



Air Condition Co. LTD



# *Air Cooled Water Chiller*

## DC Inverter Series

# DC Inverter Air Source Heat Pump

10kW~20kW



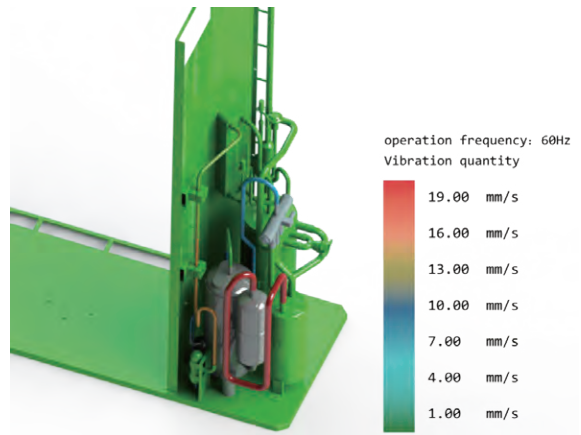
## Refrigerant

R410A refrigerant, more environmental



## Stable and reliable

Simulation optimization + test verification, more stable and reliable



## Product features

### Compressor

DC inverter type compressor



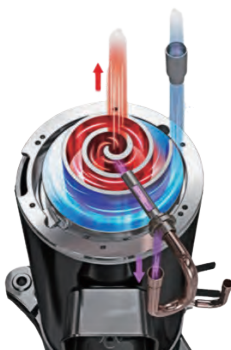
### Compact design

Use tank type heat exchanger

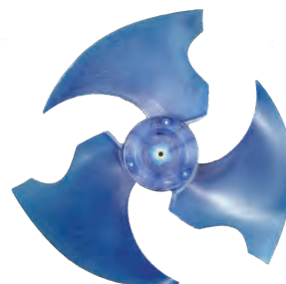


### EVI technology

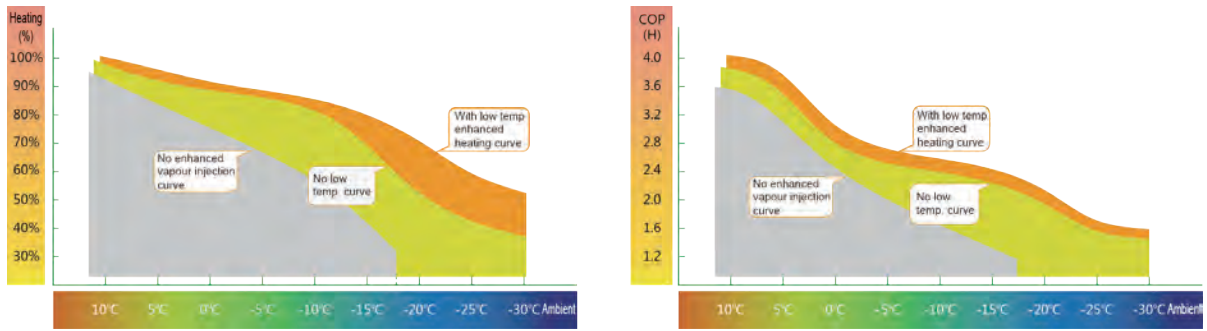
Enhanced vapor injection technology, heat pump can work -30°C ambient temperature



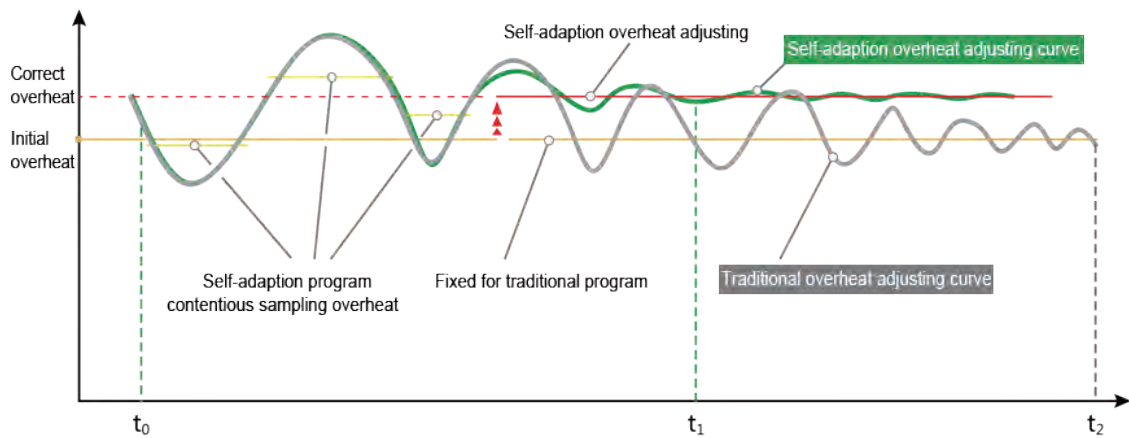
### Low noise fan



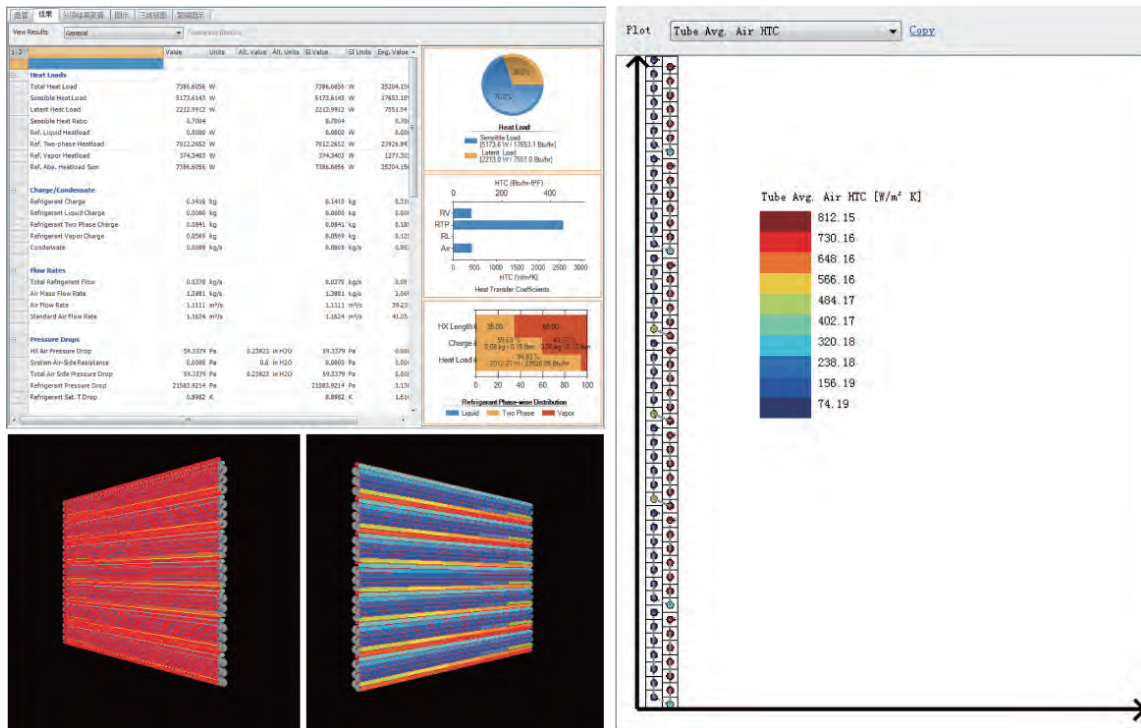
## For lower ambient temp working



## Professional control, more reliable, adaptive control for EXV

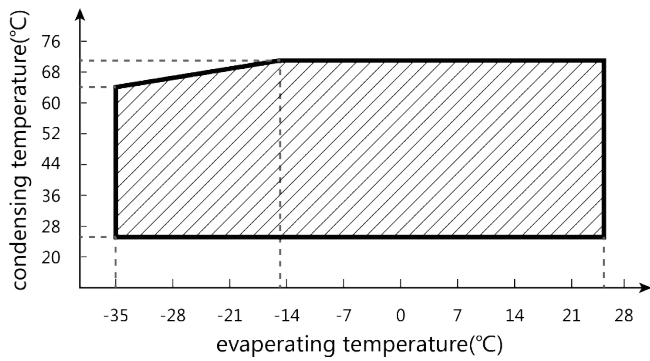


## Heat exchanger design

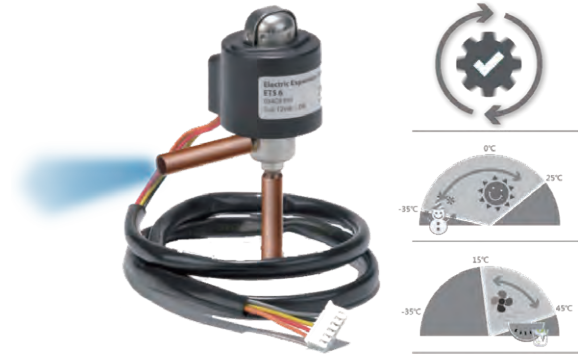


## More safety

Over 7 protections



## Reliable EXV



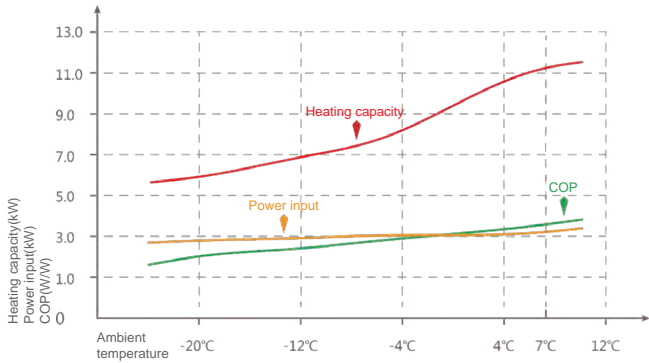
## Specifications

Model				10	14	17	20
Ambient temperature DB/WB	Hot water	Capacity	Unit	Packaged type			
7°C/6°C	41°C	Heating	kW	11.2	18.9	19.8	20.7
		Power input	kW	3.1	5.4	5.8	6.4
-12°C/-14°C	41°C	Heating	kW	7	11.9	12.9	13.9
		Power input	kW	2.95	4.9	5.2	5.6
-20°C/--°C	41°C	Heating	kW	5.9	9.6	10.7	11.2
		Power input	kW	2.9	4.6	5.3	5.5
35°C/---	7°C	Cooling	kW	8.7	12.5	13.5	14.9
		Power input	kW	3.0	4.4	4.8	5.6
Standard heating COP/IPLV			W/W	2.37/2.83	2.43/2.86	2.48/2.87	2.48/2.88
Max power input			kW	5.5	8.5	8.5	8.5
Max working current			A	20	40	40	40
Compressor type/Brand				DC inverter type/Highly			
Compressor quantity				1			
Fan				Low Noise axial type			
Fan quantity				1	2	2	2
Heat exchanger				Tank type			
Inlet/outlet water pipe size				G1	G1	G1	G1
Water flow rate			m <sup>3</sup> /h	1.5	2.14	2.32	2.56
Water resistance			kPa	22	42	49	57
Refrigerant		Type		R410A			
		Charge amount	kg	4	5	5	5
Min/Max Ambient temp		Cooling	°C	21-43			
		Heating	°C	-30-21			
Min/Max Hot water		Cooling	°C	7-24			
		Heating	°C	25-60			
Min/Max working water pressure			MPa	0.05-1			
Power supply				220V/1/50Hz			
Dimension(L×W×H)			mm	1113x594x977	1113x594x1477		
Noise level			dB(A)	64	66	66	66
Net weight			kg	120	160		

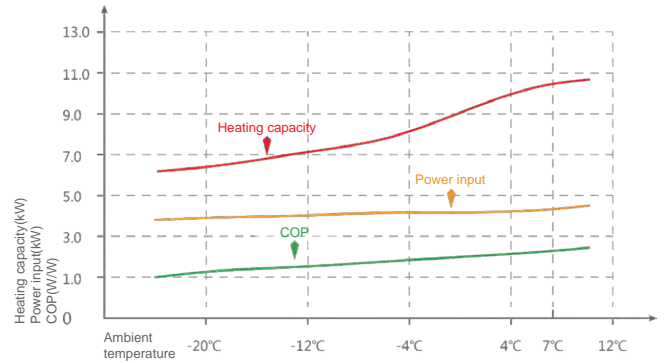
# Performance curve

## Model 10

41°C hot water

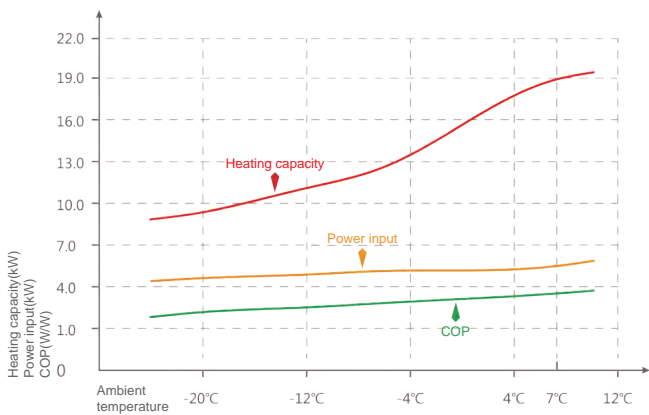


55°C hot water

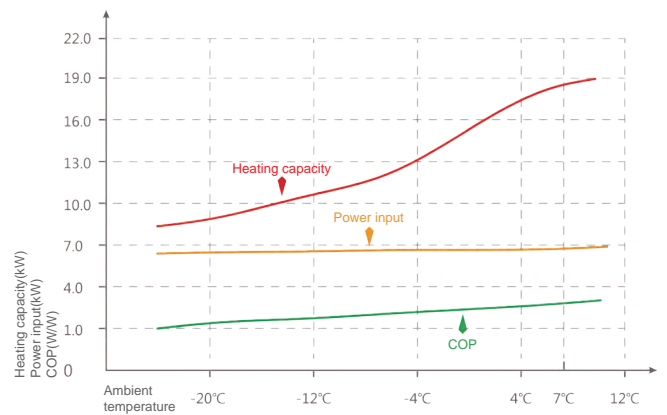


## Model 14

41°C hot water

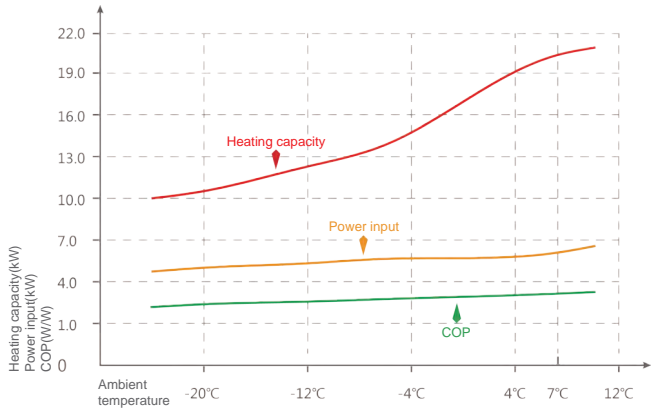


55°C hot water

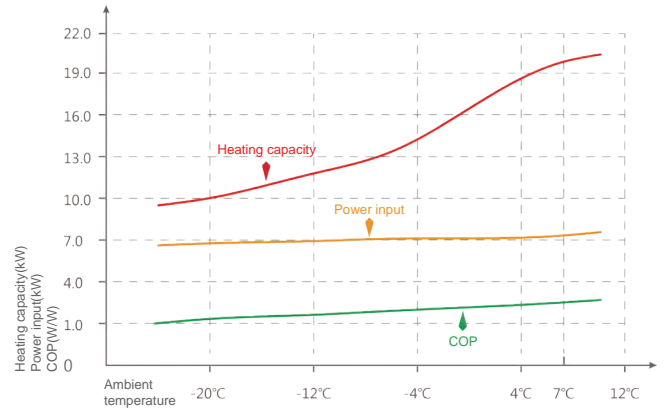


## Model 17

41°C hot water

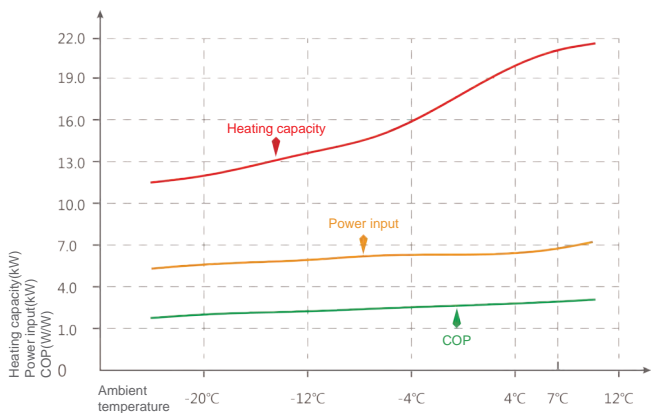


55°C hot water

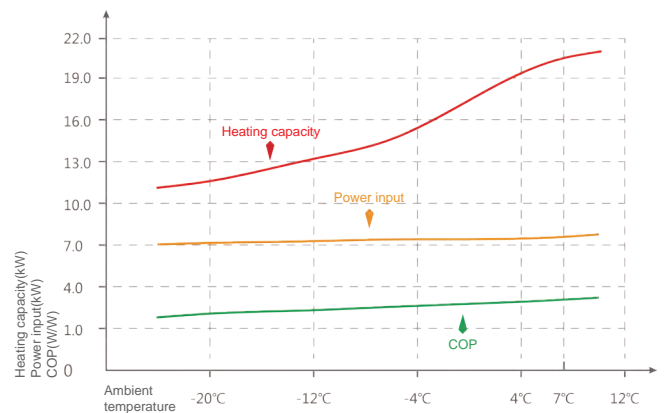


## Model 20

41°C hot water



55°C hot water



Note: Without flow switch, water pump and expansion vessel;  
Without soft starter.

# DC Inverter Mini Chiller

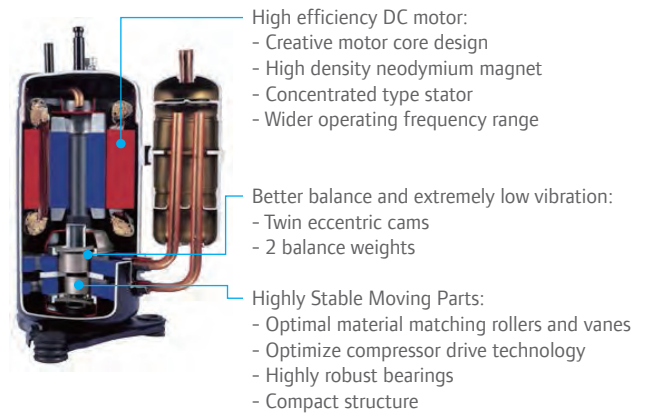
5kW~30kW



## Compressor

Twin rotary DC inverter compressor is used. The output of the outdoor unit can be adjusted precisely according to the energy demanded.

### • Compressor (Twin Rotary) structure



## Product features

### High efficiency

A<sup>+</sup> rated energy efficiency

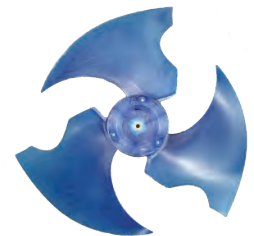


35°C

A<sup>+</sup>

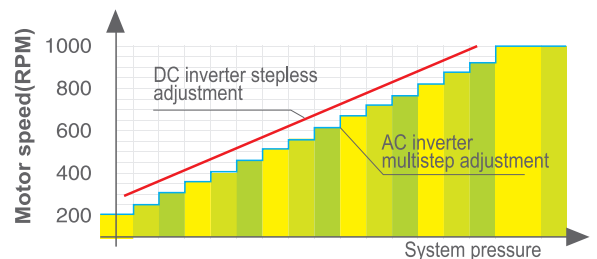
### Axial fan

High efficiency DC fan motor saved power up to 50%.



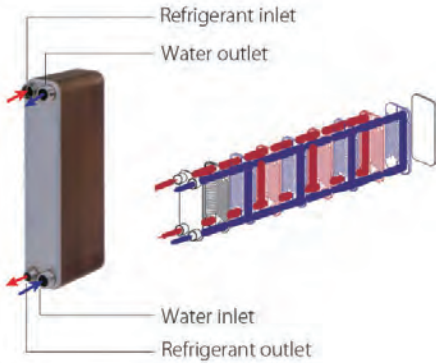
### Structure

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



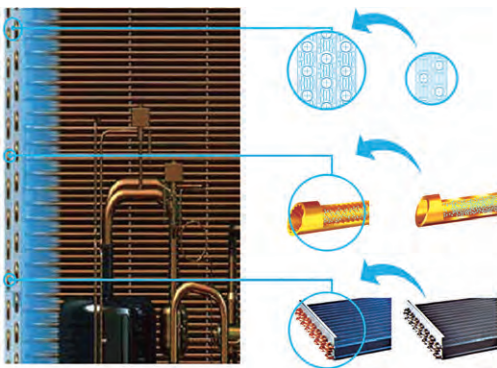
## Evaporator

High efficiency plate heat exchanger, factory insulated with flexible close cell material.



## Condenser

Coils are consisting of seamless copper tubes mechanically expanded into blue hydrophilic aluminum fins, protected with flexible plastic grill.



The new designed window fins enlarge the heat-exchanging area, decrease the air resistance, save more power and enhance heat exchange performance.

Hydrophilic film fins and inner-threaded copper pipes optimize heat exchange efficiency.

The specially coated blue fins enhance durability and protect against corrosion from air, water and other corrosive agents, assures a longer coil service life.

## Easy installation

Compact structure design and leak-tight refrigerant circuit save you much installation labor.

The chillers are equipped with a hydronic module integrated into the unit chassis, limiting the installation to straight-forward operations like connection of the power supply, the water supply and the air distribution FCUs.

The units are equipped with axial fans so they can be installed directly outdoors.

### • Hydraulic module



## Easy control

Remote ON/OFF and remote cool/heat functions.





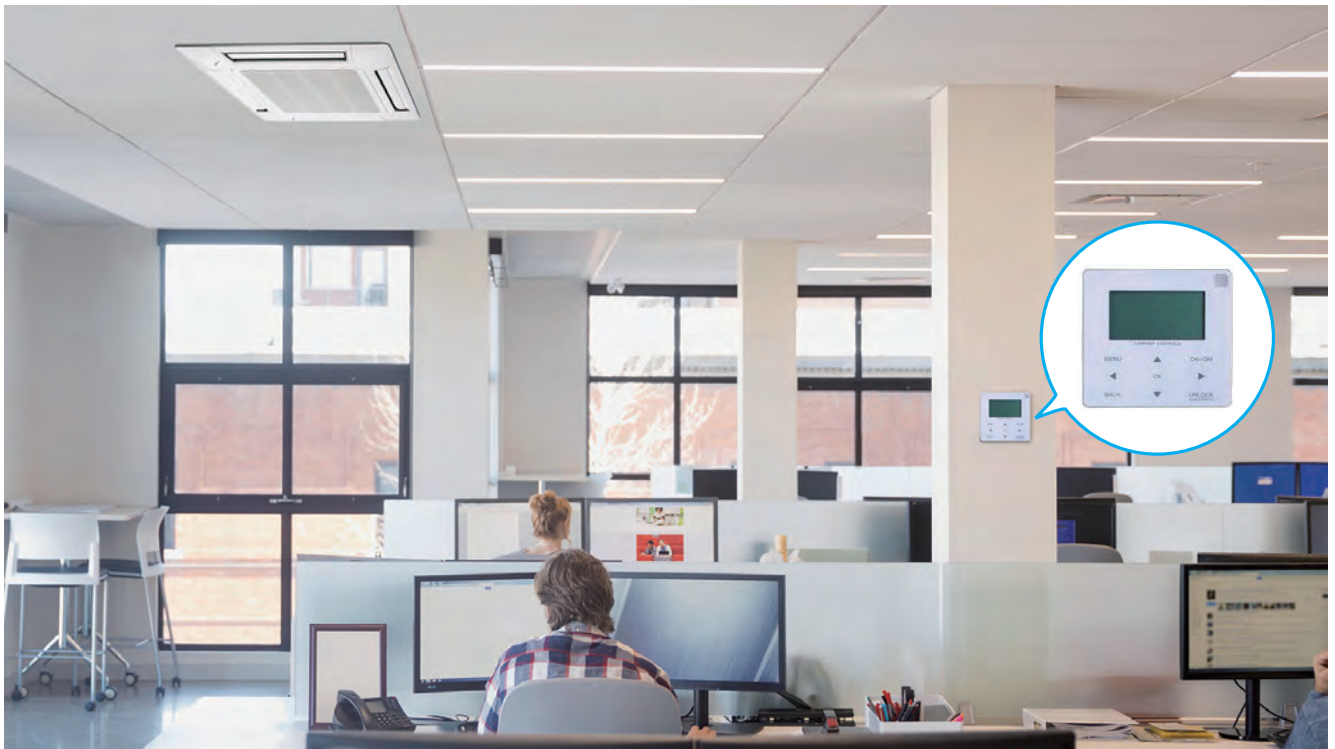
Controller built-in in unit panel used to perform all related operations as the user interface as well as fast diagnosis of possible incidents and their history.

- ON/OFF & Mode selection
- Temperature adjust
- Timer setting
- Fast diagnosis



Optional wired controller for easy operation.

- Touch key operation
- LCD displays operation parameters
- Multiple timers
- Real-time clock



Note: When the wired controller is connected, the built-in controller is only for display, check and diagnosis functions.

### Optional

Hydraulic module, including flow switch, water pump and expansion vessel (For model 30 only).

# Specifications

Model		5	7	10	12		
Capacity	Cooling	kW	5	7	10	10.5	11.2
	Power input	kW	1.55	2.25	2.95	3.11	3.5
	EER		3.23	3.11	3.39	3.38	3.2
	Heating	kW	6.2	8	11	11.1	12.3
	Power input	kW	1.9	2.5	3.14	3.14	3.78
	COP		3.26	3.2	3.5	3.54	3.25
Compressor	Type	Rotary					
	Qty	1					
Axial fan	Type	DC motor					
	Qty	1			2		
	Air flow rate	m <sup>3</sup> /h	3200	3750	4800	7000	4800
Control methods		EXV					
Evaporator type		Plate heat exchanger					
Water flow	m <sup>3</sup> /h	0.86	1.2	1.72	1.81	1.93	
Pipe connection size		1 inch			1-1/4 inch		
Water resistance	kPa	15	15	18	18	18	
Refrigerant Type		R410A					
Charge quantity	kg	2.5	2.5	2.8	2.8	2.8	
Power supply		220~240V/1Ph/50Hz			208~230V/1Ph/60Hz	220~240V/1Ph/50Hz	
Net dimensions (W×H×D)	mm	1008x963x396	1008x963x396	970x1327x400	970x1327x400	970x1327x400	
Unit shape		Side discharge					
Noise level	dB(A)	63	66	68	56	68	
Net weight	kg	81	81	110	110	110	

## Note:

1. Cooling: Chilled water inlet/outlet temp. 12/7°C; outdoor ambient temp. 35°C DB.
2. Heating: Warm water inlet/outlet temp. 40/45°C; outdoor ambient temp. 7°C DB/6°C WB.
3. Sound pressure level is measured at a position 1m in front of the unit and 1.1m above the floor in a semi-anechoic chamber.
4. Capacity and efficiency data calculated in accordance with EN14511; EN14825.

# Specifications

Model			12	14	16	18	30
Capacity	Cooling	kW	11.2	12.5	14.5	17	27
	Power input	kW	3.38	3.9	4.7	5.6	10.8
	EER		3.31	3.2	3.1	3.04	2.5
	Heating	kW	12.3	13.8	16	18.5	31
	Power input	kW	3.72	4.25	4.85	5.78	10.5
	COP		3.31	3.25	3.3	3.2	2.95
Compressor	Type		Rotary				
	Qty		1				
Axial fan	Type		DC motor				
	Qty		2				1
	Air flow rate		4800	4800	6200	7000	12500
Control methods		EXV					
Evaporator type		Plate heat exchanger					
Water flow	m <sup>3</sup> /h	1.92	2.15	2.49	2.92	5	
Pipe connection size		1-1/4 inch					DN40
Water resistance	kPa	18	18	19	23	55	
Refrigerant Type		R410A					
Charge quantity	kg	2.8	2.9	3.2	3.4	10.5	
Power supply		380~415V/3Ph/50Hz			208~230V/1Ph/60Hz	380~415V/3Ph/50Hz	
Net dimensions (W×H×D)	mm	970x1327x400					1870x1000x1175
Unit shape		Side discharge					Top discharge
Noise level	dB(A)	68	70	72	60	78	
Net Weight	kg	110	111	111	112	300	

**Note:**

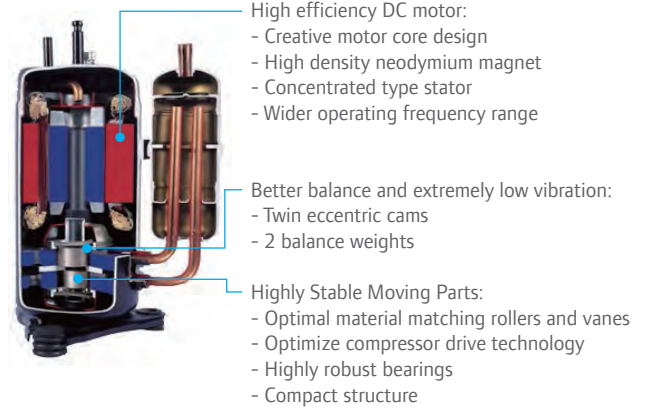
1. Cooling: Chilled water inlet/outlet temp. 12/7°C; outdoor ambient temp. 35°C DB.
2. Heating: Warm water inlet/outlet temp. 40/45°C; outdoor ambient temp. 7°C DB/6°C WB.
3. Sound pressure level is measured at a position 1m in front of the unit and 1.1m above the floor in a semi-anechoic chamber.
4. Capacity and efficiency data calculated in accordance with EN14511; EN14825.

# DC Inverter Modular Chiller

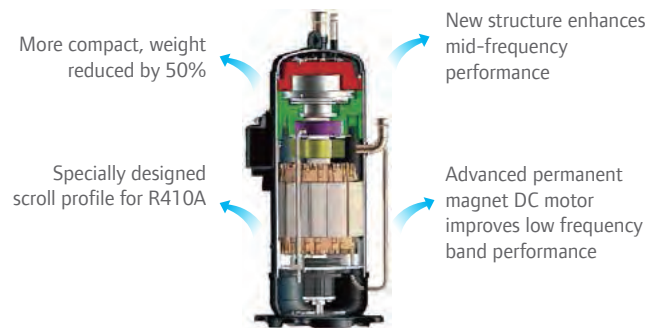
60kW~150kW



## ● Rotary compressor for 60kW



## ● Scroll compressor for 65kW~150kW



## Product features

### High efficiency

A<sup>++</sup> rated energy efficiency



35°C

A<sup>++</sup>

### Axial fan

External rotor type axial fans, equipped with single phase direct drive motors, low noise 6 poles, protection level IP54, plastic blade for low noise.



### Structure

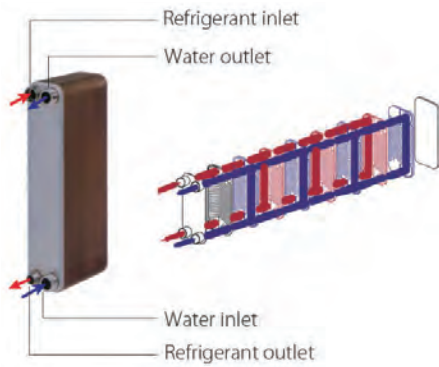
Panels and base frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents.

### Compressor

World-leading DC inverter compressor. The compressor's innovative design and numerous high performance features reduce power consumption by 25%.

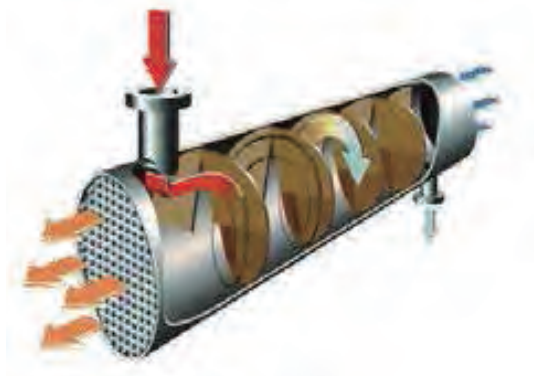
### Evaporator

● Plate heat exchanger for model 60/90  
High efficiency plate heat exchanger, factory insulated with flexible close cell material.



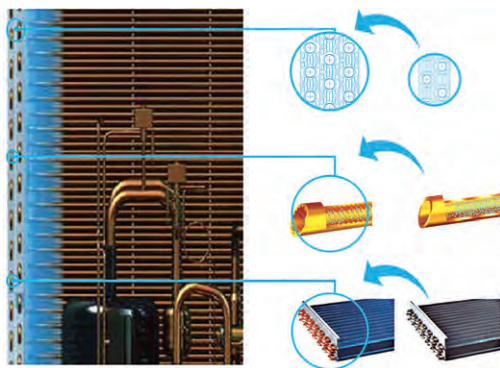
- Shell and tube heat exchanger for model 65/130/150

For shell-tube heat exchanger, the module adopts the new helical baffle design to avoid the rectangular place of water dead zone, greatly improve the heat exchange efficiency.



### Condenser

Coils are consisting of seamless copper tubes mechanically expanded into blue hydrophilic aluminum fins, protected with flexible plastic grill.



The new designed window fins enlarge the heat-exchanging area, decrease the air resistance, save more power and enhance heat exchange performance.

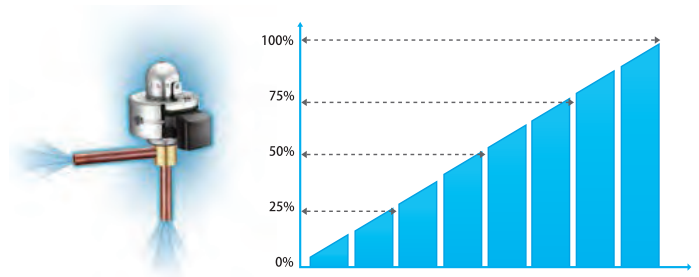
Hydrophilic film fins and inner-threaded copper

pipes optimize heat exchange efficiency.

The specially coated blue fins enhance durability and protect against corrosion from air, water and other corrosive agents, assures a longer coil service life.

### Precisely flow control

Patented liquid distribution components maximize performance and minimize impact of defrosting operation. 500-step EXV with capillary tube allows stable and accurate gas flow control. Fast response results in higher efficiency and improved reliability.



### Easy control

Touch key wire controller as standard accessory to control the chillers.

Modbus function, it is an open protocol that is widely used, especially in BMS building control systems. It can connect Max. 16 wired controllers and each controller can control Max. 16 units.



### Optional

Hydraulic module, including flow switch, water pump and expansion vessel (For model 60/90 only).

# Specifications

Model			60	65	90	130	150
Capacity	Cooling	kW	55	65	82	130	150
	Power input	kW	22	19.2	36.8	38.5	47.5
	EER		2.5	3.39	2.23	3.38	3.16
	Heating	kW	61	68	90	136	150
	Power input	kW	20.3	21.4	32.8	42.8	47.2
	COP		3.00	3.18	2.74	3.18	3.18
Compressor	Type		Rotary	Scroll	Scroll	Scroll	Scroll
	Qty		2	2	2	4	4
Axial fan	Type		DC motor	AC motor	DC motor	AC motor	
	Qty		2	2	3	4	4
	Air flow rate		24000	28600	38000	57200	57200
Control methods			EXV+Capillary	EXV			
Evaporator type			Plate heat exchanger	Shell and tube heat exchanger	Plate heat exchanger	Shell and tube heat exchanger	
Water flow	m <sup>3</sup> /h		9.8	11.18	15	22.36	25.8
Pipe connection size	DN		50	50 inner screw	50	65 flange	65 flange
Water resistance	kPa		61	55	75	55	68
Refrigerant Type			R410A				
Charge quantity	kg		17	9x2	27	9x4	9.5x4
Power supply			380~415V/3Ph/50Hz				
Net dimensions (W×H×D)	mm		2220x1055x1325	2022x996x2240	3220x1095x1513	2076x1971x2240	2076x1971x2240
Unit shape			Horizontal	Vertical	Horizontal	Vertical	Vertical
Noise level	dB(A)		87	68	89	71	71
Net Weight	kg		480	490	710	954	974

## Note:

1. Cooling: Chilled water inlet/outlet temp. 12/7°C; outdoor ambient temp. 35°C DB.
2. Heating: Warm water inlet/outlet temp. 40/45°C; outdoor ambient temp. 7°C DB/6°C WB.
3. Sound pressure level is measured at a position 1m in front of the unit and 1.1m above the floor in a semi-anechoic chamber.
4. Capacity and efficiency data calculated in accordance with EN14511; EN14825.



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