



CONDAIR PH/PHD Series

Independent Evaporative Integrated humidifier
and dehumidifier



Humidification and Evaporative Cooling

 **conda**ir



Condair PH/PHD Series
Independent Evaporative Integrated
humidifier and dehumidifier

All-metal housing

1. Use the minimum case to meet design requirements and save space of the machine room (see datasheet for detail, customizable).
2. Powder-coated case panels, in black (standard color).

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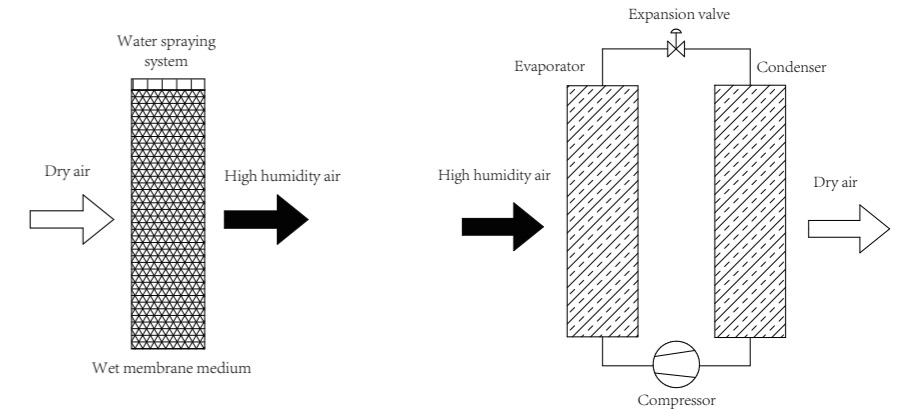
About Product

Condair PH/PHD, an independent evaporative integrated humidifier and dehumidifier researched and produced by Condair China, is mainly applied to data center projects. Condair PH is an independent evaporative humidifier and Condair PHD is an integrated humidifier and dehumidifier by integrating refrigerating and dehumidifying modules on the basis of PH.

As a high-performance evaporative humidifier, PH uses organic high-molecular polyester fiber as its humidifying medium or selects other humidifying media as required by clients. The equipment can provide different projects with flexible and reliable solutions to humidification by using various air and water supply modes and PLC control. While humidifying the air independently, the equipment can lower the air temperature effectively and reduce cooling loads of air conditioners.

PHD integrates refrigerating and dehumidifying modules on the basis of PH and it is equipped with mature and reliable Panasonic cooling compressor unit. The control system that is researched and developed independently can ensure stable running of the entire equipment. It is the most ideal air humidity controller in regions with significant temperature and humidity changes.

With automatic control, Condair PH/PHD can provide standard RS485 interface and Modbus communication protocol to realize remote control.



Schematic diagram of humidification

Schematic diagram of dehumidification

Humidifying function

1. Humidifying medium:

Humidifying function of Condair PH/PHD uses evaporative humidifying technology. Evaporating medium uses imported pure high-molecular polyester fiber or selects imported inorganic fiber or other evaporating materials in accordance with requirements of projects.

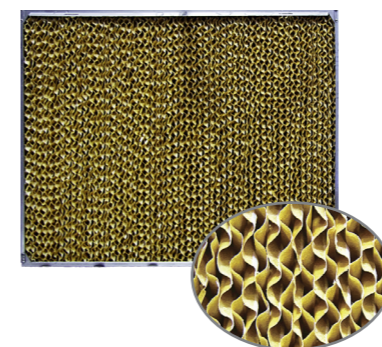
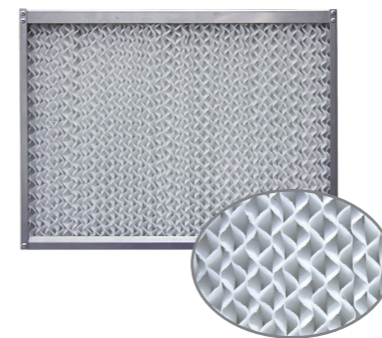
2. Direct drain water or circulating water:

Humidifying module of Condair PH/PHD uses direct drain water or circulating water mode. Direct drain water mode is single evaporation, with good hygiene. Humidifying water can be minimized by regulating volume of water supply. Circulating water supply mode is equipped with a circulating pump to save water by circulation. Regular drain and cleaning functions are used to ensure hygiene of the humidifying module.

Dehumidifying function

Dehumidifying function of Condair PHD uses refrigerating and dehumidifying technology. It separates moisture from the air and reduces air humidity by using dew point difference of vapor under different temperatures. Condensate water from PHD can be directly used by the humidifying module to reduce waste of water source.

PHD is equipped with mature and reliable Panasonic evaporator and condenser to ensure quality of the entire equipment.





FACEBOOK

Air supply section

1. Air supply section of Condair PH/PHD is equipped with high-performance centrifugal fan with variable frequency and speed control functions. And fan can also be configured in accordance with requirements of projects.
2. Various air supply modes.
 - Top in and bottom out
 - Front in and bottom out
 - Front in and front out



Hygienic measures

1. On-line flushing of humidifying module (for circulating water only)
2. Regular drain (for circulating water only)
3. UV sterilization (optional)
4. Silver ion sterilization (optional)

Intelligent control

1. Control mode:
 - Standard configuration: sensor control
 - Optional configuration: other control modes.
2. HMI, 7" color LCD touch screen."
3. Remote control: standard RS485 interface and Modbus protocol, remote communication.
4. Safety performance:
 - Float redundancy design
 - Overflow protection
 - Water leakage detection
 - Water shortage alarm
 - Compressor fault alarm
 - Stop alarm



2020-11-24 14:08:28		Running status	PHD 40 Circulation
Device code: 0	Air supply humidity: 0 %RH	Run:	<input type="radio"/>
Dehumidifying mode	Air supply temperature: 0 °C	Normal:	<input type="radio"/>
Humidifying mode	Current air speed: 0 %	Maintenance:	<input type="radio"/>
Auto mode	Intake air humidity: 0 %RH	Water supply:	<input type="radio"/>
Current status: local ###	Intake air temperature: 0 °C	Tank vent:	<input type="radio"/>
Current fault: none		Drain button	
Current user: Condair			
Total running time: 0h			
Total running time: 0.0h			
Running status	Equipment status	Alarm maintenance	Temperature and humidity curves
	Parameter setting	Contact us	User login

Model		PHD40			PHD60			PHD100		
		A	B	C	A	B	C	A	B	C
Air supply mode		Top in and bottom out	Front in and bottom out	Front in and front out	Top in and bottom out	Front in and bottom out	Front in and front out	Top in and bottom out	Front in and bottom out	Front in and front out
Overall size W×D×H [mm]		900×700×2000			1200×700×2200			1200×800×2200		
Rated humidifying capacity kg/h 25°C 40%RH		≥10kg/h			≥15kg/h			≥20kg/h		
Rated dehumidifying capacity kg/h 30°C 80%RH		4kg/h (95-100L/Day)			6kg/h (140-150L/Day)			10kg/h (225-240L/Day)		
Air volume m³/h	Air volume/Power of fan	MAX. 3200m³/h; 220V/0.7kw MAX. 3200m³/h;380V/0.7kw			MAX. 4500m³/h; 380V/1kw			MAX. 6000m³/h;380v/1.5kw		
	Humidifying air volume m³/h	2800~3200m³/h			4000~4500m³/h			5200~6000m³/h		
	Dehumidifying air volume m³/h	1000m³/h			1500m³/h			2400m³/h		
Rated power of entire equipment		1.8Kw			2.5Kw			3.8Kw		
Power voltage (wire diameter)		220V single-phase or 380V three-phase (1.5mm²)			380V three-phase (2.5mm²)			380V three-phase (2.5mm²)		
Other optional parameters		(1) Control: PLC control; (3) Variable frequency and speed control of fan; (5) Customized models and specifications			(2) Membrane: imported organic polymeric membrane or imported fiberglass membrane; (4) Color: black (default) or other customized colors;					
Operating conditions	Ambient temperature and humidity	0-40°C, below 90% RH								
	Intake air temperature	5~40°C								
	Water supply quality	City water, pure water and softened water								
	Water supply pressure	1~6 bar								
	Water supply temperature	5~30°C								

Model		PHD40W		PHD60W	
		C		C	
Air supply mode		Front in and front out		Front in and front out	
Overall size W×D×H [mm]		1200×600×2000 1200×600×2200(reserving 55mm at edge)		1200×600×2000 1200×600×2200(reserving 55mm at edge)	
Rated humidifying capacity kg/h 25°C 40%RH		10g/h		10kg/h	
Rated dehumidifying capacity kg/h 30°C 80%RH		4kg/h (95-100L/Day)		6kg/h (140-150L/Day)	
Air volume m³/h	Air volume/Power of fan	MAX. 3200m³/h; 220V/0.7kw MAX. 3200m³/h;380V/0.7kw		MAX. 3200m³/h; 220V/0.7kw MAX. 3200m³/h;380V/0.7kw	
	Humidifying air volume m³/h	3200m³/h		3500m³/h	
	Dehumidifying air volume m³/h	1000m³/h		1500m³/h	
Rated power of entire equipment		1.8Kw		2.5Kw	
Power voltage (wire diameter)		220V single-phase or 380V three-phase (1.5mm²)		380V three-phase (2.5mm²)	
Other optional parameters		(1) Control: PLC control; (3) Variable frequency and speed control of fan; (5) Customized models and specifications		(2) Membrane: imported organic polymeric membrane or imported fiberglass membrane; (4) Color: black (default) or other customized colors;	
Operating conditions	Ambient temperature and humidity	0-40°C, below 90% RH			
	Intake air temperature	5~40°C			
	Water supply quality	City water, pure water and softened water			
	Water supply pressure	1~6 bar			
	Water supply temperature	5~30°C			

Model		PH50			PH100			PH150		
		A	B	C	A	B	C	A	B	C
Air supply mode		Top in and bottom out	Front in and bottom out	Front in and front out	Top in and bottom out	Front in and bottom out	Front in and front out	Top in and bottom out	Front in and bottom out	Front in and front out
Overall size W×D×H [mm]		600×500×1600			800×600×1800			1200×600×2000		
Rated humidifying capacity kg/h 25°C 40%RH		≥5kg/h			≥10kg/h			≥15kg/h		
Air volume m³/h	Air volume/Power of fan	MAX. 1800m³/h; 220V/0.3kw MAX. 1800m³/h;380V0.2kw			MAX. 3200m³/h;220V/0.7kw MAX. 3200m³/h; 380V0.7kw			MAX. 5700m³/h; 220V/1.5kw MAX. 4500m³/h ;380V/1kw		
	Power voltage (wire diameter)	220V single-phase or 380V three-phase (1mm²)			220V single-phase or 380V three-phase (1mm²)			220V single-phase or 380V three-phase (1.5mm²)		
Other optional parameters		(1) Control: PLC control; (3) Variable frequency and speed control of fan; (5) Customized models and specifications			(2) Membrane: imported organic polymeric membrane or imported fiberglass membrane; (4) Color: black;					
Operating conditions	Ambient temperature and humidity	0-40°C, below 90% RH								
	Intake air temperature	5~40°C								
	Water supply quality	City water, pure water and softened water								
	Water supply pressure	1~6 bar								
	Water supply temperature	5~30°C								

Model		PH200			PH300			PH400		
		A	B	C	A	B	C	A	B	C
Air supply mode		Top in and bottom out	Front in and bottom out	Front in and front out	Top in and bottom out	Front in and bottom out	Front in and front out	Top in and bottom out	Front in and bottom out	Front in and front out
Overall size W×D×H [mm]		1200×700×2000			1600×700×2000			1600×800×2200		
Rated humidifying capacity kg/h 25°C 40%RH		≥20kg/h			≥30kg/h			≥40kg/h		
Air volume m³/h	Air volume/Power of fan	MAX. 6000m³/h;380v/1.5kw			MAX. 8500m³/h;380v/2.2kw			MAX. 12000m³/h;380v/4kw		
	Power voltage (wire diameter)	380V three-phase (1.5mm²)			380V three-phase (2.5mm²)			380V three-phase (2.5mm²)		
Other optional parameters		(1) Control: PLC control; (3) Variable frequency and speed control of fan; (5) Customized models and specifications			(2) Membrane: imported organic polymeric membrane or imported fiberglass membrane; (4) Color: black;					
Operating conditions	Ambient temperature and humidity	0-40°C, below 90% RH								
	Intake air temperature	5~40°C								
	Water supply quality	City water, pure water and softened water								
	Water supply pressure	1~6 bar								
	Water supply temperature	5~30°C								

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