

Envicool · Data Center and Equipment Thermal Expert

Data Center Cooling

- CyberMate V series inverter CRAC
- XRow series row-based cooling unit
- XRack series micro-modularized solution
- Cabicool series rack cooling solution
- XSpace series modularized solution
- HumidMate series data center constant humidity solution
- XFlex series IEC solution
- iFreecooling series economization system
- XStorm series fan wall solution

Telecom Cabinet Cooling

- DC series air conditioner
- EC series air conditioner
- HC series combo air conditioner
- EF series inverter air conditioner
- EX series heat exchanger

Energy Storage/Electricity Cooling

- MC series split air conditioner
- MC series door mounted integrated air conditioner
- MC series wall mounted integrated air conditioner
- MC series floor standing integrated air conditioner
- MC series corner standing integrated air conditioner
- MX series heat exchanger
- EMW series air cooled chiller

Industrial Cooling

- EIA series air conditioner
- EIB series air conditioner
- EIX series air/water heat exchanger
- EIW series water cooler

CyberMate™ Precision Cooling Unit for Data Center



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About Envicool

Shenzhen Envicool Technology Co., Ltd. (stock code: 002837) is a hi-tech enterprise which focuses on Data Center and equipment climate control. The team masters the world class cooling technology, precise control technology, mechanical design technology and has obtained series patents around temperature control. After years of accumulation, it has formed a climate control & energy saving system for Data Center and Access stations.

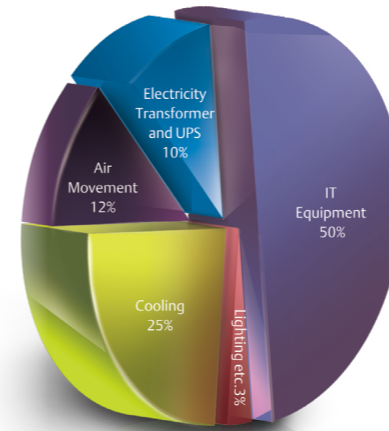
The solutions and products are widely used in China and overseas market, including Data Center Temperature Control and Energy-saving Solutions, S&M Data Center Temperature Control Solutions, Micro-module Server Rack Solutions, Containerized & Modularized Data Center Solutions, Telecom Site Cooling Solutions, Energy Storage Cooling Solutions, customized solutions for more applications, etc.

Envicool has obtained ISO9001, ISO14001 and ISO45001. The products are CCC, CE, UL, TUV and China Energy-saving certified. Envicool adopts the Integrated Product Development (IPD) process to develop products and technologies, and utilizes the JIT and TQC supply chain management modes to meet the customers' requirement efficiently.

As a member of CCSA and CRA, Envicool takes an active part in the revision of relevant industry standards.



Data Center



The continual growing OPEX has become the bottleneck of the TCO control in data center. Improving the energy efficiency and enhancing the management level are the key actions to reduce the TCO of the data center. Low power consumption and easy manageability are appreciated in the construction of data center.

The power consumption for cooling system is a significant part, while accounting it as 25%-40% of the overall power consumption in a data center. Therefore, energy efficiency of CRAC unit will attract great attention.

With the popularity of the green data center concept, the energy efficiency standards for precision cooling units keep increasing. More and more data centers are applying the CRAC units with high energy efficiency and integration of free cooling function.

CyberMate Series Precision Cooling Unit:

With high AEER system design and team work function, CyberMate meets the cooling demand and reduces the PUE of the data center.

Annual Energy Efficiency Ratio (AEER):

$$AEER = \frac{\sum \text{The heat removed from the room}}{\sum \text{CRAC cooling electricity consumption}} \quad (\text{All year round})$$

Certifications



Applications

- Computer room
- Switch room and mobile data center
- High precision lab
- Industrial automation control room
- Standard test room and calibration center
- UPS and battery room
- Test room in hospital
- Biochemical culture chamber





Configuration Nomenclature for CyberMate

No.	Item	Code	Description
1	Series Name	CyberMate	CyberMate CRAC
2	Series Code	6	DX, single circuit
		8	DX, dual circuit
		9	CW
3	Cooling Capacity	0~9	DX: 6-120kW CW: 40-200kW
		0~9	
		0~9	
4	Function	B	Cooling
		C	Cooling, humidifying
		H	Cooling, reheating
		P	Cooling, reheating, humidifying
5	Fan Type	E	EC fan
		I	AC fan
6	Air Discharge	F	Downflow
		S	Downflow, fan under floor
		U	Upflow, plenum
		D	Upflow, duct
7	Power Supply	1	380V 3Ph 50Hz
		2	220V 1Ph 50Hz
		3	380V 3Ph 60Hz
		4	208V 3Ph 60Hz
		5	Other power input
8	System Type	A	Air cooled
		W	Water cooled
		O	iFreecooling
		G	Glycol cooled
		N	Integrated direct fresh air and cooling pad
		C	Chilled water: single coil
		T	Chilled water: dual coil
		D	Dual cool: chilled water + air cooled
		R	Dual cool: glycol + free cooling
9	Compressor Type	V	Variable frequency
		I	Invariable frequency

CyberMate Series (DX: 30kW - 120kW)

CyberMate V Series Inverter CRAC Features

Full Variable Frequency Design

- DC variable frequency, dynamic cooling, reducing the OPEX during the full life cycle
- DC variable frequency compressor, soft start, reducing the impact on power grid system
- High efficient EC fan, energy saving up to 20%-30%
- Electronic expansion valve with wide adjustment range to achieve precision control
- High return air temperature design, and energy efficiency is improved by 20%-30%

Modular Design

- Modular design, flexible installation
- Disassembly without cutting copper pipe
- Electric control box with pull-out design, easy to maintain
- Extensive V/A-type coil design, compact and space saving

Low Load Dehumidification

- Equipped with double electronic expansion valves for each circuit
- Dehumidification with variable coil capacity, low power consumption
- Excellent performance with stable dehumidification under 10% load

Flexible Configuration

- Optional centralized condenser, saving space up to 60%
- Standard low noise high chimney fan, reducing noise at least 5dB(A)
- Modular assembly
- Optional outdoor spray system
- Optional economized refrigerant pump, making full use of free cooling under low ambient temperature

EVO Intelligent Control System

EVO Display System

- 7-inch, 800x480 dot matrix true color touch screen
- Temperature and humidity curves
- Graphical display of device running status
- Alarm information display, easy for operation and maintenance

EVO Team Work System

- Team work 32 units, connecting network easily
- Optional zone of temperature control
- Shared temperature and humidity setting
- Team work modes: demand management, trend management, rotation and breakdown shift automatically, realizing adaptive energy saving

EVO Control & Storage System

- The running data will be stored regularly, and the history data can be maintained. The relevant data can be read directly through the computer
- Multiple history alarms, expanded storage of history alarms is provided
- According to the cooling requirements of the rack, select the control mode, including supply and return air temperature control, pressure difference control, supply and return air humidity control, temperature difference control, etc., to achieve data center precise temperature & humidity control and high energy efficiency
- Optional connection of multiple temperature and humidity sensors, multi-point detection

EVO Intelligent Monitoring System

- Optional ethernet interface, support TCP/IP, SNMP protocol
- Optional environment control cloud remote monitoring module, read unit info. remotely through web pages, WeChat official account and APP
- Support upgrading air conditioner's software and importing parameter remotely





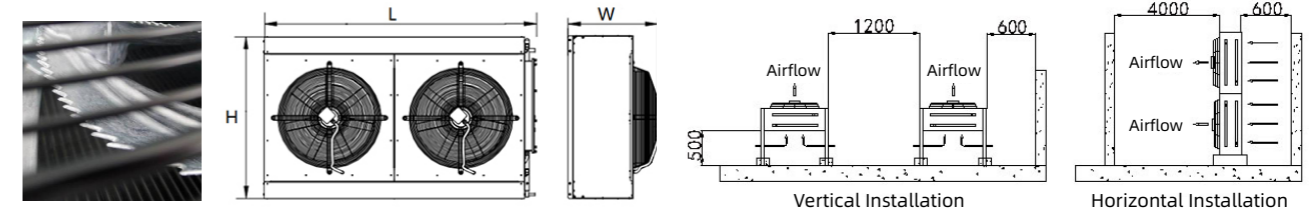
Data Sheet of CyberMate V Inverter DX Unit (30kW - 120kW)

Indoor Unit Model	6030	6040	8050	8060	8070	8080	8090	8100	8120
Power Supply	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz
Return Air Condition	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH
Performance Technical Data									
Total Cooling Capacity - kW	30.3	38.9	53.1	61.4	71.3	78.2	89.2	97.6	120.1
Sensible Cooling Capacity - kW	27.3	35.0	47.8	55.3	64.2	70.4	80.3	88.3	108.1
Sensible Heat Ratio - %	90.1	90.0	90.0	90.1	90.0	90.0	90.0	90.5	90.0
Max. Power Consumption - kW	23.6	27.6	36.0	41.1	50.4	47.3	51.1	53.0	65.6
Full Load Amps (FLA) - A	39.2	44.3	60.2	69.3	72.2	76.5	87.7	91.2	109.4
Quantity of Compressor	1	1	2	2	2	2	2	2	2
Rated Power Consumption of Compressor - kW	8.3	11.8	15.2	17.6	20.5	22.5	25.1	27.5	35.8
Indoor EC Fan Technical Data									
Airflow - m ³ /h	9000	10500	14000	17000	18000	21500	23000	25000	32000
Quantity of EC Fan	1	1	2	2	2	2	2	2	3
Rated Power Consumption of EC Fan - kW	2.7	2.5	3.7	4.6	5.3	5.6	6.1	6.6	7.5
External Static Pressure - Pa	20	20	20	20	20	20	20	20	20
Heating									
Heating Capacity- kW	6	9	9	9	9	9	9	9	9
Humidification									
Humidification Capacity - kg/h	6	6	10	10	10	10	10	10	10
Connection Size									
Gas - mm	22	22	22	22	22	22	22	22	22
Liquid - mm	16	16	16	16	16	16	16	19	19
Drain Pipe - ID, mm	19	19	19	19	19	19	19	19	19
Physical Data									
Width - mm	900	1100	1800	1800	1800	2200	2200	2200	2550
Depth - mm	995	995	995	995	995	995	995	995	995
Height - mm	1975	1975	1975	1975	1975	1975	1975	1975	1975
Weight - kg	310	415	580	600	620	660	670	680	820
Breakers & Cables									
Indoor Unit Breaker - A	50	63	100	100	100	125	125	125	160
Indoor Unit Cable - mm ²	5*10	5*10	4*16 +1*10	4*25 +1*16	4*25 +1*16	4*25 +1*16	4*25 +1*16	4*25 +1*16	4*35 +1*16
Outdoor Unit Cable - mm ²	5*1.5	5*1.5	5*1.5	5*1.5	5*2.5	5*2.5	5*2.5	5*2.5	5*2.5

Remark: condensing temperature at 45°C



CyberMate (>20kW) Air Cooled Condenser



- Variable frequency fan with speed control, high efficiency
- Owlet fan, low noise
- Integrated iFreecooling design
- Adapting to various climate conditions
- Single/dual circuit design

Data Sheet of CyberMate (>20kW) Air Cooled Condenser

Model	Quantity of Fan (s)	Length (mm)	Height (mm)	Width (mm)	Weight (kg)	Liquid Line-OD (mm)	Gas Line-OD (mm)
CS25	1	1310	982	653	110	16	22
CS32	1	1310	982	653	115	19	22
CS38	1	1610	982	653	130	19	22
CS46	1	1610	1270	653	140	19	28
CS54	1	1910	1270	653	150	19	28
CS66	2	1910	1270	653	160	19	28
CS78	2	2410	1270	653	200	19	28
CS86	2	2410	1270	689	240	19	28

Centralized Air Cooled Condenser

Low Noise

- High chimney fan with low noise
- Optimized design of guide vanes to reduce exhaust turbulence
- Aerodynamically optimized air inlet blast ring

High Energy Efficiency

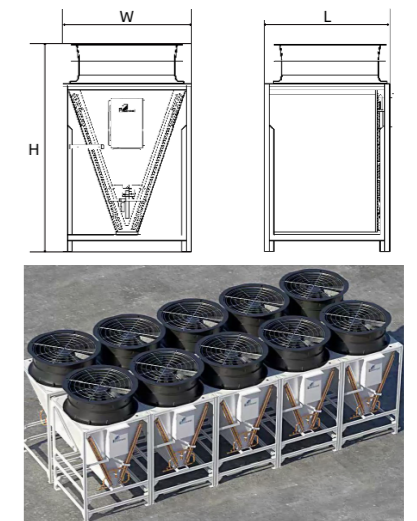
- Adapting to various climate conditions
- Variable speed fan

Space-saving

- V-type compact coil design
- Modular assembly
- Optional integrated refrigerant pump

Data Sheet of Centralized Air Cooled Condenser

Model	Quantity of Fan	Length (mm)	Height (mm)	Width (mm)	Weight (kg)	Liquid Line-OD (mm)	Gas Line-OD (mm)
CS32U	1	1020	1840	1020	110	16	22
CS38U	1	1020	1840	1020	120	16	22
CS44U	1	1020	1840	1020	130	16	22
CS54U	1	1020	1840	1020	140	16	22
CS66U	1	1080	1950	1080	155	19	28
CS78U	1	1080	2000	1080	165	19	28
CS86U	1	1080	2000	1080	175	19	28
CS96U	1	1290	2000	1080	195	19	28





iFreecooling Technology

Multi-mode Operation

- Economization refrigerant pump with much lower power consumption to achieve cooling under low ambient temperature
- Compressor mode, mixed mode, economization refrigerant pump mode switch automatically

High Energy Efficiency

- Equipped with EC fan, DC inverter compressor, refrigerant pump, saving energy up to 40% all year round

Flexible Configuration

- Centralized condenser with refrigerant pump as standard, space-saving up to 60%
- Optional refrigerant pump + standard condenser, vertical & horizontal installation condenser, widely applied
- Optional refrigerant pump + centralized condenser, suitable for reconstruction project



Annual Energy Saving Rate for iFreecooling System

No.	Country	City	Latitude	Energy Saving Rate	No.	Country	City	Latitude	Energy Saving Rate
1	China	Beijing	39°N	28%	7	UK	London	52°N	41%
2	China	Harbin	44°N	39%	8	Spain	Madrid	40°N	28%
3	China	Shanghai	31°N	20%	9	Canada	Ottawa	45°N	41%
4	Japan	Tokyo	36°N	28%	10	America	Washington	38°N	33%
5	Russia	Moscow	55°N	45%	11	Australia	Canberra	35°N	32%
6	Sweden	Stockholm	59°N	46%	12	South Africa	Johannesburg	26°N	18%

Applications



Data Sheet of CyberMate + iFreecooling Unit

Indoor Unit Model	6030	6040	8050	8060	8070	8080	8090	8100	8120
Power Supply	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz
Air Discharge Mode	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Down
Return Air Condition	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH
Performance Technical Data									
Total Cooling Capacity - kW	30.3	38.9	53.1	61.3	71.3	78.2	89.2	97.6	120.1
Sensible Cooling Capacity - kW	27.3	35.0	47.5	55.3	61.6	70.1	77.3	88.3	108.1
Sensible Heat Ratio - %	90.1	90.0	89.4	90.1	86.3	89.6	86.6	90.5	90.0
Full Load Amps (FLA) - A	39.2	44.3	60.2	69.3	72.2	76.5	87.7	91.2	109.4
Quantity of Compressor	1	1	2	2	2	2	2	2	2
Indoor EC Fan Technical Data									
Airflow - m ³ /h	9000	10500	14000	17000	18000	21500	23000	25000	32000
Quantity of EC Fan	1	1	2	2	2	2	2	2	2
External Static Pressure - Pa	20	20	20	20	20	20	20	20	20
Heating									
Heating Capacity - kW	6	9	9	9	9	9	9	9	9
Humidification									
Humidification Capacity - kg/h	6	6	10	10	10	10	10	10	10
Physical Data									
Width - mm	900	1100	1800	1800	1800	2200	2200	2200	2550
Depth - mm	995	995	995	995	995	995	995	995	995
Height - mm	1975	1975	1975	1975	1975	1975	1975	1975	1975
Weight - kg	310	415	580	600	620	660	670	680	820
Breakers and Cables									
Indoor Unit Breaker - A	63	100	100	125	125	125	125	125	160
Indoor Unit Cable - mm ²	5*10	5*10	4*16+1*10	4*25+1*16	4*25+1*16	4*25+1*16	4*25+1*16	4*25+1*16	4*35+1*16
Centralized Condenser with Refrigerant Pump Cable - mm ²	5*1.5	5*1.5	5*2.5	5*2.5	5*2.5	5*2.5	5*2.5	5*2.5	5*2.5

Remark:

- for upflow plenum unit, the height is 1990mm
- condensing temperature at 45°C

Data Sheet of Integrated Refrigerant Pump Centralized Condenser

Model	Quantity of Fan	Length (mm)	Height (mm)	Width (mm)	Liquid Line-OD (mm)	Gas Line-OD (mm)
CS32P	1	1020	1840	1020	16	22
CS38P	1	1020	1840	1020	16	22
CS46P	1	1020	1840	1020	16	22
CS54P	1	1020	1840	1020	16	22
CS66P	1	1080	1950	1080	19	28
CS78P	1	1080	2000	1080	19	28
CS86P	1	1080	2000	1080	19	28
CS96P	1	1290	2000	1080	19	28



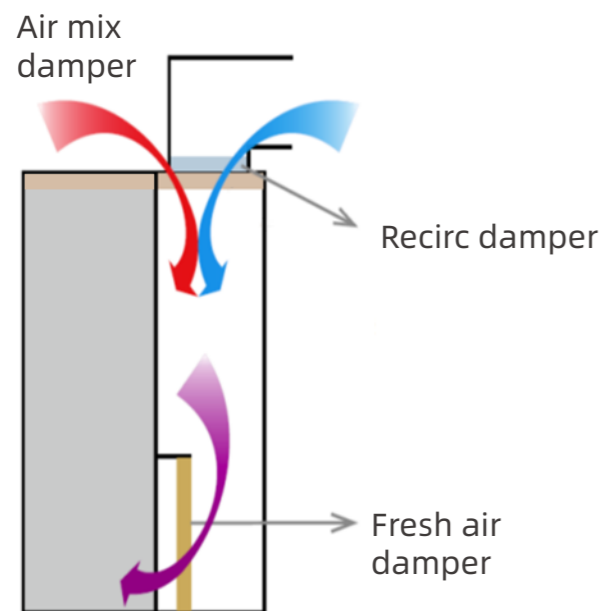
CyberMate DX + Fresh Air Cooling Unit



CyberMate Modular



FS Fresh Air Cooling Modular



Free Cooling Mode

- Fresh air damper on, air mix damper on, recirc damper off, achieving remarkable energy saving

Compressor Mode

- Fresh air damper off, air mix damper off, recirc damper on

Data Sheet of CyberMate DX + Fresh Air Cooling Unit

Indoor Unit Model	6025	6030	6035	6040	6045	8040	8045	8050	8060	8070	8080	8090	8100
Power Supply	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz
Return Air Condition	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH
Performance Technical Data													
Total Cooling Capacity - kW	25.6	30.3	35.4	38.9	46.5	40.9	42.9	53.1	61.4	71.3	78.2	89.2	97.6
Sensible Cooling Capacity - kW	23.1	27.3	31.9	35.0	41.9	36.6	38.7	47.5	55.3	61.6	70.1	77.3	88.3
Sensible Heat Ratio - %	90.30	90.10	90.20	90.00	90.10	89.60	90.20	89.40	90.10	86.30	89.60	86.60	90.50
Max. Power Consumption - kW	17.8	19.9	24.4	25.5	29.0	28.1	28.6	32.3	36.2	40.6	43.1	49.1	50.0
Full Load Amps (FLA) - A	29.9	33.7	41.0	43.0	49.2	47.6	48.4	55.0	61.8	69.7	74.0	84.9	86.4
Quantity of Compressor	1	1	1	1	1	2	2	2	2	2	2	2	2
Rated Power Consumption of Compressor - kW	6.4	7.5	8.7	9.5	11.2	10.4	10.4	12.7	14.9	17.3	19.0	22.4	22.4
Indoor EC Fan Technical Data													
Airflow - m ³ /h	8000	9000	10000	10500	13000	10500	13000	14000	17000	18000	21000	21000	30000
Quantity of EC Fan	1	1	1	1	2	1	2	2	2	2	2	2	3
Rated Power Consumption of EC Fan - kW	2.0	2.7	2.2	2.5	3.0	2.6	3.1	3.7	4.6	5.3	6.1	6.1	7.0
External Static Pressure - Pa	20	20	20	20	20	20	20	20	20	20	20	20	20
Heating Capacity - kW	6	6	9	9	9	9	9	9	9	9	9	9	9
Humidification Capacity - kg/h	6	6	6	6	10	6	10	10	10	10	10	10	10
Connection Size													
Gas - mm	22	22	22	22	22	22	22	22	22	22	22	22	22
Liquid - mm	16	16	16	16	16	16	16	16	16	16	16	16	19
Drain Pipe - ID, mm	25	25	25	25	25	25	25	25	25	25	25	25	25
Physical Data													
Width - mm	1050	1050	1400	1400	1700	1400	1700	1700	2100	2100	2550	2550	2550
Depth - mm	890	890	890	890	890	890	890	890	890	890	890	890	1000
Height - mm	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990
Weight - kg	365	370	410	415	530	415	535	550	720	730	800	825	925
Fresh Air Inlet Unit Technical Data													
Model	FS1050	FS1050	FS1400	FS1400	FS1700	FS1400	FS1700	FS1700	FS2100	FS2100	FS2550	FS2550	FS2550
Airflow - m ³ /h	7600	7600	9500	9500	12350	9500	12350	13300	16150	17100	20425	21850	21850
Sensible Heat Ratio - kW (Δt=10°C)	25.7	25.7	38.9	38.9	45.7	38.9	45.7	53.6	64.0	68.6	77.9	97.2	97.2
Width - mm	1050	1050	1400	1400	1700	1400	1700	1700	2100	2100	2550	2550	2550
Depth - mm	600	600	600	600	600	600	600	600	600	600	600	600	600
Height - mm	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990
Weight - kg	100	100	140	140	160	140	160	160	200	200	240	240	240
Fresh Air Outlet Unit Technical Data													
Model	PF-050-C	PF-050-C	PF-050-C	PF-050-C	PF-150-C	PF-050-C	PF-150-C	PF-150-C	PF-150-C	PF-150-C	PF-150-C	PF-150-C	PF-150-C
Quantity	1	1	1	1	1	1	1	1	1	1	1	1	1
Airflow - m ³ /h	5000	5000	5000	5000	11000	5000	11000	11000	11000	11000	11000	11000	11000
Width - mm	500	500	500	500	1160	500	1160	1160	1160	1160	1160	1160	1160
Depth - mm	375	375	375	375	405	375	405	405	405	405	405	405	405
Height - mm	480	480	480	480	1035	480	1035	1035	1035	1035	1035	1035	1035
Weight - kg	35	35	35	35	50	35	50	50	50	50	50	50	50

Remark:
 • condensing temperature at 45°C
 • compressor type - fixed frequency



CyberMate Series Chilled Water Unit

Highlights of CW Unit Design

- High Reliability**
 - High quality components with strict certification
 - Running test of each unit in factory before delivery
- High Energy Efficiency**
 - Precise water valve control and variable airflow control, can adjust cooling capacity, airflow and air pressure according to the rack temperature and air pressure
 - EVO controller ensures optimum cooling efficiency
 - Efficient EC fan, downflow and fan under floor design
 - Efficient humidifier and dehumidifier to realize precise humidity control
- High Adaptability**
 - Various air discharge choices including downflow, upflow and so on
 - Multiple monitoring interface
 - Modularized design with "V" or "A" type evaporator
- Wide Range of Cooling Capacity**
 - 40kW~200kW



Functions of EVO Control System

- EVO Display System**
 - 7-inch, 800x480 dot matrix true color touch screen
 - Temperature and humidity curves
 - Graphical display of device running status
 - Multi-level password protection
- EVO Control & Storage System**
 - Multiple history alarms, expanded storage of history alarms is provided
 - The running data will be stored regularly, and the history data can be maintained. The relevant data can be read directly through the computer
- EVO Data Collection System**
 - Able to connect multiple temperature/humidity sensors and detect the temperature/humidity of the inlet/outlet air of racks
 - Control mode selected according to the rack cooling demand, precise air supply to realize energy saving
- EVO Team Work Function**
 - Team work 32 units, connecting network easily
 - Shared temperature and humidity setting
 - Team work modes: demand management, trend management, rotation and breakdown shift automatically, realizing adaptive energy saving
- EVO Monitoring System**
 - Standard RS485 interface, support ModBus protocol
 - Optional ethernet interface, support TCP/IP, SNMP protocol



Data Sheet of CyberMate Modular Chilled Water Unit

Indoor Unit Model	9040	9060	9080	9100	9120	9140	9160	9180	9200
Power Supply	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz
Air Discharge Mode	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down
Inlet Water Temperature -°C	7	7	7	7	7	7	7	7	7
Outlet Water Temperature -°C	12	12	12	12	12	12	12	12	12
Return Air Condition	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH	24°C / 50%RH
Performance Technical Data									
Total Cooling Capacity - kW	40.3	60.0	80.7	106.9	120.0	140.0	161.7	180.0	200.3
Sensible Cooling Capacity - kW	36.6	49.5	73.2	89.9	99.0	123.4	136.3	148.6	162.3
Sensible Heat Ratio - %	91	83	91	84	83	88	84	83	81
Rated Power Consumption - kW	2.4	3.4	4.2	5.6	6.2	7.5	7.2	10.5	10.5
Max. Power Consumption - kW	9.5	9.5	16.0	16.0	16.0	19.5	19.5	19.5	19.5
Full Load Amps (FLA) - A	15.0	15.0	25.4	25.4	25.4	31.3	31.3	31.3	31.3
Water Flow Rate - m ³ /h	7.3	10.8	14.5	19.3	21.7	25.5	29.2	32.5	36.1
Water Side Pressure Drop - kPa	67.4	71.1	80.6	97.1	82.1	71.7	115.1	102.0	141.8
Main Fan Technical Data									
Airflow - m ³ /h	12500	13000	25000	25000	26000	37000	38000	39000	41500
Quantity of Fan	1	1	2	2	2	3	3	3	3
External Static Pressure - Pa	20	20	20	20	20	20	20	20	20
Heating									
Heating Capacity - kW	6	6	9	9	9	9	9	9	9
Humidification									
Humidification Capacity - kg/h	6	6	10	10	10	10	10	10	10
Connection Size									
Inlet Water Pipe	DN40	DN50	DN50	DN65	DN65	DN65	DN80	DN80	DN80
Outlet Water Pipe	DN40	DN50	DN50	DN65	DN65	DN65	DN80	DN80	DN80
Humidifier Inlet Pipe	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"
Drain Pipe - ID, mm	25	25	25	25	25	25	25	25	25
Physical Data									
Width - mm	795	795	1590	1590	1590	2385	2385	2385	2385
Depth - mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
Height - mm	1975	1975	1975	1975	1975	1975	1975	1975	1975
Weight - kg	260	300	500	540	580	770	800	850	880
Breakers & Cables									
Breaker - A	20	20	40	40	40	50	50	50	50
Cable - mm ²	5*4	5*4	5*6	5*6	5*6	5*6	5*6	5*6	5*6

Remark: equipped two-way valve and EC fan as standard



CyberMate DX Unit (6kW-20kW)



Applications

- IT server room
- Small data center
- Constant temperature and humidity manufacturing workshop
- Laboratory
- Electric power equipment room
- Railway/subway server room
- Small and medium telecom switch room

Features

- Intelligent precise control, constant temperature and humidity
- 365 x 24 operation under full range of climate
- Long lifetime design with low operating and maintenance costs
- Large airflow supply with high SHR and low power consumption
- Long-distance supply air to ensure temperature uniformity
- Ultra-wide input power adaptability, automatic phase sequence switching function, optional automatic re-start and delayed startup function
- Remote monitoring and control through dry contact or RS485
- 4.3 inch LCD display with multi-level password protection function
- Standby (master/slave) mode and rotating mode available
- Various system diagnosis, alarm and protection function
- Parameter and operation/alarm record auto-protection under power loss
- Storage history alarm up to 500 records
- R410A refrigerant



Data Sheet of CyberMate DX Unit (6kW-20kW)

Indoor Unit Model	6005	6005	6007	6012	6016	6020
Power Supply	220V 1Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz	380V 3Ph 50Hz
Air Discharge Mode	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down	Up/Down
Return Air Condition	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH	24°C/50%RH
Performance Technical Data						
Total Cooling Capacity - kW	6.6	6.6	7.0	12.2	16.6	20.0
Sensible Cooling Capacity - kW	5.6	5.6	6.0	10.3	14.5	17.6
Max. Power Consumption - kW	14.8	14.8	8.1	13.0	17.6	21.5
Full Load Amps (FLA) - A	19.3	19.3	17.2	22.1	26.6	30.6
Quantity of Compressor	1	1	1	1	1	1
Rated Power Consumption of Compressor - kW	1.7	1.7	1.8	3.2	4.2	5.2
Indoor Fan Technical Data						
Airflow - m ³ /h	1860	1860	1860	2700	4500	5500
Quantity of Fan	1	1	1	1	1	1
Rated Power Consumption of Fan - kW	0.24	0.24	0.24	0.55	0.90	1.55
Heating						
Heating Capacity - kW	3	3	6	6	6	6
Humidification						
Humidification Capacity - kg/h	/	2.8	2.8	2.8	6.0	6.0
Connection Size						
Gas - mm	12.7	12.7	12.7	16	19	19
Liquid - mm	9.52	9.52	9.52	12.7	12.7	12.7
Drain Pipe - ID, mm	19	19	19	19	25	25
Physical Data						
Width - mm	600	600	600	600	750	750
Depth - mm	555	555	555	555	755	755
Height - mm	1750	1750	1750	1750	1950	1950
Weight - kg	110	110	115	140	185	200
Outdoor Unit Technical Data						
Outdoor Unit Model	CyberMate 6005EC	CyberMate 6005EC	CyberMate 6007EC	CyberMate 6012EC	CyberMate 6016EC	CyberMate 6020EC
Physical Data						
Width - mm	800	800	800	800	1500	1500
Depth - mm	360	360	360	360	360	360
Height - mm	790	790	790	1285	1285	1285
Weight - kg	40	40	40	60	90	110
Breakers & Cables						
Breaker - A	40	32	32	32	40	40
Indoor Unit Cable - mm ² -Cooling	3*4	5*4	5*1.5	5*2.5	5*4	5*4
Indoor Unit Cable - mm ² - Reheating + Humidifying	3*6	5*4	5*4	5*6	5*6	5*6
Outdoor Unit Cable -mm ²	3*1.5	3*1.5	3*1.5	3*1.5	3*1.5	3*1.5

Remark:
 • condensing temperature at 45°C
 • compressor type - fixed frequency