

# Air Cooled Modular Chiller and Heat Pump

65kW~520kW



18.6Ton~148.6Ton

## Application areas

- Offices, Hotels, Hospitals
- Industry
- Administration
- Light commercial and residential buildings

## Why this choice?

- Very low noise operation
- R410A scroll compressors
- Advanced control
- Unit with pump and optional buffer tank
- Very compact for outdoor or indoor installation



## Characteristics

The master module can work independently or together with up to 16 slave modules. Units with V type heat exchanger: panels, frame and base are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents. 3-phase scroll type compressor, with built-in thermal overload cut-out and crankcase heater, mounted on rubber vibration dampers. External rotor type axial fans, equipped with three phase direct drive motors, low noise 8 poles, protection level IP54, provided with a protective outlet grille.

Evaporator built with high efficiency shell and tube type heat exchanger, factory insulated with flexible close cell material.

Condenser built with seamless copper tubes mechanically expanded into blue hydrophilic aluminum fins.

Refrigerant circuit complete with charge valves, filter drier, sight glass, gas-liquid separator, thermostatic expansion valve, high & low pressure switch. The heat pump unit is completed also with 4-way valve, liquid receiver and one way valve.

Hydraulic circuit built with galvanized pipe, complete with water discharge connection for tube in tube heat exchanger and flange type hydraulic connectors in two directions easy for connections from both sides of the units.



Electric panel consist of:  
 compressor contactor, fan motor contactor,  
 compressor protection breaker, fan  
 protection breaker, phase sequence relay and  
 microprocessor with function display (display  
 only for master/packaged unit)  
 Automatic operation dramatically reducing  
 maintenance cost thanks to reliable  
 microprocessor system.

## Optional

Paddle flow switch;  
 Metallic filter for hydraulic circuit;  
 Water pump;  
 Rubber antivibration mounting.  
 Heat recovery functions

## Technical Data

Model		AW65	AW65	AW130	AW190	AW260	
Cooling Capacity	kW	65	65	130	195	260	
Heating Capacity	kW	69	69	138	207	276	
Power input	Cooling	kW	20.5	21	42.4	63.4	84.8
	Cooling rated current	A	36.5	36.5	73	110	146
	Heating	kW	21.5	21.5	43.4	64.9	86.8
	Heating rated current	A	36.2	37.2	75.2	112.2	150.1
EER	kW / kW	3.17	3.09	3.07	3.08	3.07	
COP	kW / kW	3.21	3.21	3.18	3.19	3.18	
Power supply	V/Ph/Hz	380-415/3/50					
Compressor	Type	Scroll (fixed speed)					
	Quantity	Pieces	2	1	2	3	4
	Refrigerant oil	ml	6700	6700	6700	6700	6700
Refrigerant	Type	R410A					
	Refrigerant control	EEV/TEV					
	Weight	kg	15	15	15×2	15×3	15×4
Air Side Heat Exchanger	Type	Fin-coil					
	Number of rows		3	3	4	4	4
	Quantity of fan motor	Pieces	2	2	2	4	4
	Air flow	×10 <sup>3</sup> m <sup>3</sup> /h	25	25	50	75	100
	Fan motor rated current	A	2.5*2	2.5*2	3.8*2	2.5*2+3.8*2	3.8*4
	Fan motor power input	kW	1.1*2	1.1*2	2.4*2	1.1*2+2.4*2	2.4*4
Water Side Heat Exchanger	Type	Shell-tube					
	Water pressure drop	kPa	42	42	41	44	44
	Volume	L	60	60	80	100	130
	Water inlet/outlet pipeline inside normal diameter	mm	DN65	DN65	DN65	DN80	DN80
	Water flow	m <sup>3</sup> /h	11.2	11.2	22.4	33.6	44.8
	Max. design pressure	MPa	1				
	Water pipe connection type	Flange					
	Fouling factor	m <sup>2</sup> · °C /kW	0.086				
External Dimension	Net(L×W×H)	mm	2120×1100×2020	2120×1100×2020	2260×1250×2380	2260×2410×2500	2260×2410×2500
	Net weight	kg	650	650	1270	1900	2540
Weight	Operation weight	kg	680	680	1350	2030	2700
	Power wire	mm <sup>2</sup>	16x4+10x1	16x4+10x1	35x4+16x1	50x4+25x1	70x4+35x1
Control type	Wired controller						
Noise level	dB(A)	68	68	69	70	70	
Operation water temp.	°C	Cooling: 0~17(Less than 5°C must add antifreeze) Heating: 25~51					
Ambient temp.	°C	Cooling: -10~46, Heating: -15~24					

Specifications are based on the following conditions:

\*Cooling: chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 35°C DB.

\*\*Heating: warm water inlet/outlet: 40°C / 45°C, and outdoor ambient temp. 7°C CDB/6°C CWB.

\*\*\*Water side fouling factor: 0.086m<sup>2</sup> · °C/kW.

\*\*\*\*1m away in open field(sound pressure).

# Technical Data

Model		AW325	AW390	AW455	AW520	
Cooling Capacity	kW	325	390	455	520	
Heating Capacity	kW	345	414	483	552	
Power input	Cooling	kW	105	126	147	168
	Cooling rated current	A	182.5	219	255.5	292
	Heating	kW	107.5	129	150.5	172
	Heating rated current	A	186	223.2	260.4	297.6
EER	kW / kW	3.07	3.07	3.07	3.07	
COP	kW / kW	3.18	3.18	3.18	3.18	
Power supply	V/Ph/Hz	380-415/3/50				
Compressor	Type	Scroll (fixed speed)				
	Quantity	Pieces	5	6	7	8
	Refrigerant oil	ml	6700	6700	6700	6700
Refrigerant	Type	R410A				
	Refrigerant control	EEV/TEV				
	Weight	kg	15×5	15×6	15×7	15×8
Air Side Heat Exchanger	Type	Fin-coil				
	Number of rows		4	4	4	4
	Quantity of fan motor	Pieces	6	6	8	8
	Air flow	×10 <sup>3</sup> m <sup>3</sup> /h	125	125	125	125
	Fan motor rated current	A	2.5*2+3.8*4	3.8*6	2.5*2+3.8*6	3.8*8
	Fan motor power input	kW	1.1*2+2.4*4	2.4*6	1.1*2+2.4*6	2.4*8
Water Side Heat Exchanger	Type	Shell-tube				
	Water pressure drop	kPa	47	50	48	50
	Volume	L	130	130	130	130
	Water inlet/outlet pipeline inside normal diameter	mm	DN125	DN150	DN150	DN150
	Water flow	m <sup>3</sup> /h	56	67.2	78.4	89.6
	Max. design pressure	MPa	1			
	Water pipe connection type	Flange				
Fouling factor	m <sup>2</sup> · °C /kW	0.086				
External Dimension	Net(L×W×H)	mm	3596x2268x2510	3596x2268x2510	4793x2268x2510	4793x2268x2510
Weight	Net weight	kg	3160	3680	4380	4900
	Operation weight	kg	3300	3860	4510	5050
Connection wiring	Power wire	mm <sup>2</sup>	70x4+35x1	90x4+35x1	90x4+35x1	100x4+35x1
Control type	Wired controller					
Noise level	dB(A)	74	76	77	77	
Operation water temp.	°C	Cooling: 0~17(Less than 5°C must add antifreeze) Heating: 25~51				
Ambient temp.	°C	Cooling: -10~46, Heating: -15~24				

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