Midea

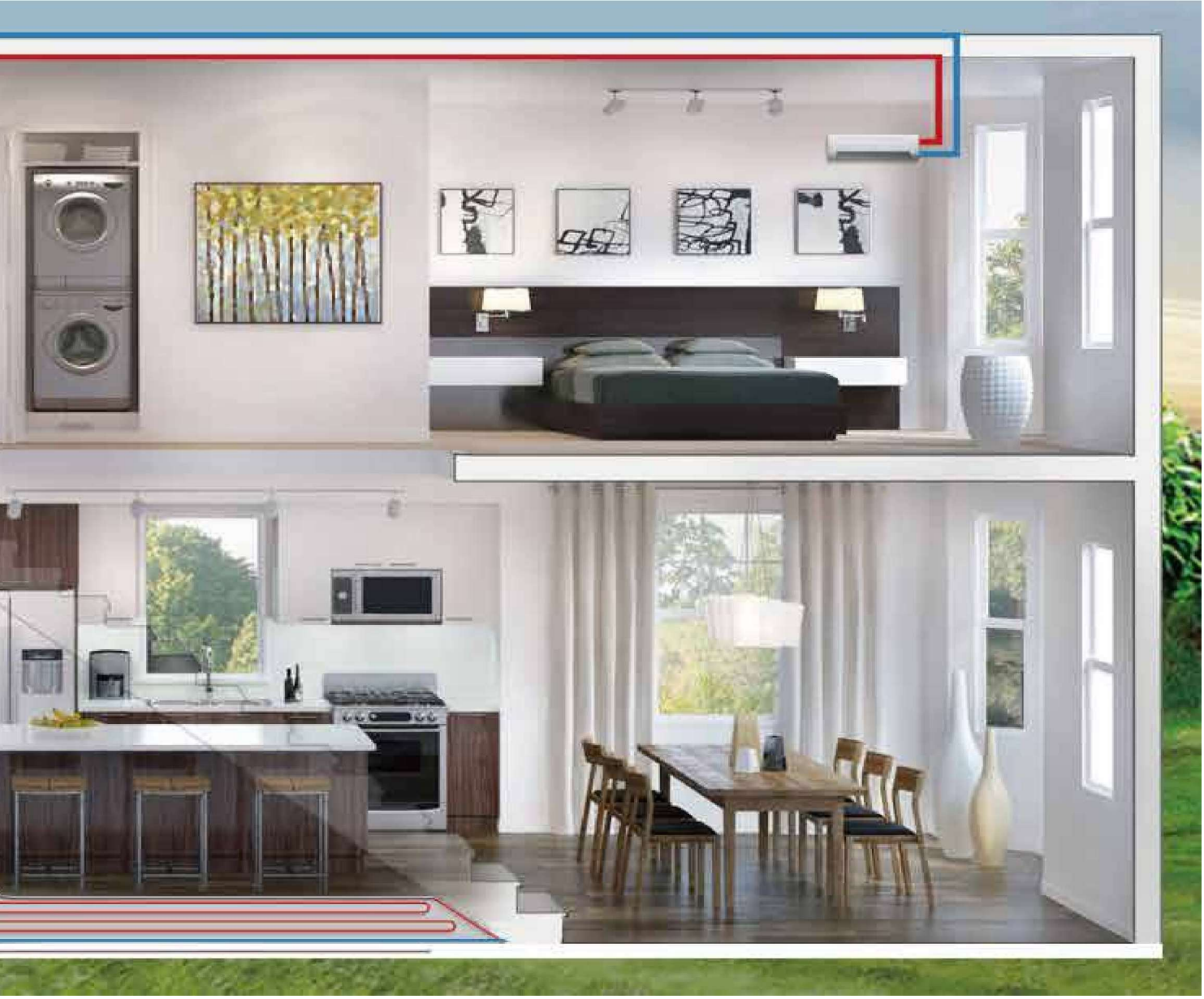
B&T Tsolakidis Heating · E-shop

Commercial Air Conditioners **2016**

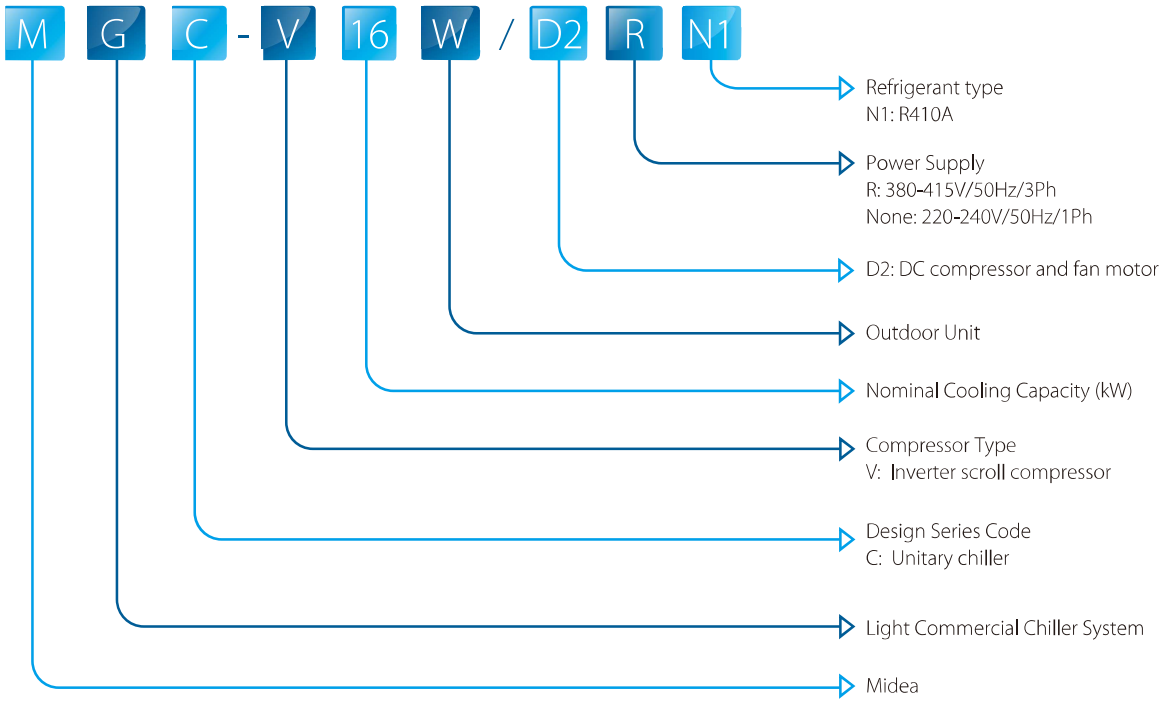
INVERTER

DC Inverter

Aqua Mini Chiller & Fan Coil Units



Nomenclature

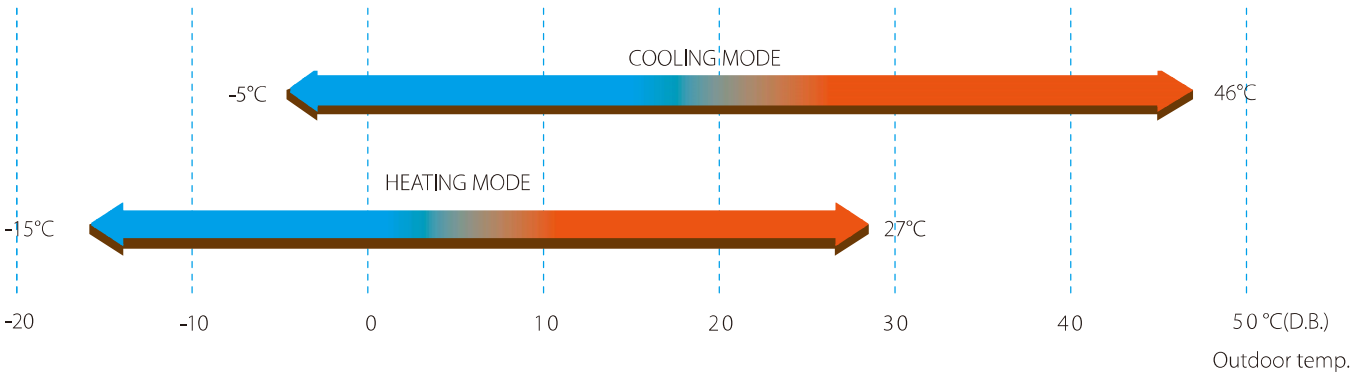


Features

Wide application range »

- Nine models with cooling capacities from 5kW to 18kW and heating capacities from 5.5kW to 18.5kW. Multiple power supply options.
- Freely combine with fan coil units and floor coils. Home owners may choose the best types according to their design taste (for interior) or functional needs.

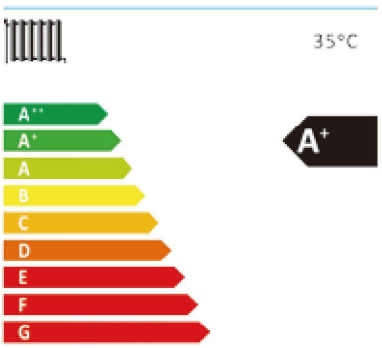
- Wide operation temperature range



- Wide range of outlet water temperature
  The water outlet temperature is 4~55°C.

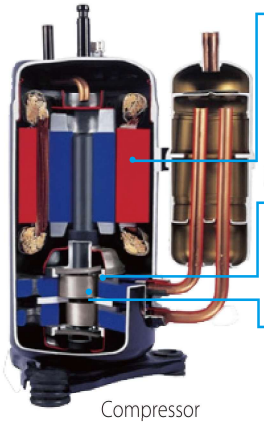
A+ rated energy efficiency at part load »

The DC inverter chiller integrates the latest technological innovations and ensures precise temperature regulation and highly efficient energy usage, making a significant contribution to the limiting the impact on the environment.



❖ DC inverter compressor

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



Compressor
(Twin Rotary) structure

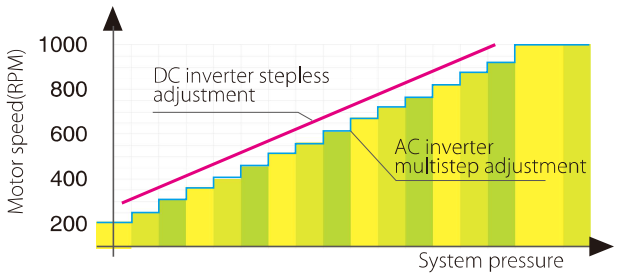
High efficiency DC motor:
- Creative motor core design
- High density neodymium magnet
- Concentrated type stator
- Wider operating frequency range

Better balance and Extremely Low Vibration:
- Twin eccentric cams
- 2 balance weights

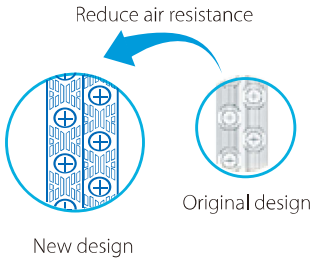
Highly Stable Moving Parts:
- Optimal material matching rollers and vanes
- Optimize compressor drive technology
- Highly robust bearings
- Compact structure

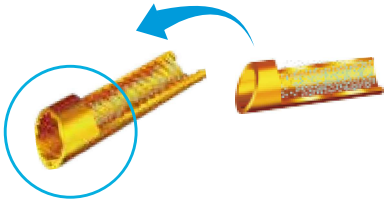
❖ DC fan motor

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

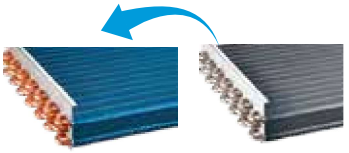


❖ High performance heat exchanger





High efficiency inner-threaded pipe, enhance heat transfer.



Hydrophilic fins + inner-threaded pipes

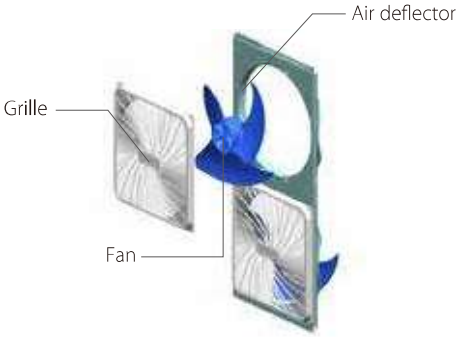
The new designed window fins enlarge the heat-exchanging area, decrease the air resistance, save more power and enhance heat exchange performance.

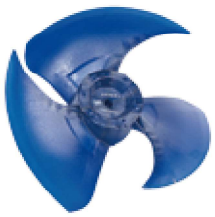
Hydrophilic film fins and inner-threaded copper pipes optimize heat exchange efficiency.

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

Advanced technology »

- DC inverter technology, optimally designed fan shape and air discharge grille ensure low sound values.

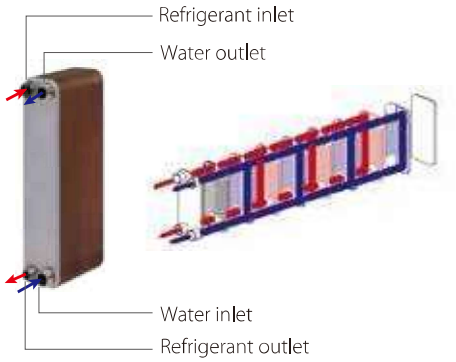




Powerful Large Propeller

Newly Designed Fan Guard

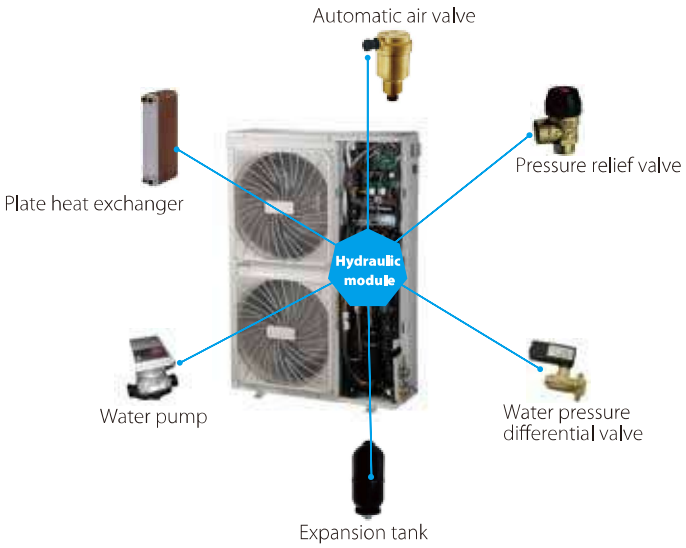
- EXV is adopted for stable and accurate gas flow control.
- High efficiency plate heat exchanger
  Plate heat exchanger uses metal plates to transfer heat between refrigerant and water. The fluids are exposed to a much larger surface area because the fluids spread out over the plates, so both heat transfer efficiency and heat exchanger speed are greatly improved.
  Multi protections including voltage protection, current protection, anti-freezing protection and water flow protection ensure system safety running.



- High efficiency water pump
  The water pump adopted is compliance with Erp directive, which is A degrade efficiency standard.

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.



Easy control »

❖ Remote ON/OFF and remote cool/heat functions.

❖ Electronic controller is 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

❖ Wired controller with weekly timer is optional.

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

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

Specifications

220~240V-1Ph-50Hz

Model			MGC-V5W/D2N1	MGC-V7W/D2N1	MGC-V10W/D2N1	MGC-V12W/D2N1
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Cooling[1]	Capacity	kW	5.0(1.9~5.8)	7.0(2.1~7.8)	10.0(2.9~10.5)	11.2(3.1~12.0)
	Rated input	W	1,550	2,250	2,950	3,500
	Rated current	A	6.8	9.9	13.0	15.4
	EER		3.23	3.11	3.39	3.20
Cooling[2]	Capacity	kW	5.6	8.0	10.6	12.2
	Ratedinput	W	1,150	1,850	2,300	2,650
	EER		4.87	4.32	4.24	4.60
	SEER		5.83	6.07	5.71	6.37
Heating[3]	Capacity	kW	6.2(2.1~7.0)	8.0(2.3~9.0)	11.0(3.2~12.0)	12.3(3.3~13.2)
	Rated input	W	1,900	2,500	3,140	3,780
	Rated current	A	8.3	11.0	13.8	16.6
	COP		3.26	3.20	3.50	3.25
Heating[4]	Capacity	kW	6.2	8.6	11.5	13.0
	Rated input	W	1,350	2,100	2,650	2,920
	COP		4.60	4.10	4.34	4.45
	SCOP		3.55	3.46	3.34	3.46
Seasonal space heating energy efficiency (ηs)			138.9%	135.3%	130.7%	135.4%
Seasonal space heating energy efficiency class			A^+	A^+	A^+	A^+
Max. input current		A	14.6	15.6	25.0	26.0
Compressor	Type		Rotary	Rotary	Rotary	Rotary
Outdoor fan	Motor type		DC Motor	DC Motor	DC Motor	DC Mo&tor
	Air flow	m^3/h	5,100	5,100	7,000	7,000
Air heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil	Fin-coil
Water heat exchanger	Type		Plate	Plate	Plate	Plate
	Water volume	L	0.53	0.53	0.7	0.78
	Water flow	m^3/h	0.86	1.20	1.72	1.92
	Water pressure drop	kPa	15	15	18	18
Water pump	Max. pump head	m	5.5	5.5	7.5	7.5
	Max. water volume	L/min	4	4	4	4
Expansion tank volume		L	2	2	3	3
Refrigerant	Type		R410A	R410A	R410A	R410A
	Charged volume	kg	2.5	2.5	2.8	2.8
Throttle type			Electronic expansion valve			
Sound power level[5]		dB(A)	63	66	68	68
Sound pressurer level		dB(A)	58	58	59	59
Unit net dimension (WxHxD)		mm	990x966x354	990x966x354	970x1,327x400	970x1,327x400
Packing dimension (WxHxD)		mm	1,120x1,100x435	1,120x1,100x435	1,082x1,456x435	1,082x1,456x435
Net/ Gross weight		kg	81/91	81/91	110/121	110/121
The Max. and Min. wate rinlet pressure[6]		kPa	500/150	500/150	500/150	500/150
Pipe connections	Water inlet/outlet	inch	1''	1''	1-1/4"	1-1/4"
Controller			Electronic controller (standard), wired controller (optional)			
Ambient temperature range	Cooling	℃	-5~46	-5~46	-5~46	-5~46
	Heating	℃	-15-27	-15-27	-15-27	-15-27
Water outlet temperature range	Cooling	℃	4~20	4~20	4~20	4~20
	Heating	℃	30~55	30~55	30~55	30~55

1.Condenser air in 35°C DB. Evaporator water in/ out 12/7°C.
2.Condenser air in 35°C DB. Evaporator water in/ out 23/18°C.
3.Evaporator air in 7°C DB, 85% R.H., Condenser water in/ out 40/45°C.
4.Evaporator air in 7°C DB, 85% R.H., Condenser water in/ out 30/35°C.
5.At 1m in open field fan side (sound pressure).
6.The maximum and minimum operating pressure values refer to the activation of the pressure switches.
7.The above data test reference standard EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU)No:811:2013; (EU)No:813:2013; OJ 2014/C 207/02:2014.

380~415V-3Ph-50Hz

Model			MGC-V12W/D2RN1	MGC-V14W/D2RN1	MGC-V16W/D2RN1
Power supply		V/Ph/Hz	380-415/ 3/50	380-415/ 3/50	380-415/ 3/50
Cooling[1]	Capacity	kW	11.2(3.1~12.0)	12.5(3.3~14.0)	14.5(3.5~15.5)
	Rated input	W	3,380	3,900	4,700
	Rated current	A	5.5	6.4	7.7
	EER		3.31	3.20	3.10
Cooling[2]	Capacity	kW	12.2	14.2	15.6
	Rated input	W	2,600	3,100	3,600
	EER		4.70	4.58	4.33
	SEER		6.18	6.69	6.78
Heating[3]	Capacity	kW	12.3(3.3~13.2)	13.8(3.5~15.4)	16.0(3.7~17.0)
	Rated input	W	3,720	4,250	4,850
	Rated current	A	6.1	7.0	8.0
	COP		3.31	3.25	3.30
Heating[4]	Capacity	kW	13.0	15.1	16.5
	Rated input	W	2,850	3,350	3,920
	COP		4.56	4.51	4.21
	SCOP		3.66	3.78	3.39
Seasonal space heating energy efficiency (ηs)			143.5%	148.3%	132.6%
Seasonal space heating energy efficiency class			A^+	A^+	A^+
Max. input current		A	8.9	9.6	10.1
Compressor	Type		Rotary	Rotary	Rotary
Outdoor fan	Motor type		DC Motor	DC Motor	DC Motor
	Air flow	m^3/h	7,000	7,000	7,000
Air heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil
Water heat exchanger	Type		Plate	Plate	Plate
	Water volume	L	0.78	0.78	1.06
	Water flow	m^3/h	1.92	2.15	2.49
	Water pressure drop	kPa	18	18	19
Water pump	Max. pump head	m	7.5	7.5	7.5
	Max. water volume	L/min	4	4	4
Expansion tank volume		L	3	3	3
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	kg	2.8	2.9	3.2
Throttle type			Electronic expansion valve		
Sound power level		dB(A)	68	70	72
Sound pressurer level[5]		dB(A)	62	62	62
Unit net dimension (W×H×D)		mm	970×1,327×400	970×1,327×400	970×1,327×400
Packing dimension (W×H×D)		mm	1,082×1,456×435	1,082×1,456×435	1,082×1,456×435
Net/ Gross weight		kg	110/121	111/122	111/122
The Max. and Min. wate rinlet pressure[6]		kPa	500/150	500/150	500/150
Pipe connections	Water inlet/outlet	inch	1-1/4"	1-1/4"	1-1/4"
Controller			Electronic controller (standard), wired controller (optional)		
Ambient temperature range	Cooling	℃	-5~46	-5~46	-5~46
	Heating	℃	-15-27	-15-27	-15-27
Water outlet temperature range	Cooling	℃	4~20	4~20	4~20
	Heating	℃	30~55	30~55	30~55

1.Condenser air in 35°C DB. Evaporator water in/ out 12/7°C.
2.Condenser air in 35°C DB. Evaporator water in/ out 23/18°C.
3.Evaporator air in 7°C DB, 85% R.H., Condenser water in/ out 40/45°C.
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