

Air Cooled Mini Chiller and Heat Pump

5.6kW~51.8kW
1.6Ton~14.8Ton



Application areas

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

Why this choice?

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



Characteristics

Structure

Panels and base frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents.

Compressor

Hermetic scroll type compressor, equipped with the crankcase heater and thermal protection with thermal overload cut-out and crankcase heater mounted on rubber vibration isolators.

Axial fan

External rotor type axial fans, equipped with single phase direct drive motors, low noise 6 poles, protection level IP54, provided with a protective outlet grille.

Evaporator

High efficiency and low pressure drop stainless steel (AISI 316) water exchangers, with anti-freeze heating element (option) and differential pressure switch, factory insulated with flexible close cell material.

Condenser

Coils are consisting of seamless copper tubes mechanically expanded into blue hydrophilic aluminum fins, 100% fully quality tested; sub cooling circuit to prevent freezing at the base (optional); protected with metal grill.

Desuperheater

High efficiency stainless steel brazed plate heat exchanger, factory insulated with flexible close cell material (optional).

Refrigerant circuit

Copper tube connection with charge valve, filter, sight glass, gas-liquid separator, thermostatic expansion valve, low pressure switch with automatic reset, high pressure switch with manual reset. The heat pump unit is completed also with 4-way valve, liquid receiver and one way valve.



Water circuit

Built with air vent valve, water drain connection, and female-threaded hydraulic connectors
Water pump (8kW-30kW), differential pressure switch

Expansion tank (8kW-30kW)

Electric panel

Compressor contactor

Compressor protection breaker

Fan motor protection breaker

Control circuit protection breaker

Phase sequence relay (only for 3-phase)

Programmable microprocessor controller

Optional

Additional electric heater embedded in the coils for defrosting in low temperature ambient. It must be factory installed

Stainless steel covering

Remote condenser

Tube in tube heat exchanger

Water circuit electric heater

Technical Data

Model		AW5	AW7	AW10	AW10	AW14	AW16	
Cooling Capacity	kW	5.6	7.4	9.5	10.7	13.3	16.4	
Heating Capacity	kW	6.2	7.9	12	12	16	17.9	
Power input	Cooling	kW	1.9	2.5	3.3	3.6	4.1	5.0
	Cooling rated current	A	11	14.2	18.7	7.8	8	10
	Heating	kW	2.2	2.8	3.9	4.1	5.1	5.81
	Heating rated current	A	12.5	15.9	22.1	8	10	11.4
EER	kW / kW	3.00	2.96	2.97	2.97	3.21	3.26	
COP	kW / kW	2.81	2.82	3.07	2.92	3.13	3.08	
Power supply	V/Ph/Hz	220-240V/1pH/50Hz			380-415V/3pH/50Hz			
Compressor	Type	Rotary			Fixed scroll			
	Quantity	Pieces	1	1	1	1	1	
	Refrigerant oil	ml	420	670	1000	1000	1480	1660
Refrigerant	Type	R410a						
	Refrigerant control	EEV/TEV						
	Weight	kg	1.8	2.2	3	3.6	5	6
Air Side Heat Exchanger	Type	Fin-coil						
	Number of rows		2	2	2	2	3	3
	Quantity of fan motor	Pieces	1	1	2	2	2	2
	Air flow	m ³ /h	3000	4000	3000×2	3500×2	4500×2	4500×2
	Fan motor rated current	A	0.75	0.8	0.75×2	0.75×2	0.75×2	0.75×2
	Fan motor power input	kW	0.09	0.09	0.09×2	0.09×2	0.09×2	0.09×2
Water Side Heat Exchanger	Type	PHE						
	Water pressure drop	kPa	25	29	35	35	36	36
	Volume	L	10	15	20	20	30	30
	Water inlet/outlet pipeline inside normal diameter	mm	DN25	DN25	DN32	DN32	DN32	DN32
	Water flow	m ³ /h	0.9	1.3	1.8	1.8	2.5	2.7
	Max. design pressure	MPa	1					
	Water pipe connection type	Thread						
Fouling factor	m ² · °C /kW	0.086						
External Dimension	L	mm	1200	1200	1000	1000	1000	1000
	W	mm	560	560	560	560	620	620
	H	mm	830	830	1316	1316	1316	1316
Weight	Net weight	kg	120	138	145	145	160	168
	Operation weight	kg	140	158	170	165	190	198
Connection wiring	Power wire	mm ²	4x2+1x1	4x2+1x1	6x2+1x1	2.5x4+1x1	2.5x4+1x1	4x4+2.5x1
Control type	Wired controller							
Noise level	dB(A)	50	56	60	55	58	58	
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°CDB/6°CWB.

***Water side fouling factor: 0.086m² · °C/kW.

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

Technical Data

Model		AW20	AW25	AW30	AW35	AW40	AW50	
Cooling Capacity	kW	20.3	25.8	29	36.4	40.3	51.8	
Heating Capacity	kW	26.3	29.00	34.00	41.80	49.80	60.00	
Power input	Cooling	kW	6.5	8.8	10	14.4	12.9	17.5
	Cooling rated current	A	12.7	17.4	19.6	26.7	25.5	35
	Heating	kW	7.6	9.23	9.43	14.3	13.8	20.45
	Heating rated current	A	15.8	17.70	18.2	26.70	32.00	41.00
EER	kW / kW	2.62	2.74	2.9	2.52	3.12	2.96	
COP	kW / kW	3.02	3.13	3.06	2.96	3.33	2.93	
Power supply	V/Ph/Hz	380-415V/3pH/50Hz						
Compressor	Type	Fixed scroll						
	Quantity	Pieces	1	1	1	2	2	2
	Refrigerant oil	ml	2510	2510	3250	2510×2	2510×2	2510×2
Refrigerant	Type	R410a						
	Refrigerant control	EEV/TEV						
	Weight	kg	4.7	6	8.5	4.4×2	4.7×2	5.5×2
Air Side Heat Exchanger	Type	Fin-coil						
	Number of rows		2	3	3	3	3	3
	Quantity of fan motor	Pieces	1	1	1	2	2	2
	Air flow	m ³ /h	9000	9000	12580	8500×2	8500×2	11000×2
	Fan motor rated current	A	1.1	1.1	2.2	1.1×2	1.1×2	1.8×2
	Fan motor power input	kW	0.37	0.37	0.75	0.37×2	0.37×2	0.55×2
Water Side Heat Exchanger	Type	High efficiency tank						
	Water pressure drop	kPa	42	39	42	50	52	52
	Volume	L	40	40	45	50	50	50
	Water inlet/outlet pipeline inside normal diameter	mm	DN40					
	Water flow	m ³ /h	3.7	4.3	5.2	6.1	7.1	8.7
	Max. design pressure	MPa	1	1	1	1	1	1
	Water pipe connection type	Thread						
	Fouling factor	m ² · °C /kW	0.086					
External Dimension	L	mm	1600	1600	1600	2000	2000	2000
	W	mm	1080	1080	1080	1080	1080	1080
	H	mm	900	900	900	900	900	900
Weight	Net weight	kg	270	280	300	360	380	465
	Operation weight	kg	300	310	330	395	415	500
Connection wiring	Power wire	mm ²	4x4+2.5x1	4x4+2.5x1	6x4+2.5x1	10x4+4x1	12x4+4x1	16x4+2.5x1
Control type	Wired controller							
Noise level	dB(A)	66	66	68	70	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						

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