COOLNET

Innovation and Precision

Cool-Smart

Precision Air Coditioning

COMPANY PROFILE

Coolnet focuses on the R&D, production, and application of data center integrated solutions. As technical consulting, product supply, system integrator, and service provider, it is committed to serving customers in the fields of communication equipment rooms, data centers, smart construction, and energy management.

Our solutions include data center temperature, humidity, and energy-saving solutions, small and medium-sized computer room temperature control solutions, micro-module data center solutions, micro-module cabinet solutions, container, and modular data center solutions, communication outdoor cabinet temperature control and energy saving Solutions, cabinet temperature and humidity, and energy-saving solutions.

Has rich research and manufacturing experience in the field of data center equipment, with world-class laboratories, production testing equipment, and a complete line of key equipment rooms. And passed the ISO9001 quality management system certification, ISO14001 environmental management system certification, and the products have passed CE certification, CCC certification, CQC certification, CRAA quality certification, etc.

We are committed to "paying attention to customer needs and realizing customer value" and establishing a win-win cooperation pattern with customers. To become your most trustworthy, most grateful, most professional, most practical, and most reliable partner with the best vision. We will "make every effort to provide value for money products and services to make customers more competitive", and continue to explore and innovate.

COOL-SMART SERIES PRECISION AIR CONDITIONING (6-20KW) DX UNITS

INTRODUCTION

The cool-smart series computer room air conditioner is designed for small and medium-sized computer rooms, telecom station, equipment rooms, etc.. Cool-smart has the characteristics of high air volume and small enthalpy with high reliability, high efficiency, long working life, and energy saving.

APPLICATIONS

- IT Equipment Room
- Small Data Center
- Industrial Clean Room
- Constant Temperature And Humidity Process Workshop
- Laboratory
- Electric Power Equipment Room
- Railway Subway Machine Room
- Base Station And Small Telecom Switch Room
- Medium&Small Telecom Switch Room

AIR DISCHARGE

Upflow   Downflow

Air supply

Air return

Air return

Air supply
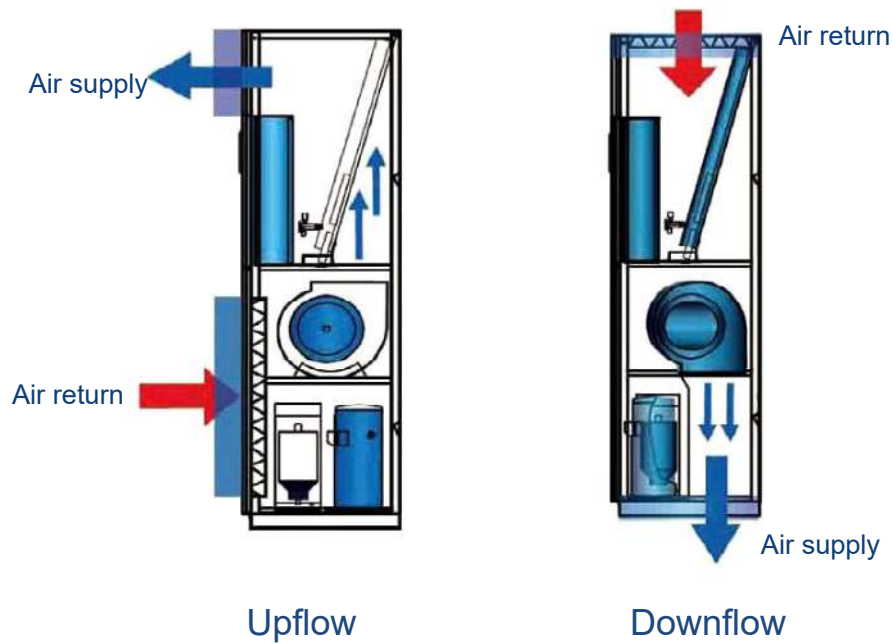
PREMIUM PERFORMANCE

Performance	Parameters
Working environment	Working voltage and frequency： 380V±10% 50HZ±3HZ；220V±10% 50HZ±3HZ Working temperature：-40 ℃—50 ℃
Filter level	G4
Precision control	Temperature control 15℃—35℃±1℃ Humidity control 30%—80%±5%
Reliability	When the unit fails, the circulating fan remains in operation, with an MTBF of over 100,000 hours

PREMIUM PERFORMANCE

Professional operation	Operating Interface	7" true colour touch screen, friendly human-machine interface, convenient operation
	Display content	1. Real-time operating status of all components of the unit 2. operation and configuration parameters with three levels of password protection 3. automatic maintenance prompts, fault diagnosis, component alarm messages, etc. 4. graphic display of temperature and humidity curves, operating status of all components and component running time, etc.
	Information record	1. complete machine and component runtime 2. 500 historical alarm records 3. All operational actions of the unit
	Monitoring functions	Standard support for RS485 communication serial port, MODBUS-RTU protocol, and Optional support for Ethernet interface, MODBUS-TCP, SNMP, HTTP and other protocols and WEB access to the unit.
Control methods	Humidity control	Optional humidifier with relative or absolute humidity control
	Start/stop control	Timed switch on/off Manual forced function
	Self-starting on incoming calls	Minimum detection time for incoming power supply, so that the unit can be put into operation in the shortest possible time and avoid damage to the server caused by high temperature rise after a long shutdown
	Group control function	1. Highly reliable CAN bus for group control of up to 32 units. 2. four group control modes: rotating standby, simultaneous autonomous, equal distribution and on-demand distribution. 3. support for rotating, backup and cascading functions, which can avoid competing operations. 4. automatic host push function: when the host fails, the slave automatically pushes a new host. 5. Group communication failure is to maintain communication in normal switching state, temperature and humidity demand switch to local mode.
Security protection	Fire protection grade	A
	Panel protection	IP65
	Insulation Level	F
	System protection	The system can be optionally equipped with phase sequence protection, over/under voltage protection, water leakage protection, etc. To ensure the normal operation of the unit when unattended.
	Component protection	humidifier protection, heater protection, filter blocking alarm, etc.
Cleanliness control	Filter level	G4

COOL-SMART SERIES PRECISION AIR CONDITIONING ADVANTAGES

01 HIGH ACCURACY

- Using a new generation of intelligent microcomputer
- PID control technology to accurately control ambient temperature and humidity, to ensure temperature contol accuracy of ±1°C and humidity control accuracy ±5% in computer room.
- Accurate operation of refrigeration, heating, dehumidification and humidification systems with innovative predictive control technology.
- precise control of humidifier system with a unique dry steam humidification intelligent control unit.
- PTC electric heater equipped with overheat protection.

02 HIGH EFFICIENCY

- Large air volume and small enthalpy design, low energy consumption
- High—efficiency scroll compressor with high energy efficiency, high cooling capacity, low noise and long working life
- Large-area multi-layer evaporator, designed with high effciency internal thread copper tube and self-cleaning heat exchange fin, which ensures the highest heat exchange efficiency to guarantee large cooling capacity .
- Large outdoor condenser cooling circuit design and outdoor speed control fan and condensing pressure automatic adjustment device
- Unique cooling and dehumidification automatic mode and thermal recovery technology (optional), reduce reheat compensation, high efficient dehumidifcation and energy saving.

03 HIGH RELIABILITY

- 365 days, 24 hours continuous operation design
- High—quality parts from world—famous brands that have been rigorously designed, manufactured, tested and certified.
- Advanced self-diagnosis and fault warning control system
- Unique self-balancing software to improve the trouble-free running time and prolong the actual service life of key components of system
- PTC new generation heating system, anti-dry safety design, fast and accurate heating, safe and reliable
- Multi—system protection measures such as high and low pressure of compressor, Exhaust over temperature, small air volume, motor overload and so on.

04 HIGH INTELLIGENT

- Adopting a new generation intelligent PLC microcomputer controller, large LCD screen, with background light, modular menu, English display
- Record data such as various status, alarms of the unit and historical data sharing
- Power-off data protection and power recovery automatic start-up design
- Powerful group control system of 32 sets units, energy efficiency management, timing rotation and fault braking switching, automatic implementation of group adaptive energy saving
- Standard RS485 communication interface, optional internet interface, support ModBus/TCP and other customized protocols.
- Optional GPRS module, automatic transmission of the unit running SMS, and prompt the specific state of fault, to facilitate maintenance timely and effectively .

TECHNICAL DATA OF COOL-SMART SERIES

Model		M06		M08		M13		M17		M20	
Type		Cooling only	Constant Temperature and Humidity	Cooling only	Constant Temperature and Humidity	Cooling only	Constant Temperature and Humidity	Cooling only	Constant Temperature and Humidity	Cooling only	Constant Temperature and Humidity
Air supply		F		F		F/D		F/D		F/D	
Power		220Vac/1Ph/50Hz		380Vac/3Ph/50Hz		380Vac/3Ph/50Hz		380Vac/3Ph/50Hz		380Vac/3Ph/50Hz	
Performance parameters											
Total capacity	kw	6.4	6.4	7.5	7.5	12.5	12.5	17.5	17.5	20.2	20.2
Sensible capacity	kw	5.8	5.8	6.9	6.9	11.3	11.3	15.7	15.7	18.2	18.2
Compressor											
Refrigerant		R410A									
Compressor type		Fixed frequency scroll compressor									
Compressor quantity	pc	1		1		1		1		1	
Input Power	kw	1.66		2.02		3.17		4.22		4.87	
Current	A	7.75		4.5		6.72		8.56		9	
Fan											
Fan type		Backward inclined centrifugal (EC)fan									
Fan quantity	pc	1		1		1		1		1	
Air volume	m³/h	1900		2400		3800		5300		5700	
Excess pressure outside	Pa	Standard pressure is 20Pa, adjustable from 20-300Pa									
Heater											
Material		PTC Electric Heater									
Capacity	kw	——	3	——	3	——	3	——	4	——	4
Heater class		——	1	——	1	——	1	——	1	——	1
Humidifier											
Type		Electrode humidifier									
Capacity	kg/h	——	3	——	3	——	3	——	3	——	3
Power	kw	——	2.25	——	2.25	——	2.25	——	2.25	——	2.25
Air filter		G4 plate filter									
Indoor noise	dBA	65		65		66		67		68	
Connection											
Humidifier inlet pipe	In	G 1/2		G 1/2		G 1/2		G 1/2		G 1/2	
Condensate drain pipe	φmm	19		19		19		19		19	
Gas pipe	φmm	12.7		12.7		15.88		15.88		19.05	
Liquid pipe	φmm	9.52		9.52		9.52		9.52		12.7	
Electrical parameters											
Power	kw	2	5	2.6	5.6	4.4	7.4	5.8	9.8	6.9	10.9
FLA	A	12.5	30.5	11	20	13.6	22.6	19	29.5	21	32.5
Dimension:W×D×H	mm	600×510×1900		600×580×1900		600×580×1900		750×660×1900		750×660×1900	
Weight	kg	153		162		173		201		210	
Condenser		**CY0081**		**CY0121**		**CY0191**		**CY0241**		**CY0291**	
Number of matches		1		1		1		1		1	
Power		220Vac/1Ph/50Hz									
Installation method		Vertical						Vertical/horizontal			
Condenser fan performance											
Type		Single-phase asynchronous motor + axial flow fan						AC axial fan			
Fan quantity	PC	1		1		2		1		1	
Air volume	m³/h	3000		4000		7000		8500		9000	
Input power	kw	0.16		0.17		0.38		0.6		0.61	
Input current	A	0.62		0.65		1.7		3.4		3.4	
Speed mode		Stepless speed regulation									
Unit noise	dBA	53		55		58		65		65	
Dimension:W×D×H	mm	960×390×800		960×390×800		960×390×1270		1115×520×1065		1115×545×1065	
Weight	kg	48		48		65		91		102	

① F: Air supply from the front, D: Air from the bottom;
② Standard working conditions: return air dry bulb temperature 24°C, relative humidity 50%, outdoor dry bulb temperature 35°C;
③ The size of the interface is the internal interface of the indoor unit, please refer to the manual for connecting the copper pipe.
④ The sound pressure level is meauered on 1m height, and the distance from the unit is 1m.

TECHNICAL DATA OF COOL-SMART SERIES

Model		M08		M13		M17		M20	
Type		Cooling only	Constant Temperature and Humidity	Cooling only	Constant Temperature and Humidity	Cooling only	Constant Temperature and Humidity	Cooling only	Constant Temperature and Humidity
Air supply		F		F/D		F/D		F/D	
Power		380Vac/3Ph/50Hz		380Vac/3Ph/50Hz		380Vac/3Ph/50Hz		380Vac/3Ph/50Hz	
Performance parameters									
Total capacity	kw	7.6	7.6	12.6	12.6	17.1	17.1	20.2	20.2
Sensible capacity	kw	6.9	6.9	11.3	11.3	15.7	15.7	18.2	18.2
Compressor									
Refrigerant		R410A							
Compressor type		Inverter compressor							
Compressor quantity	pc	1		1		1		1	
Fan									
Fan type		Backward inclined centrifugal (EC)fan							
Fan quantity	pc	1		1		1		1	
Air volume	m³/h	2400		3800		5300		6000	
Excess pressure outside	Pa	Standard pressure is 20Pa, adjustable from 20-300Pa							
Heater									
Material		PTC Electric Heater							
Capacity	kw	——	3	——	3	——	4	——	4
Heater class		——	1	——	1	——	1	——	1
Humidifier									
Type		Electrode humidifier							
Capacity	kg/h	——	3	——	3	——	3	——	3
Power	kw	——	2.25	——	2.25	——	2.25	——	2.25
Air filter		G4 plate filter							
Indoor noise	dBA	65		66		67		68	
Connection									
Humidifier inlet pipe	In	G 1/2		G 1/2		G 1/2		G 1/2	
Condensate drain pipe	φmm	19		19		19		19	
Gas pipe	φmm	12.7		12.7		15.88		15.88	
Liquid pipe	φmm	9.52		9.52		9.52		12.7	
Electrical parameters									
Dimension:W×D×H	mm	650×630×1975		650×630×1975		775×730×1975		775×730×1975	
Weight	kg	162		173		201		210	
Condenser		CY0121		CY0191		CY0241		CY0291	
Number of matches		1		1		1		1	
Power		220Vac/1Ph/50Hz							
Installation method		Vertical				Vertical/horizontal			
Condenser fan performance									
Type		Single-phase asynchronous motor + axial flow fan				AC axial fan			
Fan quantity	PC	1		2		1		1	
Air volume	m³/h	4000		7000		8500		9000	
Input power	kw	0.17		0.38		0.6		0.61	
Input current	A	0.65		1.7		3.4		3.4	
Speed mode		Stepless speed regulation							
Unit noise	dBA	55		58		65		65	
Dimension:W×D×H	mm	960×390×800		960×390×1270		1115×520×1065		1115×545×1065	
Weight	kg	48		65		91		102	

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