator and pipework trace heating
- Water filter



Optional pump packages



Optional pressure gauge





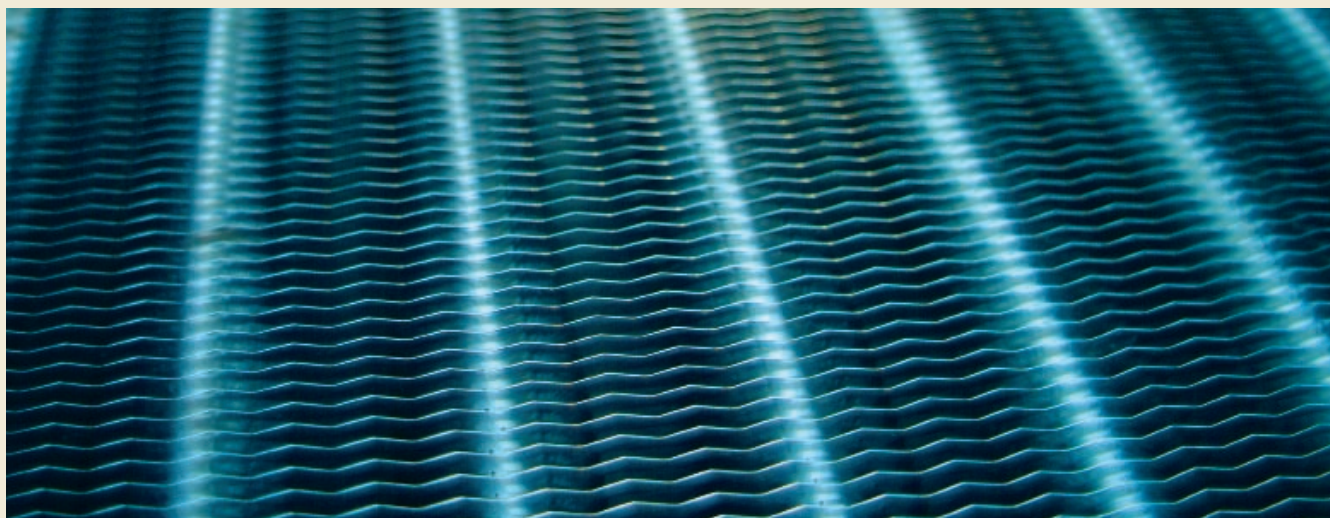
#### Options for control and electrics

- Temperature transmitter in flow pipe
- Flow pipe control
- Phase monitoring
- Remote On/Off connection
- BMS volt-free contacts
- BMS multi-interface board
- Power factor correction
- Remote operation
- Tele CompTrol remote control software
- Alternative supply voltages
- Outside temperature sensor
- C6000 extended function board
- Compressor soft start
- Signal lamp for status/fault messages
- Electrical panel heating



#### Options for the cooling circuit

- Copper/copper cooling coil
- Coil corrosion protection
- Coil anti-vandal guard
- Solenoid valve in liquid pipes
- Liquid refrigerant receiver 24 l
- High/low pressure gauge
- Hot gas bypass
- High temperature kit
- Winter kit
- Pumpdown kit



Optional free cooling



# You can rely on STULZ

## Expert advice and planning support

Early planning support and expert advice set the course for achieving the best possible project solution. Stulz is renowned for its dependable applications advice, with 35 years of experience in air-conditioning technology. Through load calculations and energy analysis for CyberCool Chillers, STULZ can assist the planning engineer and system designer with project development.

## Rapid installation and commissioning

CyberCool Chillers are of a compact design that is factory assembled and pre-wired to offer a fully packaged solution ready for connection to power and water services. This ensures a rapid and uncomplicated installation for the contractor and very straightforward commissioning. The controls are factory set, and any necessary adjustments to the operating parameters can be carried out on site by following the clear operating instructions provided. In addition, STULZ specialists are happy to assist with commissioning, testing and certification.

CyberCool Chillers are manufactured from high-quality materials and components that have been checked and repeatedly tested during production. In the unlikely event of a fault, STULZ customer service is available at all times to ensure the continuous availability of the system.

## Professional documentation

To assist the planning engineer and system designer from tender submission to project completion, STULZ provides professional documentation in the form of technical manuals, planning software and layout drawings.

## Customer service without delay





- Expert advice and planning support
- Customer service without delay
- Rapid installation and commissioning
- Professional documentation

# Technical specifications of the CyberCool CSO series

Model	CSO xxx A	361	441	511	631	781	882	1022	1272	1572	1922	2352
<b>Standard version</b>												
<b>Technical specifications:</b>												
Cooling capacity <sup>1)</sup>	kW	36.0	44.4	51.4	63.6	71.9	88.8	102.8	127.2	157.2	192.0	235.0
Performance levels		2	2	2	2	2	4	4	4	4	6	6
<b>Noise data</b>												
Sound level <sup>2)</sup>	dBA	55	56	57	58	59	63	62	62	64	62	65
<b>Compressor</b>												
Compressor type		Scroll										
Number of compressors		2	2	2	2	2	4	4	4	4	6	6
Cooling circuits		1	1	1	1	1	2	2	2	2	2	2
Oil type		Diester oil										
Oil quantity (per circuit)	l	4	4	4	4	4	8	8	8	8	12	12
Energy consumption	kW	11.9	14.3	16.4	20.5	24.6	28.7	32.7	41.0	49.2	61.5	73.7
<b>Coolant</b>												
Coolant type		R407c										
Filling level	kg	16.0	17.2	18.0	20.0	23.5	2 x 16.0	2 x 17.5	2 x 19.0	2 x 23.0	2 x 24.5	2 x 26.0
<b>Evaporator</b>												
Evaporator type		Plate evaporator										
Cold water quantity	m³/h	6.7	8.2	9.5	11.8	13.3	16.5	19.1	23.6	29.2	35.6	43.6
Pressure loss, water-side	kPa	57	60	61	56	51	32	36	32	35	42	54
Water connection (internal thread)		DN 50	DN 50	DN 50	DN 50	DN 50	DN 60	DN 60	DN 60	DN 72	DN 72	DN 84
<b>Fan</b>												
Fan type		Axial fan										
Number (A/B) <sup>3)</sup>		3	3	3	3	3	4/8	6/8	8	8	10	10
Nominal fan power	kW	0.66	0.66	0.66	0.66	0.66	0.86	0.86	0.86	0.86	0.86	0.86
Air quantity	m³/h	8,600	11,000	13,200	17,000	22,500	23,300	28,000	36,700	48,500	56,600	75,500
<b>Weight</b>												
Shipping weight	kg	780	780	785	800	840	1,526	1,596	1,675	1,715	2,092	2,210
<b>Electrical data</b>												
Voltage supply	V/Ph/Hz	380-415/3~/50,N										
Power consumption, max.	kVA	22.7	26.3	29.8	33.9	40.1	51.0	60.3	72.8	84.8	106.7	125.1
Operating current, max.	A	32.7	38.0	43.0	48.9	57.8	74.3	87.6	105.7	123.5	154.6	181.2
Starting current	A	100	116	132	151	181	146	170	199	236	240	284

<sup>1)</sup> Cold water: 7 °C/12 °C/Outside temperature: 35 °C; Glycol: 30 %

<sup>2)</sup> Sound level in dBA at 5 m clear distance

<sup>3)</sup> A: Standard, B: With optional free cooling

Technical data subject to change without notice.





# Technical specifications of the CyberCool CLO series

Model	CLO xxx A	361	441	511	631	781	882	1022	1272	1572
<b>Low-energy and low-noise variant</b>										
<b>Technical specifications:</b>										
Cooling capacity <sup>1)</sup>	kW	36.0	44.4	51.4	63.6	71.9	88.8	102.8	127.2	157.2
Performance levels		2	2	2	2	2	4	4	4	4
<b>Noise data</b>										
Sound level <sup>2)</sup>	dBA	48	49	50	50	51	53	53	54	55
<b>Compressor</b>										
Compressor type		Scroll								
Number of compressors		2	2	2	2	2	4	4	4	4
Cooling circuits		1	1	1	1	1	2	2	2	2
Oil type		Diester oil								
Oil quantity (per circuit)	l	4	4	4	4	4	8	8	8	8
Energy consumption	kW	11.9	14.3	16.4	20.5	24.6	28.7	32.7	41.0	49.2
<b>Coolant</b>										
Coolant type		R407c								
Filling level	kg	16.0	17.2	18.0	22.0	25.0	2 x 16.0	2 x 17.5	2 x 19.0	2 x 23.0
<b>Evaporator</b>										
Evaporator type		Plate evaporator								
Cold water quantity	m³/h	6.7	8.2	9.5	11.8	13.3	16.5	19.1	23.6	29.2
Pressure loss, water-side	kPa	57	60	61	56	51	32	36	32	35
Water connection (internal thread)		DN 50	DN 50	DN 50	DN 50	DN 50	DN 60	DN 60	DN 60	DN 72
<b>Fan</b>										
Fan type		Axial fan								
Number		3	3	3	3	3	8	8	10	10
Nominal fan power	kW	0.66	0.66	0.66	0.98	0.98	0.86	0.86	0.86	0.86
Air quantity	m³/h	8,600	11,000	13,200	16,500	21,600	23,300	28,000	33,200	43,000
<b>Weight</b>										
Shipping weight	kg	780	780	785	825	865	1,588	1,627	2,006	2,046
<b>Elektrical data</b>										
Voltage supply	V/Ph/Hz	380-415/3~/50,N								
Power consumption, max.	kVA	22.7	26.3	29.8	35.8	41.9	53.5	62.7	75.2	87.5
Operating current, max.	A	32.7	38.0	43.0	51.6	60.5	77.8	91.1	109.2	126.9
Starting current	A	100	116	132	154	183	150	173	200	240

<sup>1)</sup> Cold water: 7 °C/12 °C/Outside temperature: 35 °C; Glycol: 30 %

<sup>2)</sup> Sound level in dBA at 5 m clear distance      Technical data subject to change without notice



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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.