



Commercial Air Conditioners **2017/2018**



Air Source Heat Pump

Midea CAC

Midea CAC is a key division of the Midea Group, a leading producer of consumer appliances and provider of heating, ventilation and air conditioning solutions. Midea CAC has continued with the tradition of innovation upon which it was founded, and emerged as a global leader in the HVAC industry. A strong drive for advancement has created a groundbreaking R&D department that has placed Midea CAC at the forefront of a competitive field. Through these independent efforts and joint cooperation with other global enterprises, Midea has supplied thousands of innovative solutions to customers worldwide.



**Midea Company
Introduction**



**Midea CAC
Introduction**





There are three production bases: Shunde, Chongqing and Hefei.

MCAC Shunde: 38 product lines focusing on VRF, Split Products, Heat Pump Water Heaters, and AHU/FCU.

MCAC Chongqing: 14 product lines focusing on Water Cooled Centrifugal/Screw/Scroll Chillers, Air Cooled Screw/Scroll Chillers, and AHU/FCU.

MCAC Hefei: 11 product lines focusing on VRF, Chillers, and Heat Pump Water Heaters.

2016 >> Strategic alliance between Midea and Italy's Clivet.

Launched the new generation of M-Thermal products, including Mono and Split type.

2015 >> JV with Carrier in China in chiller field, BOSCH in VRF production and Siix in smart control.

2013 >> Launched combo type 300L products with enamel water tank.

2012 >> Introduced the professional production line EISENMAN from German.

2011 >> Launched the first generation of M-thermal products.

2010 >> Built the 3rd manufacturing base in Hefei.

2008 >> Launch the first generation of combo type products.

2007 >> Cooperated with GE to develop combo type air source heat pump.

2004 >> Launch the first generation of direct heating products.

2003 >> Entered the air source heat pump field and launched the first generation cycle heating products.

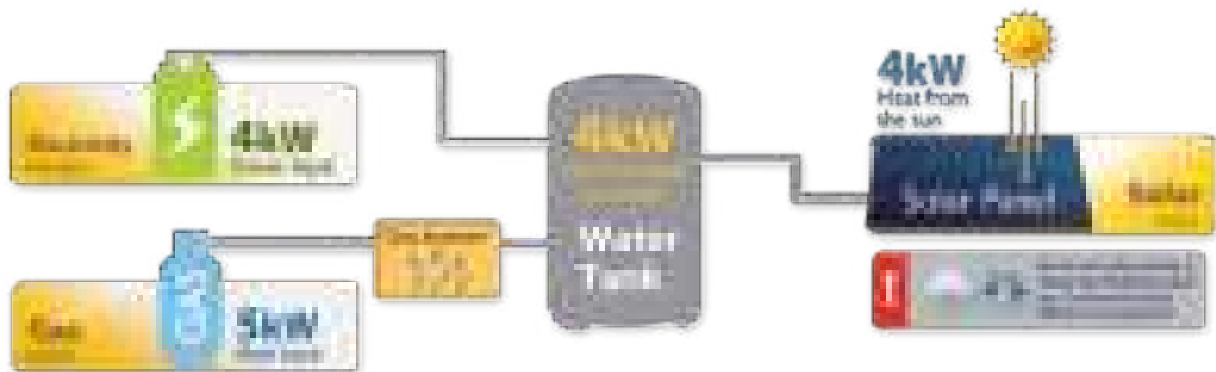
1999 >> Entered the CAC field.

Renewable

Heat pump is renewable and energy saving



Why select HPWH?



Comparison of the power needed to heat 1 ton water from 15°C to 55°C under the same conditions (Data from Midea)

	Midea HPWH	Gas Water Heater	Electric Water Heater	Boiler	Solar Water Heater
Energy Resource	Air,electricity	Gas	Electricity	Diesel oil	Solar,electricity
Calorific Value	860kcal/kW.h	24000kcal/m ³	860kcal/kW.h	10200kcal/kg	860kcal/kW.h
Average Efficiency	4.6	0.8	0.95	0.7	2.7 (1/3 weather need Auxiliary Heater)
Consumption	10kW.h	2.08m ³	48.9kW.h	5.6kg	17.22kW.h
Running Cost(USD)	0.9	5.9	4.3	6.5	1.5
Merit/Demerit	Green,safe,energy saving,friendly for environment and easy for installation	Risk of fire and explosion, emits CO ₂	Risk of electric shocks.	Risk of fire and explosion, emits CO ₂	Difficult to install, takes up a lot of space, water tank capacity is limited.

Contents

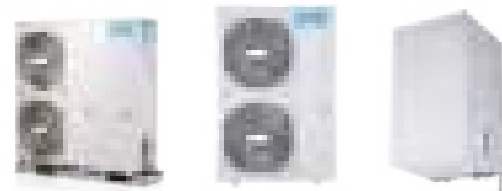
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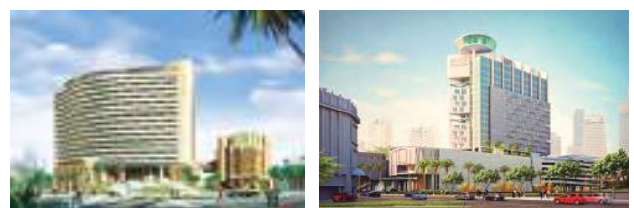
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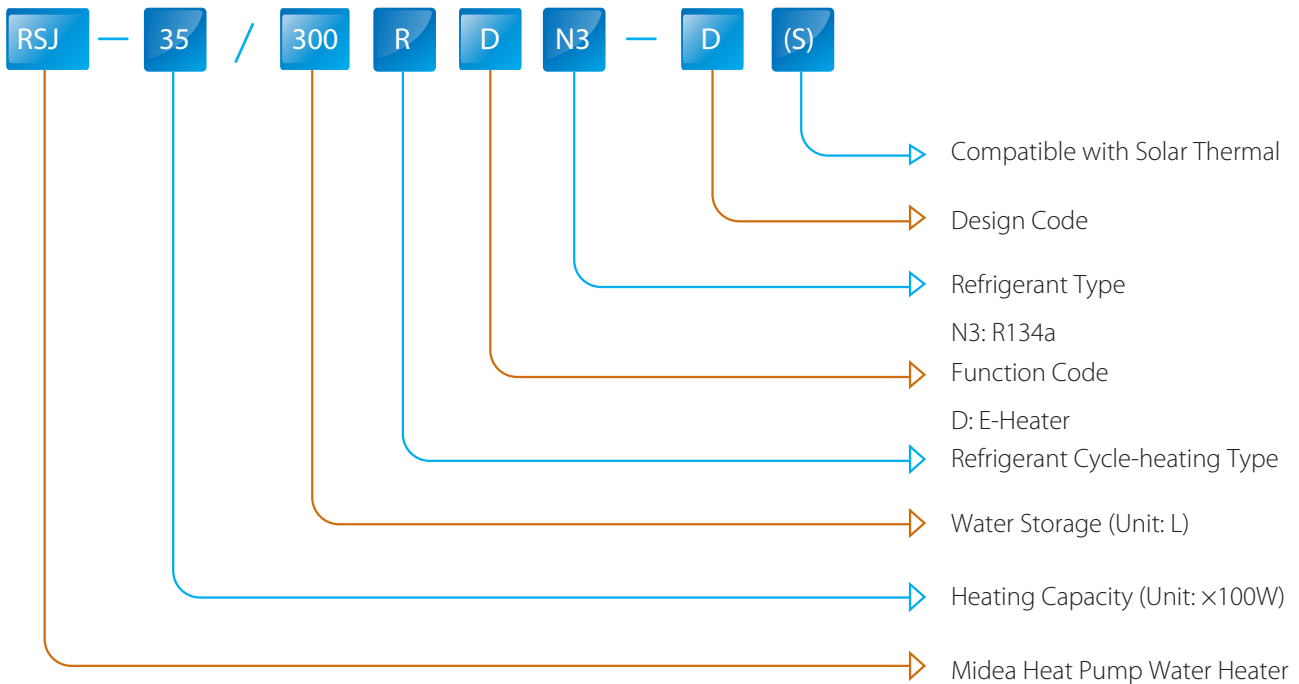
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Sanitary Hot Water Combo Type



Nomenclature



Features

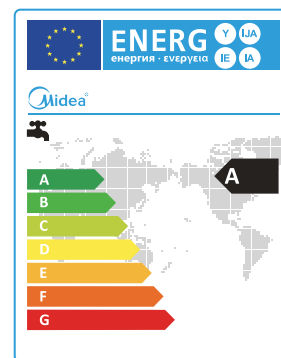
Environmental protection >>

- ❖ Environmentally friendly refrigerant R134a is used.
- ❖ No discharge of poisonous gas.
- ❖ No pollution to atmosphere and environment.



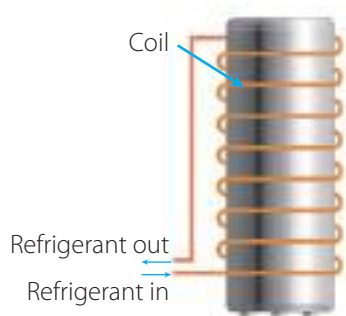
High heating energy efficiency >>

The unit adopts heat pump principle, which absorbs heat from ambient air and releases it to the water to produce hot water. Seasonal water heating energy efficiency class ups to A.



Safety >>

- ❖ Complete isolation between water and electricity without electric shock problem.
- ❖ No fuel tubes and storage, no potential danger from oil leakage, fire, explosion, and so on.
- ❖ No cross contamination potential, the condenser coil is wrapped around the inner tank.



Easy installation >>

- ❖ Integral designed and just need to connect water pipes.
- ❖ 25Pa external static pressure enables air duct up to 10m.
- ❖ Flexible duct installation.

Living room



Dining room



Cellar



Storage room



Note: RSJ-15/190RDN3-C is not available for duct connection



Combo Type 190L

RSJ-15/190RD3-C



- ❖ A rated energy efficiency
- ❖ Running ambient temperature -20~43°C
- ❖ Water output temperature 38~70°C
- ❖ 8 key LCD display panel
- ❖ Automatic weekly disinfect function



Specifications

Model		RSJ-15/190RD3-C		
Power supply	V/Ph/Hz	220-240/1/50		
Running mode		Economy	Hybrid	E-heater
Running ambient temperature	°C	5~43	-20~43	-20~43
Output water temperature	°C	Default 60°C, 38°C~70°C		
Storage size	Ltr	190		
Capacity ¹	kW	1.50	Heat pump:1.50; E-heater:2.15	2.15
COP		3.50	Heat pump:3.50; E-heater:1.00	1.00
Max. current	A	2.3	12.1	9.3
Water heating energy efficiency class		A		
Dimension (DxH)	mm	Φ568x1,580		
Packing (WxHxD)	mm	730x1,660x700		
Net/gross weight	kg	90/101		
Sound pressure level ²	dB(A)	48		
Sound power level	dB(A)	58		
Compressor	Type	Rotary		
Fan motor	Type	AC Motor		
Air side heat exchanger	Type	Fin-coil		
Water side heat exchanger	Type	Dividing wall type heat exchanger		
Refrigerant	Type/Quantity	kg	R134a/0.8	
	Throttle type		Electric expansion valve	
Water pipeline	Water inlet pipe	mm	DN20	
	Water outlet pipe	mm	DN20	
	Drainage pipe	mm	DN20	
	PTR valve joint	mm	DN20	
E-heater	kW	2.15		
Hot water yield	m ³ /h	0.043	0.053	0.062
Applicable persons		3~4		

Remark:

1. The test conditions: outdoor temperature 15/12°C(DB/WB), initial water temperature in the units is 15°C, terminal water temperature is 45°C.
2. Sound pressure value test conditions: four side of the unit, distance is 1m, and height is 1m + half of the unit's height.
3. The above data test reference standard EN16147:2011; EN60379:2004; EN12103:2011; (EU)No:812:2013; (EU)No:814:2013.
4. The specifications may be changed for product improvement without notice.



Combo Type 190L

RSJ-15/190RDN3-F

- ❖ 25Pa air flow pressure enables ducted length up to 10m
- ❖ A rated energy efficiency
- ❖ Running ambient temperature -20~43°C
- ❖ Water output temperature 38~70°C
- ❖ 9 key LCD display panel
- ❖ Automatic weekly disinfect function



Specifications

Model		RSJ-15/190RDN3-F	
Power supply	V/Ph/Hz	220-240/1/50	
Heat Source		Economy	E-heater
Running ambient temperature	°C	-7~43	-20~43
Output water temperature	°C	Default 60°C, 38°C~70°C	
Storage size	Ltr	190	
Capacity ¹	kW	1.45	3.15
COP		3.80	1.00
Max. current	A	16	
Water heating energy efficiency class		A	
Dimension (DxH)	mm	Φ560x1,760	
Packing (WxHxD)	mm	695x1,805x685	
Net/gross weight	kg	107/120	
Sound pressure level ²	dB(A)	42	
Sound power level	dB(A)	58	
Compressor	Type	Rotary	
Fan motor	Type	AC Motor	
Air side heat exchanger	Type	Fin-coil	
Water side heat exchanger	Type	Dividing wall type heat exchanger	
Refrigerant	Type/Quantity	R134a/1.0	
	Throttle type	Electric expansion valve	
Water pipeline	Water inlet pipe	mm	DN20
	Water outlet pipe	mm	DN20
	Drainage pipe	mm	DN20
	PTR valve joint	mm	DN20
E-heater	kW	3	
Hot water yield	m ³ /h	0.043	0.086
Applicable persons		3~4	

Remark:

1. The test conditions: outdoor temperature 15/12°C(DB/WB), initial water temperature in the units is 15°C, terminal water temperature is 45°C.
2. Sound pressure value test conditions: four side of the unit, distance is 1m, and height is 1m + half of the unit's height.
3. The above data test reference standard EN16147:2011; EN60379:2004; EN12103:2011; (EU)No:812:2013; (EU)No:814:2013.
4. The specifications may be changed for product improvement without notice.



Combo Type 300L (Stainless Tank)

RSJ-35/300RDN3-D(S)

- ❖ Built-in heat exchanger, compatible with solar thermal or boilers
- ❖ 25Pa air flow pressure enables ducted length up to 10m
- ❖ A rated energy efficiency
- ❖ Running ambient temperature -20~43°C
- ❖ Water output temperature 38~60°C
- ❖ 9 key LCD display panel
- ❖ Automatic weekly disinfect function

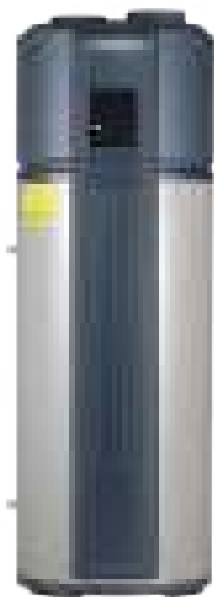


Specifications

Model			RSJ-35/300RDN3-D(S)	
Heat Source			Economy	E-heater
Running ambient temperature	°C		-7~43	-20~43
Output water temperature	°C		Default 55,38~60	
Power supply	V/Ph/Hz		220-240/1/50	
Storage size	Ltr		300	
Capacity ¹	kW		3.00	3.00
COP			3.60	1.00
Max. current	A		6.5	13.0
Water heating energy efficiency class			A	
Dimension (DxH)	mm		Φ650x1,920	
Packing (WxHxD)	mm		750x2,150x780	
Net/gross weight	kg		123/150	
Sound pressure level ²	dB(A)		48	
Sound power level	dB(A)		60	
Compressor	Type		Rotary	
Fan motor	Type		AC Motor	
Air side heat exchanger	Type		Fin-coil	
Water side heat exchanger	Type		Dividing wall type heat exchanger	
Refrigerant	Type/Quantity	kg	R134a/1.2	
	Throttle type		Electric expansion valve	
Water pipeline	Water inlet pipe	mm	DN20	
	Water outlet pipe	mm	DN20	
	Drainage pipe	mm	DN20	
	PTR valve joint	mm	DN20	
Solar heat exchanger	Water inlet pipe	mm	DN20	
	Water outlet pipe	mm	DN20	
E-heater	kW		3	
Hot water yield	m ³ /h		0.086	
Applicable persons			5~6	

Remark:

1. The test conditions: outdoor temperature 15/12°C(DB/WB), initial water temperature in the units is 15°C, terminal water temperature is 45°C.
2. Sound pressure value test conditions: four side of the unit, distance is 1m, and height is 1m + half of the unit's height.
3. The above data test reference standard EN16147:2011; EN60379:2004; EN12103:2011; (EU)No:812:2013; (EU)No:814:2013.
4. The specifications may be changed for product improvement without notice.



Combo Type 300L

RSJ-35/300RDN3-E1

- ❖ Enamel water tank
- ❖ 25Pa air flow pressure enables ducted length up to 10m
- ❖ A rated energy efficiency
- ❖ Running ambient temperature -20~43°C
- ❖ Water output temperature 38~65°C
- ❖ 8 key LCD display panel
- ❖ Automatic weekly disinfect function

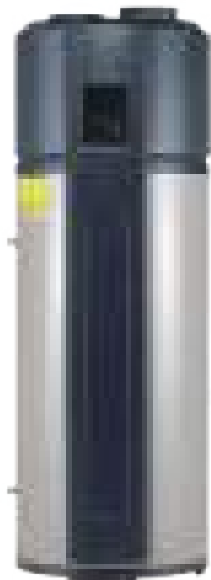


Specifications

Model		RSJ-35/300RDN3-E1		
Power supply	V/Ph/Hz	220-240/1/50		
Running mode		Economy	Hybrid	E-heater
Running ambient temperature	°C	-7~43	-20~43	-20~43
Output water temperature	°C	Default 55,38~65		
Storage size	Ltr	300		
Capacity ¹	kW	3.00	3.00	3.00
COP		3.76	3.76	1.00
Max. current	A	6.5	18.7	13.0
Water heating energy efficiency class		A		
Dimension (DxH)	mm	Φ650×1,920		
Packing (WxHxD)	mm	750×2,150×780		
Net/gross weight	kg	145.5/175.5		
Sound pressure level ²	dB(A)	45		
Sound power level	dB(A)	56		
Compressor	Type	Rotary		
Fan motor	Type	AC Motor		
Air side heat exchanger	Type	Fin-coil		
Water side heat exchanger	Type	Dividing wall type heat exchanger		
Refrigerant	Type/Quantity	kg	R134a/1.2	
	Throttle type		Electric expansion valve	
Water pipeline	Water inlet pipe	mm	DN20	
	Water outlet pipe	mm	DN20	
	Drainage pipe	mm	DN20	
	PTR valve joint	mm	DN20	
E-heater	kW	3		
Hot water yield	m ³ /h	0.086		
Applicable persons		5~6		

Remark:

1. The test conditions: outdoor temperature 15/12°C(DB/WB), initial water temperature in the units is 15°C, terminal water temperature is 45°C.
2. Sound pressure value test conditions: four side of the unit, distance is 1m, and height is 1m + half of the unit's height.
3. The above data test reference standard EN16147:2011; EN60379:2004; EN12103:2011; (EU)No:812:2013; (EU)No:814:2013.
4. The specifications may be changed for product improvement without notice.



Combo Type 300L

RSJ-35/300RDN3-F1

- ❖ Enamel water tank
- ❖ 25Pa air flow pressure enables ducted length up to 10m
- ❖ A rated energy efficiency
- ❖ Running ambient temperature -20~43°C
- ❖ Water output temperature 38~65°C
- ❖ 9 key LCD display panel
- ❖ Automatic weekly disinfect function



Specifications

Model		RSJ-35/300RDN3-F1	
Power supply	V/Ph/Hz	220-240/1/50	
Heat Source		Economy	E-heater
Running ambient temperature	°C	-7~43	-20~43
Output water temperature	°C	Default 55,38~65	
Storage size	Ltr	300	
Capacity ¹	kW	3.00	3.00
COP		3.60	1.00
Max. current	A	6.5	13.0
Water heating energy efficiency class		A	
Dimension (DxH)	mm	Φ650×1,920	
Packing (WxHxD)	mm	750×2,150×780	
Net/gross weight	kg	145.5/175.5	
Sound pressure level ²	dB(A)	45	
Sound power level	dB(A)	58	
Compressor	Type	Rotary	
Fan motor	Type	AC Motor	
Air side heat exchanger	Type	Fin-coil	
Water side heat exchanger	Type	Dividing wall type heat exchanger	
Refrigerant	Type/Quantity	R134a/1.2	
	Throttle type	Electric expansion valve	
Water pipeline	Water inlet pipe	mm	DN20
	Water outlet pipe	mm	DN20
	Drainage pipe	mm	DN20
	PTR valve joint	mm	DN20
E-heater	kW	3	
Hot water yield	m ³ /h	0.086	
Applicable persons		5~6	

Remark:

1. The test conditions: outdoor temperature 15/12°C(DB/WB), initial water temperature in the units is 15°C, terminal water temperature is 45°C.
2. Sound pressure value test conditions: four side of the unit, distance is 1m, and height is 1m + half of the unit's height.
3. The above data test reference standard EN16147:2011; EN60379:2004; EN12103:2011; (EU)No:812:2013; (EU)No:814:2013.
4. The specifications may be changed for product improvement without notice.



Combo Type 300L (60Hz)

RSJ-35/300RDN3-B

- ❖ Enamel water tank
- ❖ 25Pa air flow pressure enables ducted length up to 10m
- ❖ Running ambient temperature -20~43°C
- ❖ Water output temperature 38~60°C
- ❖ 9 key LCD display panel
- ❖ Automatic weekly disinfect function

Specifications

Model		RSJ-35/300RDN3-B	
Power supply	V/Ph/Hz	220/1/60	
Running ambient temperature	°C	-7~43	-20~43
Output water temperature	°C	Default 55,38~60	
Storage size	Ltr	300	
Capacity ¹	kW	3.40	3.00
COP		3.50	1.00
Max. current	A	20.6	
Dimension (DxH)	mm	Φ650x1,920	
Packing (WxHxD)	mm	750x2,150x780	
Net/gross weight	kg	145.5/175.5	
Sound pressure level ²	dB(A)	48	
Sound power level	dB(A)	60	
Compressor	Type	Rotary	
Fan motor	Type	AC Motor	
Air side heat exchanger	Type	Fin-coil	
Water side heat exchanger	Type	Dividing wall type heat exchanger	
Refrigerant	Type/Quantity	kg	R134a/1.2
	Throttle type		Electric expansion valve
Water pipeline	Water inlet pipe	mm	DN20
	Water outlet pipe	mm	DN20
	Drainage pipe	mm	DN20
	PTR valve joint	mm	DN20
E-heater	kW	3	
Hot water yield	m ³ /h	0.094	0.086
Applicable persons		5~6	

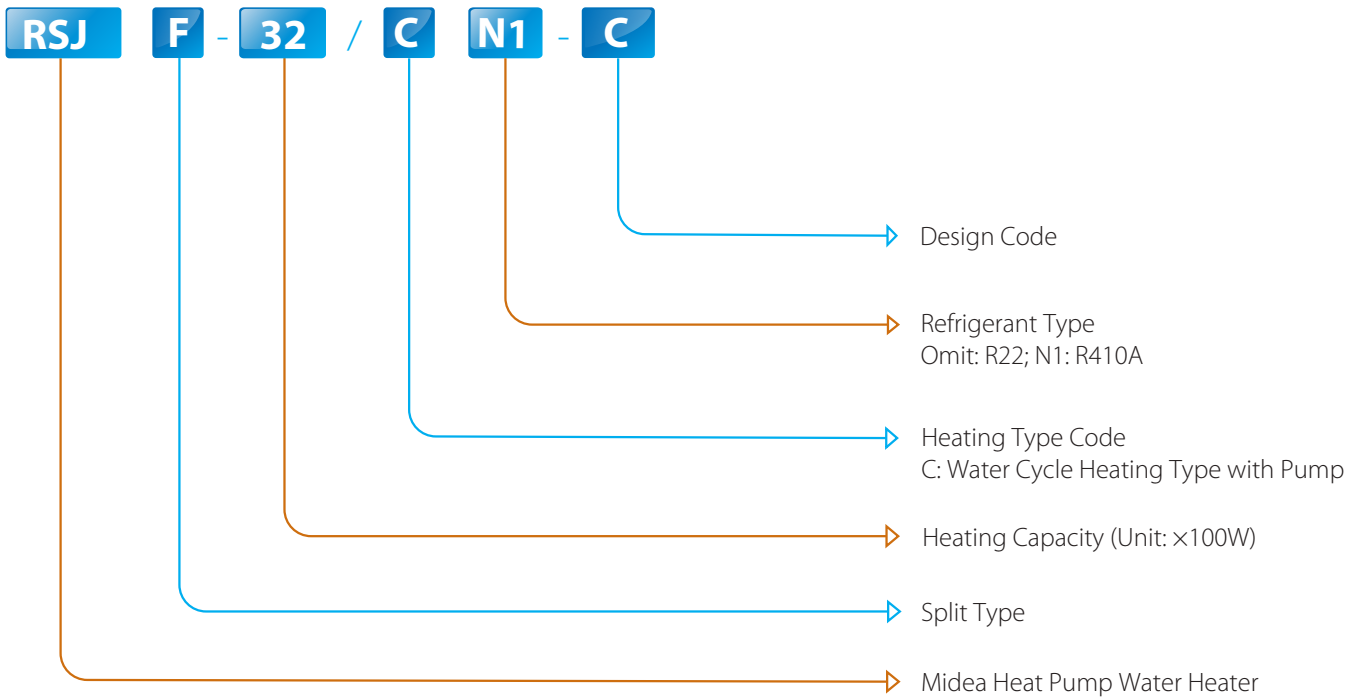
Remark:

1. The test conditions: outdoor temperature 15/12°C(DB/WB), initial water temperature in the units is 15°C, terminal water temperature is 45°C.
2. Sound pressure value test conditions: four side of the unit, distance is 1m, and height is 1m + half of the unit's height.
3. The specifications may be changed for product improvement without notice.



Sanitary Hot Water Split Type

Nomenclature



Features

- ❖ Max. water output temperature: 60°C.
- ❖ Automatic startup and shutdown, automatic defrost.
- ❖ Close refrigerant circuit, easy for plumber installation.
- ❖ Built-in water pump.
- ❖ Products adopted double-wall heat exchanger is optional.



Double-wall heat exchanger

Wired Controller

- ❖ Touch key operation.
- ❖ LCD displays operation parameters.
- ❖ Multiple timers.
- ❖ Real-time clock function.
- ❖ Power-off memory function.



Note: It can be applied to most of the Midea HPWH models by properly setting.

Specifications

Model			RSJF-32/CN1-B	RSJF-50/CN1-B	RSJF-72/CN1-B1	RSJF-32/CN1-C	RSJF-50/CN1-C	RSJF-72/CN1-C	
Power supply	V/Ph/Hz	220-240/1/50							
Running ambient temperature	°C	-7~43	-7~43	-7~43	-7~43	-7~43	-7~43	-7~43	
Output water temperature	°C	Default 50°C, 40°C~60°C							
Water heating	Capacity	kW	3.00	4.30	6.50	3.00	4.30	6.50	
	Input	kW	0.81	1.11	1.80	0.87	1.22	1.72	
	COP		3.70	3.87	3.61	3.45	3.53	3.78	
	Max. current	A	7.5	8.3	15.3	6.8	8.5	12.4	
Dimension (WxHxD)	mm	790x765x275	790x765x275	845x945x335	790x765x275	790x765x275	845x945x335	845x945x335	
Packing (WxHxD)	mm	905x807x355	905x807x355	965x1,009x395	905x807x355	905x807x355	965x1,009x395	965x1,009x395	
Net/gross weight	kg	56/60	62/66	81/86.5	48/52	55/58	68.5/74	68.5/74	
Outdoor noise level	dB(A)	53	55	55	53	55	55	55	
Air flow	m ³ /h	2,000	2,000	3,200	2,000	2,000	3,200	3,200	
Compressor	Type	Rotary							
Fan motor	Type	AC Motor							
Water side heat exchanger	Type	Double-wall heat exchanger				Single-wall heat exchanger			
Air side heat exchanger	Type	Fin-coil							
Water pump	Pump head	m	5.5	5.5	5.5	5.5	5.5	5.5	
	Water volume	L/min	10	10	10	10	10	10	
Refrigerant	Type/Quantity	kg	R410A/0.95	R410A/1.2	R410A/1.3	R410A/0.7	R410A/0.9	R410A/1.0	
	Throttle type		Electric expansion valve						
Water pipeline	Water inlet pipe	mm	DN20	DN20	DN20	DN20	DN20	DN20	
	Water outlet pipe	mm	DN20	DN20	DN20	DN20	DN20	DN20	
Controller		KJR-51/BMKE-A							
Hot water yield	m ³ /h	0.516	0.74	1.12	0.516	0.74	1.12	1.12	
Storage size of optional tank	L	100~300	150~350	300~500	100~300	150~350	300~500	300~500	

Remark:

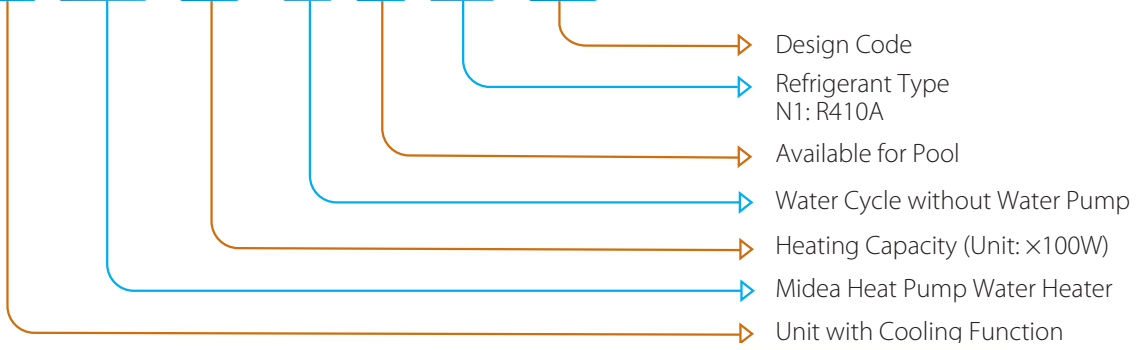
1. The test conditions: outdoor temperature 7/6°C(DB/WB), inlet water temperature 30°C, outlet water temperature 35°C.
2. The specifications may be changed for product improvement, please refer to the nameplate.

Swimming Pool



Nomenclature

L RSJ - 60 / N Y N1 - A1



Features

- ❖ Titanium heat exchanger.
- ❖ LCD display.
- ❖ Automatic defrosting function.
- ❖ Heating and cooling mode.



Titanium heat exchanger



Specifications

Model			LRSJ-60/NYN1-A1	LRSJ-80/NYN1-A1	LRSJ-120/NYN1-A1	LRSJ-140/NYN1-A1
Power supply		V/Ph/Hz	220-240/1/50			
Heating	Capacity	kW	6.00	8.00	11.70	13.60
	Input	kW	1.150	1.518	2.350	2.550
	COP		5.22	5.27	4.98	5.33
	Ambient temperature	°C	-7~38	-7~38	-7~38	-7~38
	Output water temperature	°C	Default 28°C, 20°C~35°C			
Cooling	Capacity	kW	4.00	5.80	8.25	10.35
	Input	kW	1.25	1.50	2.50	2.90
	EER		3.20	3.87	3.30	3.57
	Ambient temperature	°C	15~43	15~43	15~43	15~43
	Output water temperature	°C	Default 28°C, 10°C~30°C			
Max. current		A	6.3	8.0	13.7	16.0
Dimension (WxHxD)		mm	1,015x705x385	1,015x705x385	1,050x855x315	1,050x855x315
Packing (WxHxD)		mm	1,095x840x445	1,095x840x445	1,160x980x410	1,160x980x410
Net/Gross weight		kg	58.5/67.5	66/75	75/85	75/85
Outdoor noise level		dB(A)	58	58	58	58
Compressor	Type		Rotary	Rotary	Rotary	Rotary
Fan motor	Type		AC motor	AC motor	AC motor	AC motor
Water side heat exchanger	Type		Titanium-tube	Titanium-tube	Titanium-tube	Titanium-tube
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil	Fin-coil
Refrigerant	Type/Quantity	kg	R410A/1.0	R410A/1.25	R410A/1.6	R410A/1.85
	Throttle type		Capillary	Capillary	Capillary	Capillary
Water pipeline	Water inlet pipe	mm	Φ50	Φ50	Φ50	Φ50
	Water outlet pipe	mm	Φ50	Φ50	Φ50	Φ50
	Drainage pipe	mm	Φ25	Φ25	Φ25	Φ25
Wire controller			KJRH-90B/E	KJRH-90B/E	KJRH-90B/E	KJRH-90B/E
Applicable range		m ³	20	25	40	45~50

Remark:

1. The test conditions:

Water Heating: outdoor temperature 24/19°C(DB/WB), inlet water temperature 27°C, outlet water temperature 29°C

Water Cooling: outdoor temperature 35/24°C(DB/WB), inlet water temperature 27°C, the water flow volumn is same in both cooling and heating mode.

2. The specifications may be changed for product improvement, please refer to the nameplate.

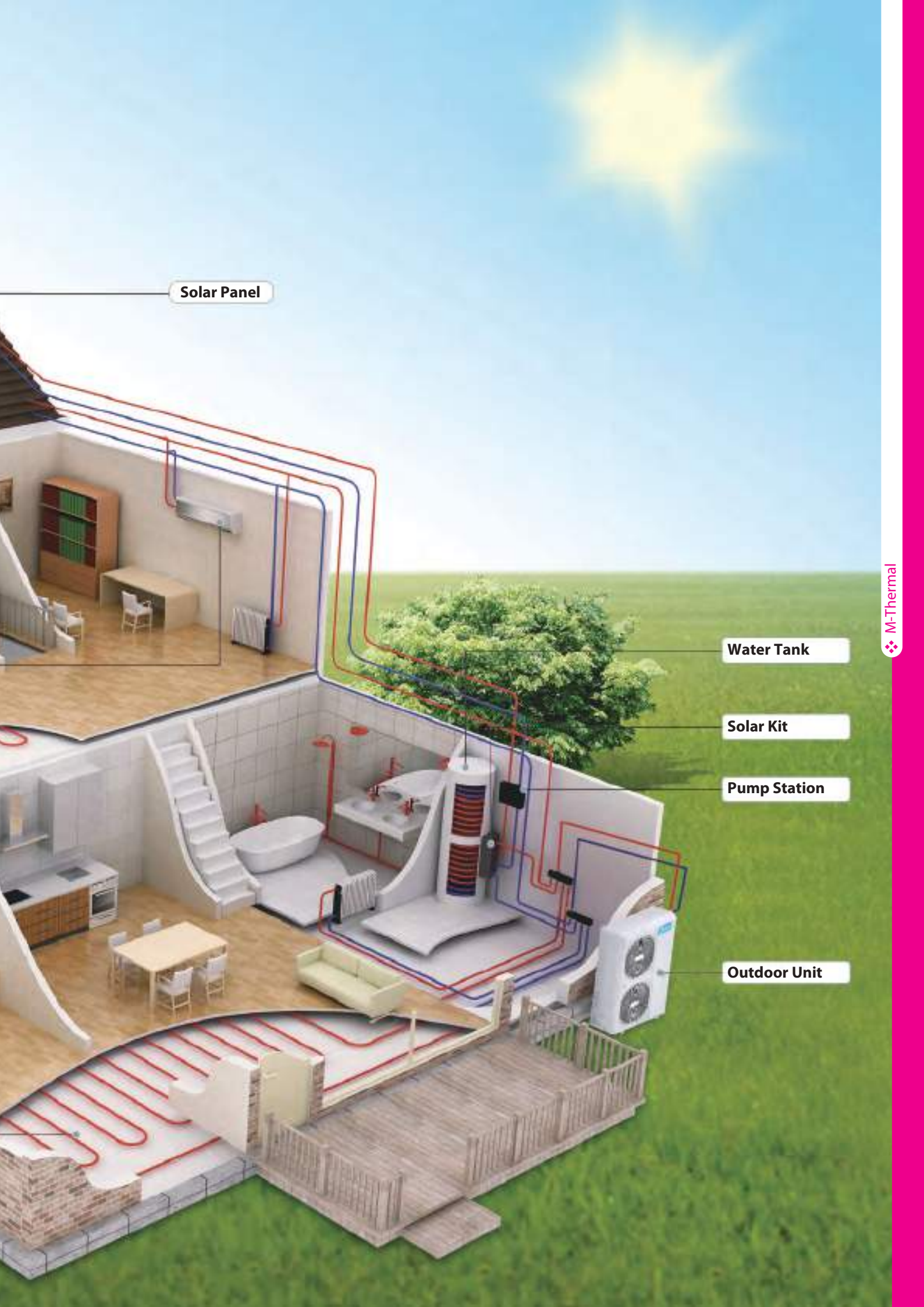
M-Thermal

TOTAL SOLUTION FOR HEATING, COOLING AND DOMESTIC HOT WATER



Fan Coil

Floor Heating



Solar Panel

Water Tank

Solar Kit

Pump Station

Outdoor Unit

M-Thermal

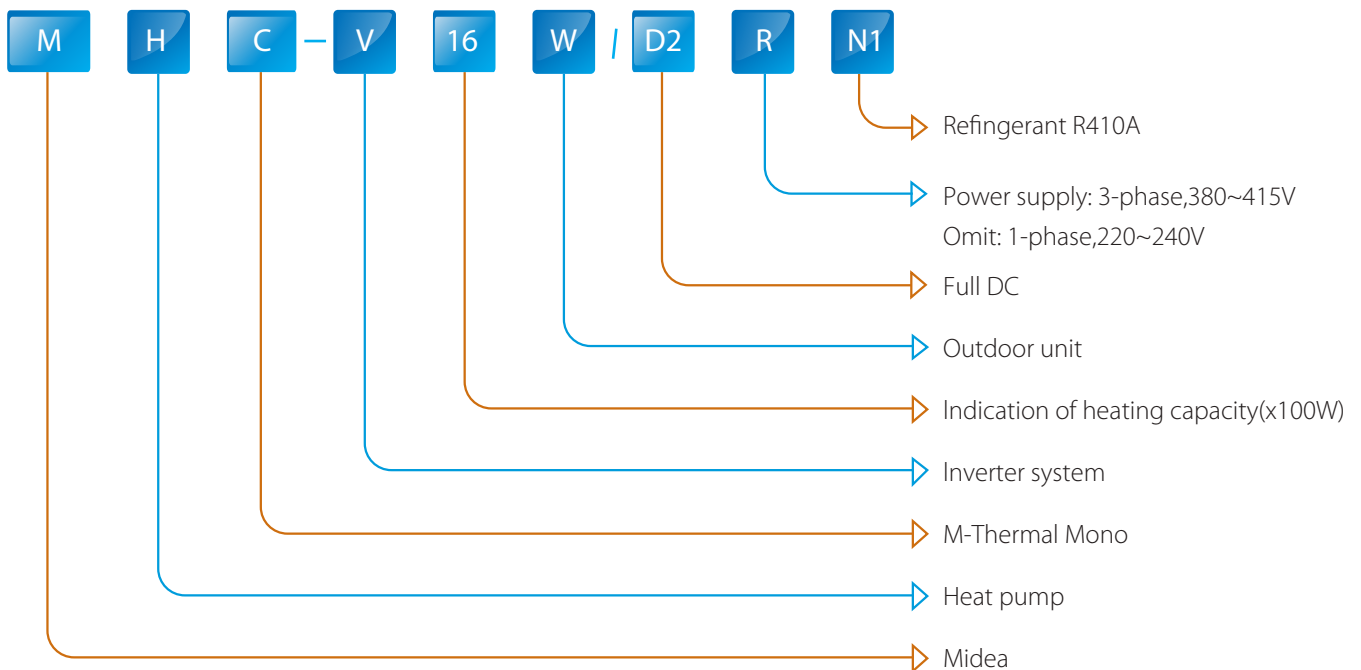


❖ M-Thermal

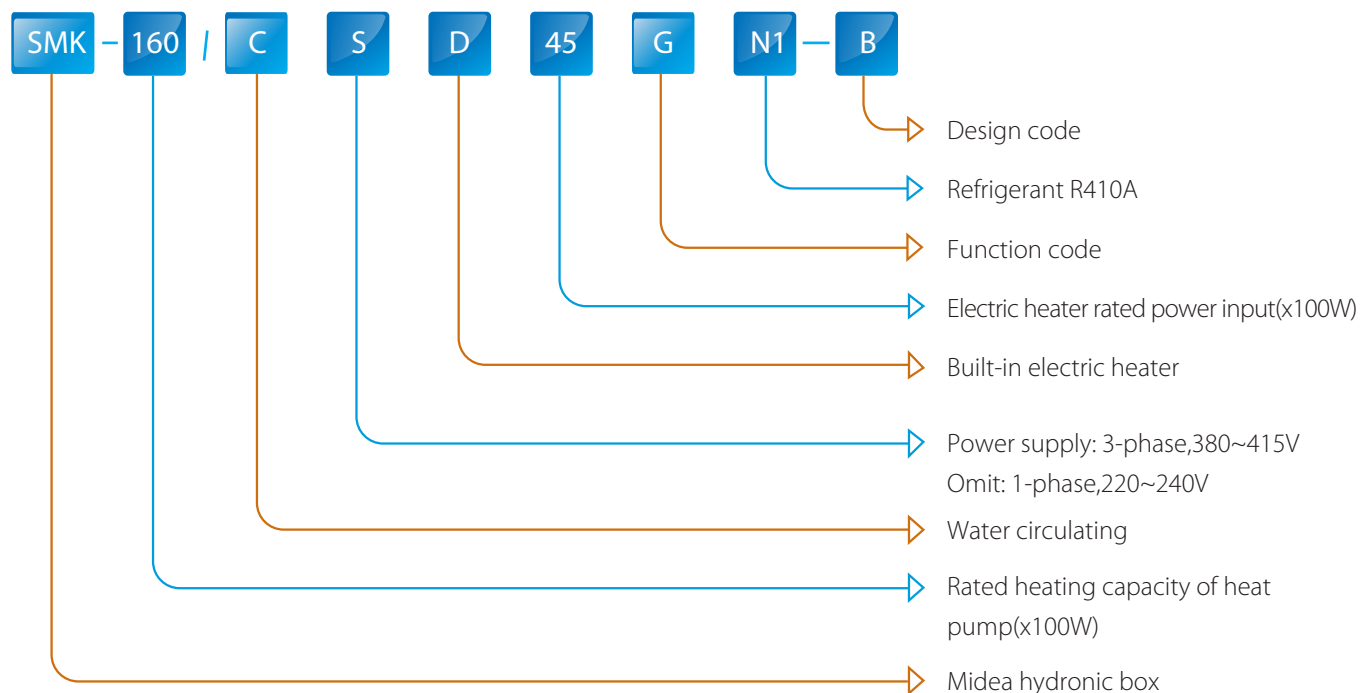
M-Thermal offers Mono and Split type products. Mono's hydronic components are located within the outdoor unit for easy installation. Split type has separate outdoor unit and hydronic box for more flexibility. Both Mono and Split type products achieve Erp A++ rate energy efficiency grade. So they make significant contribution to the limiting the impact on the environment.

Nomenclature

Outdoor units



Hydronic box



Product lineup

M-Thermal Mono

Capacity(kW)	5	7	10	12	14	16
Appearance						
220~240V-1Ph	●	●	●	●	●	●
380~415V-3Ph				●	●	●

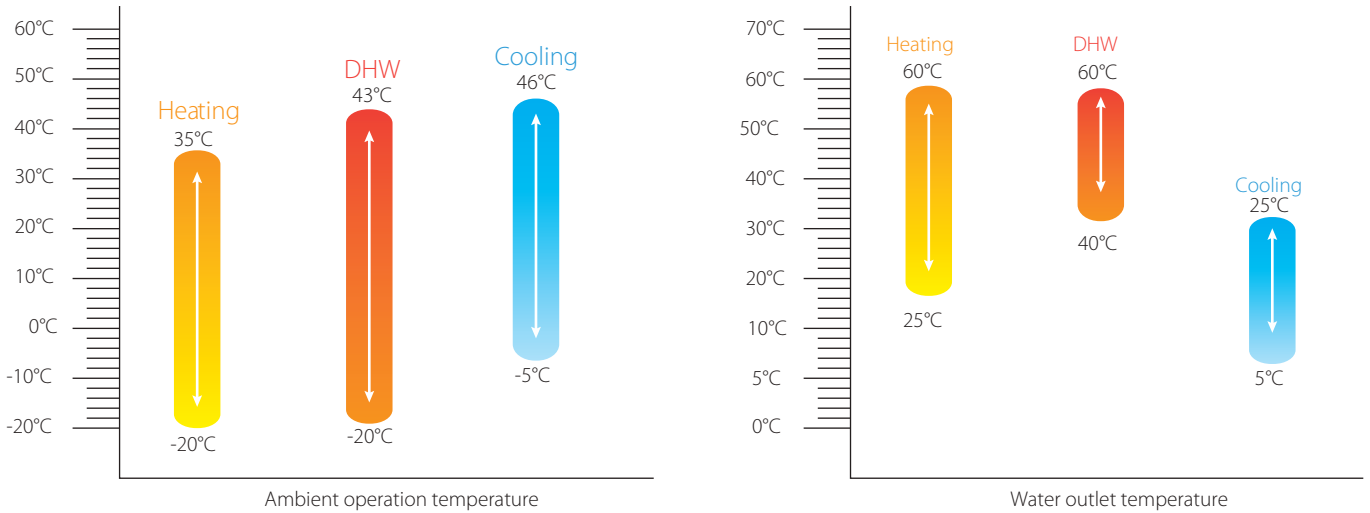
M-Thermal Split

Capacity(kW)	4	6	8	10	12	14	16
Appearance							
220~240V-1Ph	● ●	● ●	● ●	● ●	● ●	● ●	● ●
380~415V-3Ph					● ●	● ●	● ●











● Outdoor unit ● Hydronic box(4-8kW) ● Hydronic box(1Ph,10-16kW) ● Hydronic box(3Ph,12-16kW)

Features and Technologies

- ❖ DC inverter technology to guarantee optimal operational reliability and efficiency.
- ❖ Offers heating capacity of 80% at -7°C thanks to the large heat exchanger and large compressor.
- ❖ Built-in backup electric heater for additional heating during extremely cold outdoor temperatures. The capacity of electric heater is adjustable.
- ❖ Heating, cooling and domestic hot water, total heat solution.
- ❖ Wide operation temperature range and wide water outlet temperature range.



- ❖ Compatible with additional heat sources (AHS), including solar energy, fuel boiler, gas boiler and so on. AHS can work together with heat pump or alternative for space heating and domestic hot water dependent on the system control.
- ❖ Weather dependent operation with climate correlation to ensure absolute comfort.
- ❖ Two zones control more flexibility
Temperature of each zone is separately controlled. Two zones control reduces water pump cycle time and save energy.
- ❖ Priority setting function and multi modes choice
- ❖ Newly designed dot-matrix wired controller.

 Cooling Operation Priority	 Space Heating Operation Priority	 DHW (Domestic hot water) Operation Priority
 AUTO mode	 Disinfect mode	 Holiday mode
 Forced DHW mode	 Eco mode	 Comfort mode
 Silent mode		

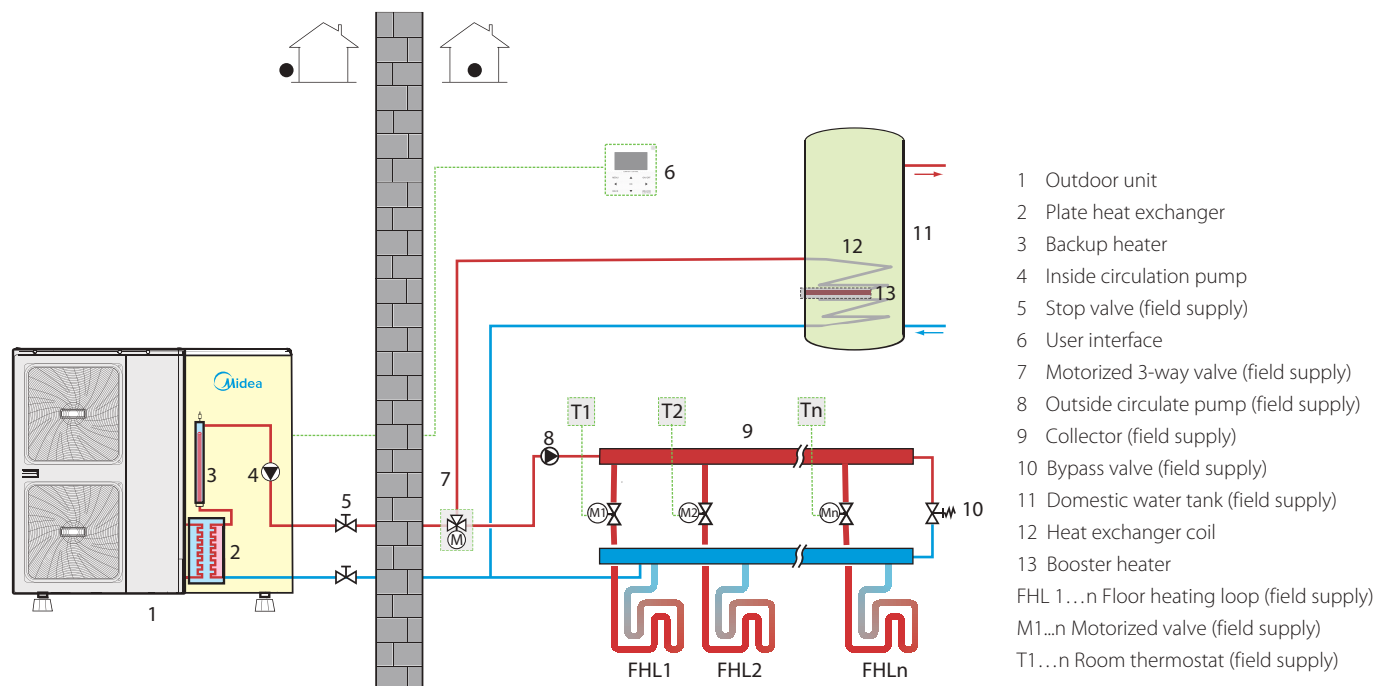


- ❖ Special functions such as air purge, preheating for floor and floor drying up for choice

Typical Applications

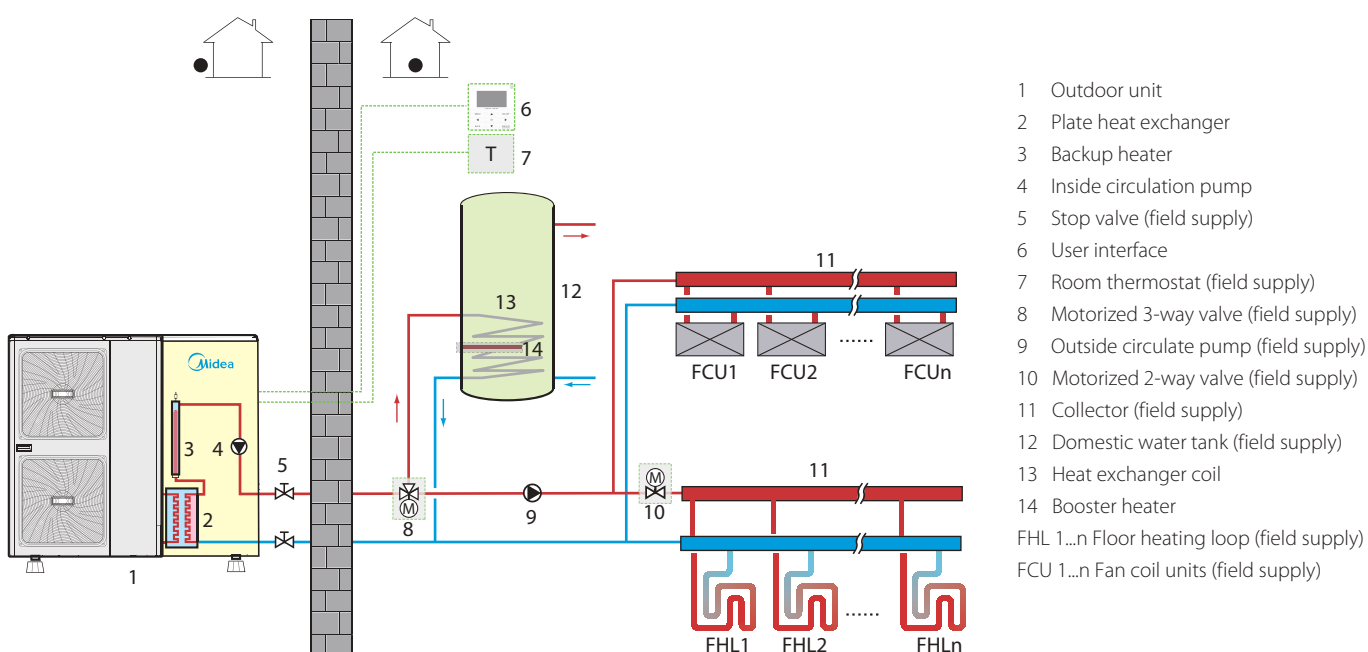
❖ Application 1: M-Thermal Mono for space heating and domestic hot water

Room thermostat is not connected to the Mono unit but to motorized valve. Each room's temperature is regulated by the motorized valve on every water circuit. Sanitary hot water is delivered by the domestic hot water tank connected to the Mono unit. In this situation, bypass valve is necessary.



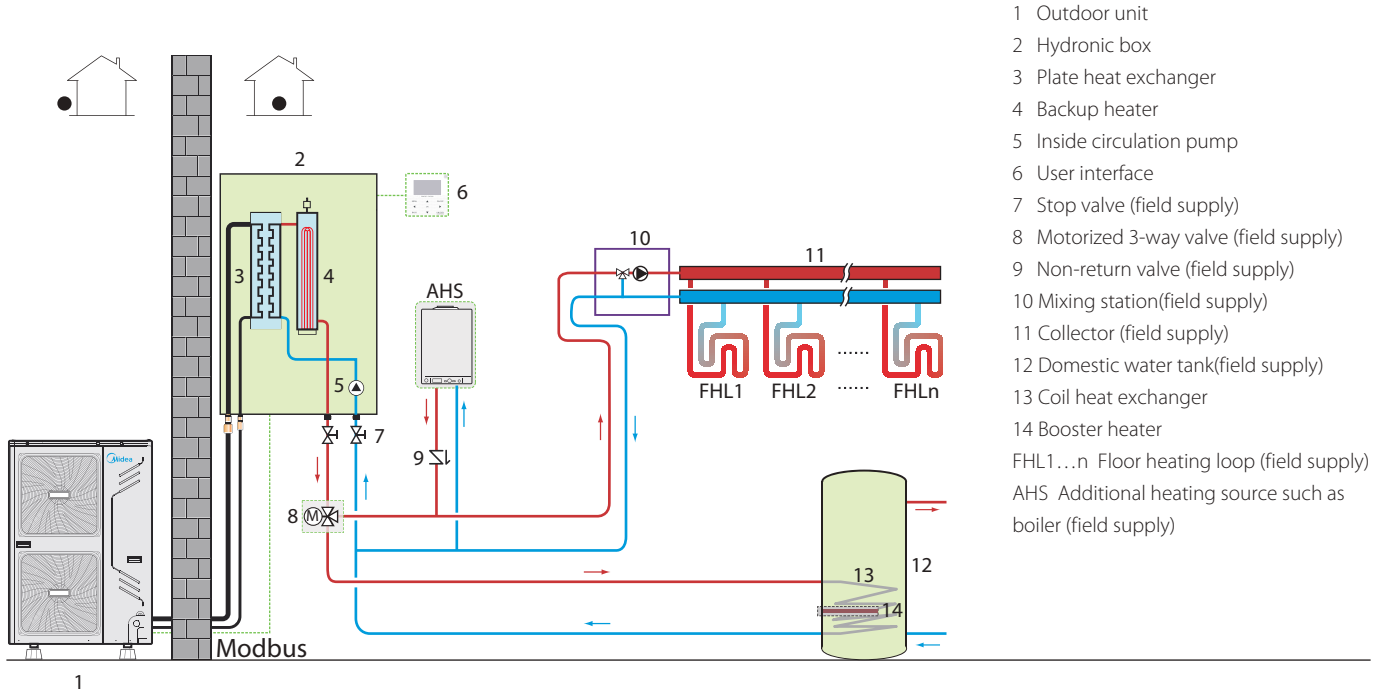
❖ Application 2: M-Thermal Mono for space heating, space cooling and domestic hot water

Floor heating coils and fan coil units are for space heating. Fan coil units used for space cooling. Sanitary hot water is delivered by the domestic hot water tank connected to the Mono unit. The unit will switch to heating or cooling mode according to the temperature detected by the room thermostat. In space cooling mode, the 2-way valve closes to prevent cold water entering to the floor heating loops.

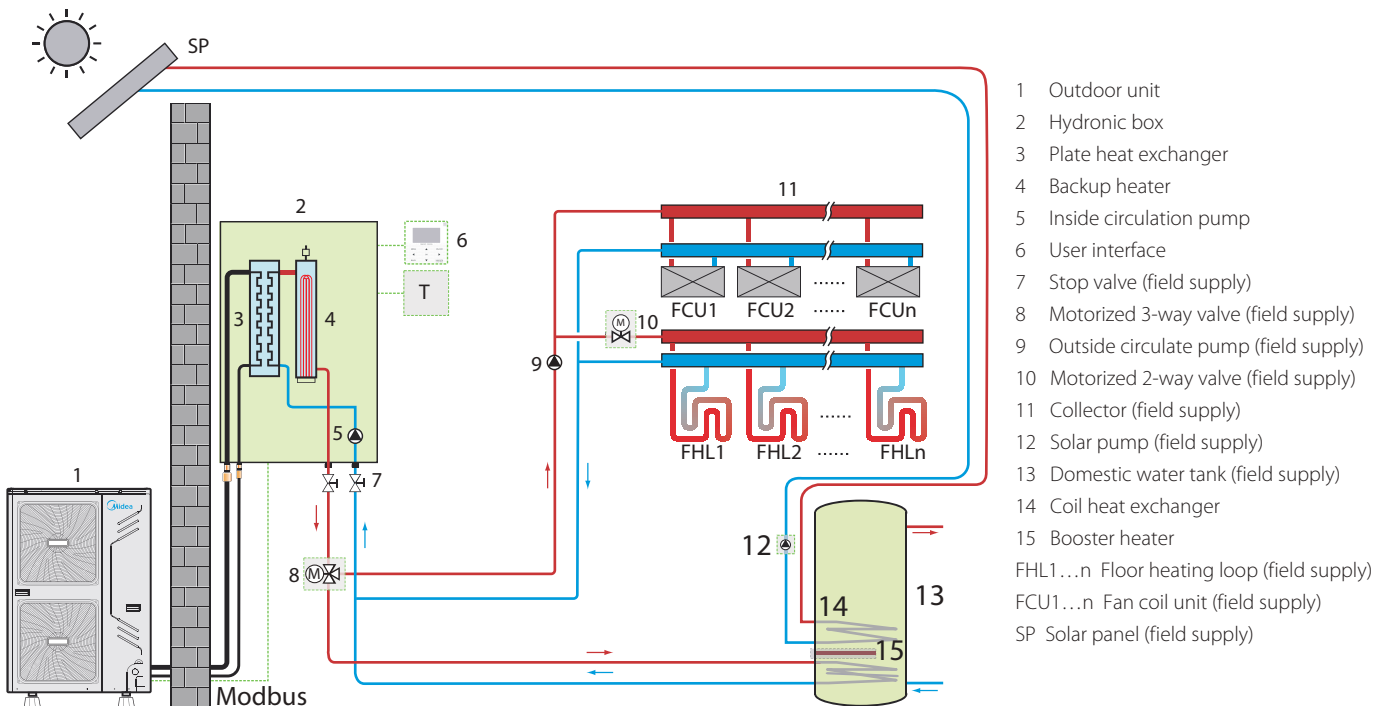


❖ Application 3: Bivalent application, M-Thermal Split type unit and auxiliary boiler for space heating and domestic hot water.

Auxiliary boiler only provide heating for space heating.



❖ Application 4: M-Thermal Split type unit for space heating and space cooling, Split type unit and solar pane both for domestic hot water



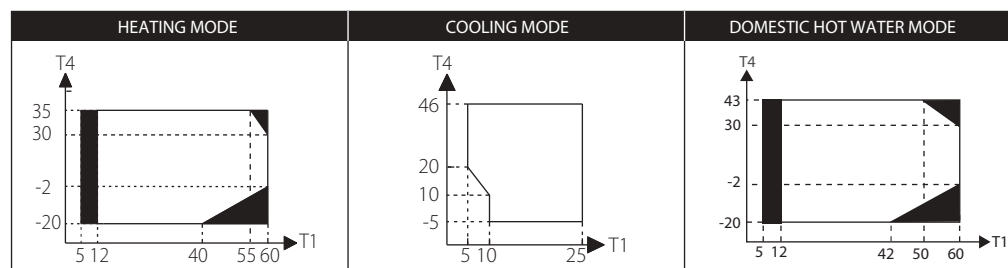
Specifications

Mono type

Outdoor Mono MHC-			V5W/D2N1	V7W/D2N1	V10W/D2N1	V12W/D2N1	V14W/D2N1	V16W/D2N1	V12W/D2RN1	V14W/D2RN1	V16W/D2RN1		
Power supply	V/Ph/Hz	220-240/1/50						380-415/3/50					
Heating ¹	Capacity	kW	4.58	6.55	10.43	12.17	14.76	16.33	12.37	14.10	16.30		
	Rated input	kW	0.97	1.45	2.28	2.73	3.40	3.90	2.76	3.26	3.88		
	COP		4.72	4.52	4.57	4.46	4.34	4.19	4.48	4.33	4.20		
Heating ²	Capacity	kW	4.67	6.69	10.17	12.58	14.08	16.12	12.02	14.11	16.06		
	Rated input	kW	1.43	2.05	3.08	3.86	4.47	5.22	3.72	4.47	5.23		
	COP		3.27	3.26	3.30	3.26	3.15	3.09	3.23	3.16	3.07		
Cooling ³	Capacity	kW	4.55	6.45	10.25	12.19	14.61	14.82	12.64	14.03	15.10		
	Rated input	kW	1.00	1.47	2.06	2.65	3.32	3.66	2.75	3.26	3.78		
	EER		4.55	4.40	4.98	4.60	4.40	4.05	4.60	4.30	4.00		
Cooling ⁴	Capacity	kW	4.55	6.71	10.44	12.21	12.95	13.72	12.58	13.80	15.26		
	Rated input	kW	1.55	2.57	3.28	4.17	4.53	5.16	4.32	5.15	6.41		
	EER		2.94	2.61	3.18	2.93	2.86	2.66	2.91	2.68	2.38		
Seasonal space heating energy eff. Class (average climate general)	Water outlet @ 35°C		A++										
	Water outlet @ 55°C		A+	A+	A+	A+	A++	A+	A+	A++	A++		
Sound power level	Heating	dB(A)	61	65	65	67	71	72	67	71	72		
	Cooling	dB(A)	64	66	64	68	70	71	66	70	71		
Dimension(WxHxD)	mm	1210x945x402			1404x1414x405				1404x1414x405				
Packing(WxHxD)	mm	1500x1140x450			1475x1580x440				1475x1580x440				
Net/Gross weight	kg	99/117			162/183				177/198				
Compressor	Type	Twin-rotary inverter											
Outdoor fan	Motor type	Brushless DC motor											
	Air flow	m ³ /h	3100			6250				6250			
Air side heat exchanger	Fin-coil												
Water side heat exchanger	Plate type heat exchanger												
Water pump head	m	6			7.5				7.5				
Expansion tank volume	L	2			5				5				
Refrigerant	Type	R410A											
	Charged volume	kg	2.4			3.6				3.6			
Throttle type	Electronic expansion valve												
Backup electric heater	Standard mounted	kW	/			3				4.5			
	Optional	kW	3			4.5				/			
	Capacity steps		1			2				1			
	Power supply	V/Ph/Hz	220-240/1/50						380-415/3/50				
Water piping connections Dia.	inch	1" Female BSP			1-1/4" Female BSP				1-1/4" Female BSP				
Ambient temperature range (Heat pump)	Cooling	°C	-5~46										
	Heating	°C	-20-35										
	Domestic hot water	°C	-20-43										
Water outlet temperature range	Cooling	°C	5~25										
	Heating	°C	25~60										
	Domestic hot water	°C	40~60										

Nominal capacity is based on the following conditions:

1. Evaporator air in 7°C 85% R.H., Condenser water in/out 30/35°C
2. Evaporator air in 7°C 85% R.H., Condenser water in/out 40/45°C
3. Condenser air in 35°C. Evaporator water in/out 23/18°C
4. Condenser air in 35°C. Evaporator water in/out 12/7°C
5. 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



T4 Ambient temperature(°C)
T1 Water flow temperature(°C)
■ No heat pump operation, backup electric heater or boiler only.

Split type

Outdoor Split type MHA-			V4W/D2N1	V6W/D2N1	V8W/D2N1	V10W/D2N1	V12W/D2N1	V14W/D2N1	V16W/D2N1	V12W/D2RN1	V14W/D2RN1	V16W/D2RN1	
Power supply		V/Ph/Hz	220-240/1/50								380-415/3/50		
Heating ¹	Capacity	kW	4.10	6.10	8.00	10.00	12.10	14.00	15.50	12.00	14.00	15.50	
	Rated input	kW	0.82	1.29	1.73	2.17	2.74	3.39	3.82	2.66	3.26	3.79	
	COP		5.00	4.73	4.62	4.61	4.42	4.13	4.06	4.51	4.29	4.09	
Heating ²	Capacity	kW	4.01	5.96	7.34	10.12	11.85	14.05	16.05	11.97	13.93	15.48	
	Rated input	kW	1.13	1.68	2.13	2.93	3.48	4.41	5.03	3.50	4.21	4.87	
	COP		3.55	3.55	3.45	3.45	3.41	3.19	3.19	3.42	3.31	3.18	
Cooling ³	Capacity	kW	4.10	6.00	8.00	10.00	11.80	13.00	14.00	12.10	13.00	14.00	
	Rated input	kW	0.79	1.29	1.78	2.07	2.65	3.23	3.62	2.82	3.21	3.68	
	EER		5.19	4.66	4.49	4.83	4.45	4.02	3.87	4.29	4.05	3.80	
Cooling ⁴	Capacity	kW	4.12	6.15	6.44	9.39	11.02	12.49	12.85	11.70	12.53	12.91	
	Rated input	kW	1.30	2.08	2.24	3.26	4.17	5.07	5.39	4.65	5.21	5.52	
	EER		3.17	2.96	2.88	2.88	2.64	2.46	2.38	2.52	2.40	2.34	
Seasonal space heating energy eff. Class (average climate general)	Water outlet @ 35°C		A++										
	Water outlet @ 55°C		A+	A+	A++	A+	A++	A++	A+	A++	A++	A++	
Sound power level	Heating	dB(A)	62	66	68	67	68	71	72	70	72	72	
	Cooling	dB(A)	61	66	68	64	66	71	71	68	71	71	
Dimension (WxHxD)	mm		960x860x380		1075x965x395		900x1327x400			900x1327x400			
Packing (WxHxD)	mm		1040x1000x430		1120x1100x435		1030x1457x435			1030x1457x435			
Net/gross weight	kg		60/72		76/88		99/112			115/128			
Compressor	Type		Twin-rotary inverter										
Outdoor fan	Type		Brushless DC motor										
	Air flow	m ³ /h	3050		5100		6500			6500			
Air side heat exchanger			Fin-coil										
Piping connections	Liquid	Type	Flaring										
		Dia.(OD)	mm		Φ9.5								
	Gas	Type	Flaring										
		Dia.(OD)	mm		Φ15.9								
	Piping length	Min.	m	2		2		2			2		
		Max.	m	20		30		50			50		
Installation height	Outdoor unit upside	m	10		20		30			30			
	Outdoor unit downside	m	8		15		25			25			
Refrigerant	Type		R410A										
	Charged volume	kg	2.5		2.8		3.9			4.2			
Throttle type			Electric expansion valve										
Ambient temperature range	Cooling	°C	-5~46										
	Heating	°C	-20~35										
	Domestic hot water	°C	-20~43										

Nominal capacity is based on the following conditions:

1. Evaporator air in 7°C 85% R.H., Condenser water in/out 30/35°C
2. Evaporator air in 7°C 85% R.H., Condenser water in/out 40/45°C
3. Condenser air in 35°C. Evaporator water in/out 23/18°C
4. Condenser air in 35°C. Evaporator water in/out 12/7°C
5. 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

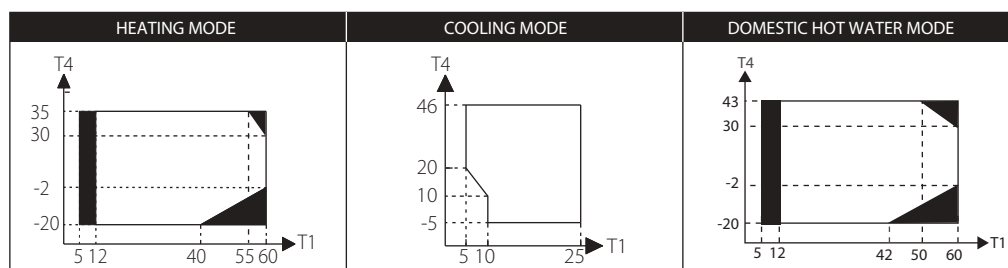


Hydronic box

Hydronic box		Model	SMK-80/CD30GN1-B	SMK-160/CD30GN1-B	SMK-160/CSD45GN1-B
		Connected outdoor unit	MHA-V4/6/8W/D2N1	MHA-V10/12/14/16W/D2N1	MHA-V12/14/16W/D2RN1
Type		Heating and cooling			
Leaving water temperature range	Space heating	Low	25~55, default 35		
		High	35~60, default 45		
	Space cooling	Low	7~25, default 7		
		High	18~25, default 18		
Domestic hot water		40~60, default 45			
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	380-415/3/50
Dimension (WxHxD)		mm	400x865x427		
Packing (WxHxD)		mm	495x1040x495		
Net/gross weight		kg	51/57	54/60	53/59
Water circuit	Piping connections Dia.		mm		
	Safety valve		MPa		
	Total water volume		L		
	Drainage pipe Dia.		mm		
	Expansion tank	Volume	L		
		Max. water pressure	MPa		
		Pre pressure	MPa		
	Water side heat exchanger	Type	Plate type heat exchanger		
Volume		L	0.7	1	1
Water pump head		m	6	7.5	7.5
Refrigerant circuit	Liquid side Dia.		mm		
	Gas side Dia.		mm		
Mounted backup electric heater	Size		kW		
	Step				
	Power supply		220-240/1/50	220-240/1/50	380-415/3/50

Nominal capacity is based on the following conditions:

- Condition 1: Heating mode air inlet at 7°C and water outlet at 35°C with ΔT at 5°C, Cooling mode air inlet at 35°C and water outlet at 18°C with ΔT at 5°C
- Condition 2: Heating mode air inlet at 7°C and water outlet at 45°C with ΔT at 5°C, Cooling mode air inlet at 35°C and water outlet at 7°C with ΔT at 5°C
3. The above data test reference standard EN14511



T4 Ambient temperature(°C)
T1 Water flow temperature(°C)
■ No heat pump operation, backup electric heater or boiler only.



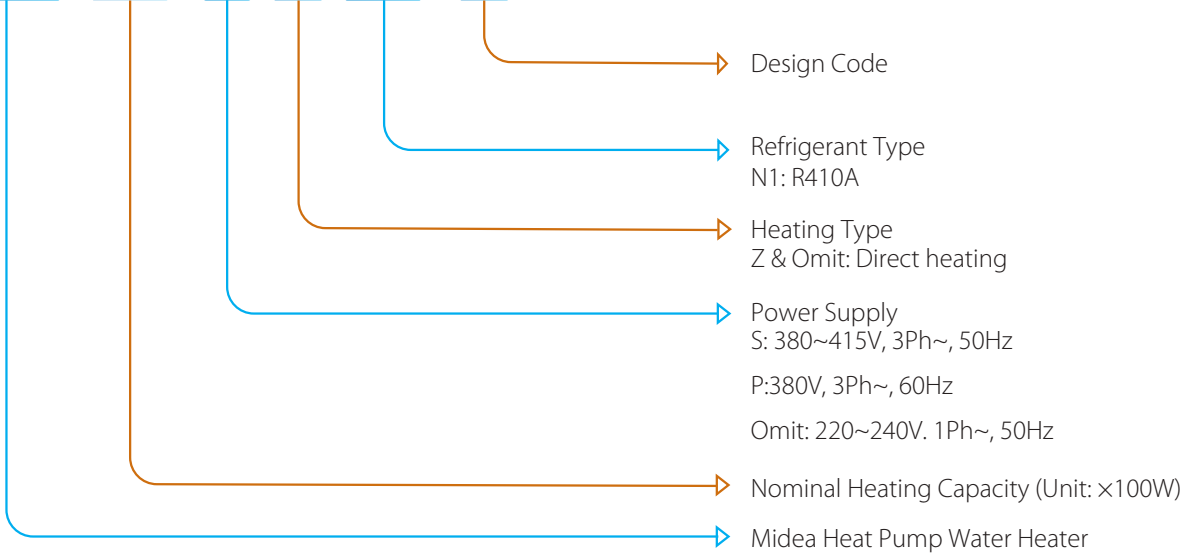
Commercial Applications



❖ Commercial Application




Nomenclature

RSJ - 420 / S Z N1 - H





Product lineup

Capacity (kW)	10	20	30	38	42	80	82
Apperance Series							
Direct heating 50Hz	●	●			●	●	
Direct heating 60Hz				●			●
Cycle heating 50Hz			●				

Features

Wide application range >>

- ❖ 7 basic models with heating capacity ranging from 10kW to 82kW.
- ❖ Free modular combination.
- ❖ Wide operation ambient temperature range.

For the direct heating products, the running ambient temperature down to -15°C.



High heating energy efficiency >>

The unit adopts heat pump principle, which absorbs heat from ambient air and releases it to the water to produce hot water.

- ❖ High performance fin-coil type heat exchanger is adopted at air side.



Inner grooved copper tube



Hydrophilic aluminum foil



- ❖ High efficiency tube-in-tube heat exchanger

Inner grooved copper pipe, increase area of heat exchanger, improve efficient.

Anti-corrosion shell increases the useful life of heat exchanger.



Advanced technology >>

- ❖ Unique defrosting flow path.

Air side reserved special defrosting flow path, when the system is defrosting, the four-way valve is reversing, the system will absorb energy from special defrosting flow path, the defrosting progress will have no impact on water temperature.

- ❖ Proprietary gas balance and fluid balance design to ensure the unit operates reliably.
- ❖ Electric water flow valve supplies hot water at a stable temperature and expands the life of compressor.
- ❖ Optimized fan blade edge by CFD programs with analyzing air pressure distribution.
- ❖ Adopt fin-coil exchanger with V or G shape to optimize air flow system of unit.

Wired controller >>

- ❖ Touch key operation.
- ❖ LCD displays operation parameters.
- ❖ Multiple timers.
- ❖ Real-time clock function.
- ❖ Power-off memory function.

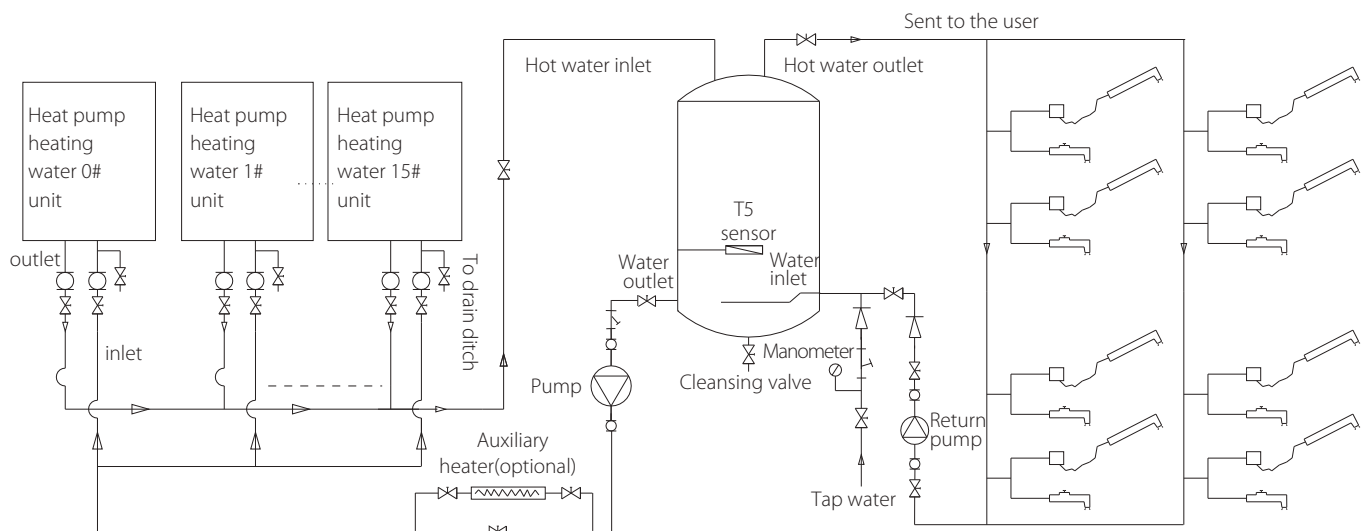


KJR-51/BMKE-A

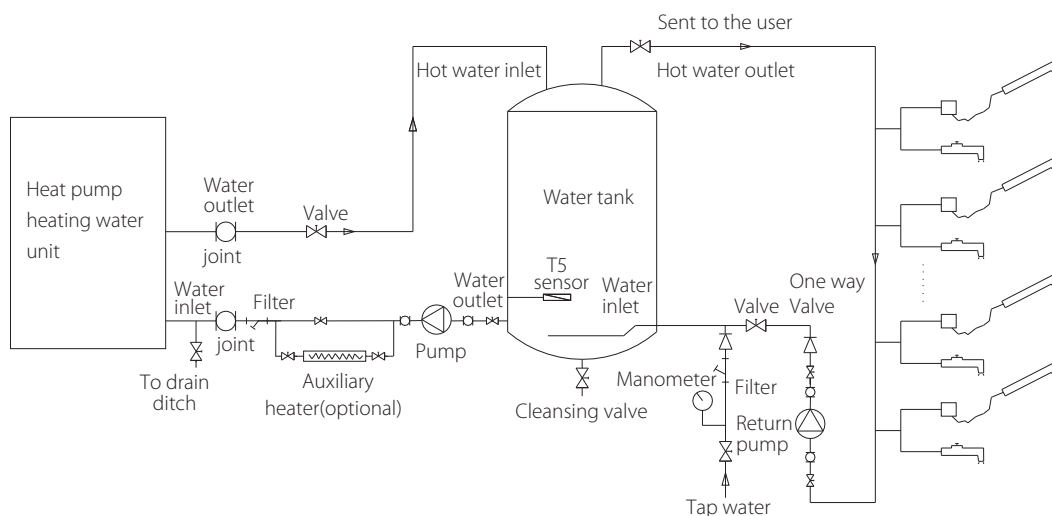
Note: It can be applied to most of the Midea HPWH models by properly setting.

Simple refrigerating system diagram

Parallel connected heat pump system >>



Single connected heat pump system >>



Specifications

Direct heating 50Hz

Model			RSJ-100/N1-540V-D	RSJ-200/SN1-540V-D
Power supply		V/Ph/Hz	220-240/1/50	380-415/3 / 50
Running ambient temp		°C	-15~43	-15~43
Outwater Temp		°C	Default 56°C, 48°C~60°C	
Water Heating	Capacity	kW	11.2	20.4
	Input	kW	2.98	5.23
	COP		3.76	3.90
	Max. input current	A	17.8	13.0
Unit dimension (WxHxD)		mm	750x1,100x750	750x1,100x750
Packing dimension (WxHxD)		mm	770x1,065x770	770x1,065x770
Net/Gross weight		kg	121/135	148/163
Outdoor noise level		dB(A)	59	63
Max. combination quantity		Pieces	16	16
Compressor	Type		Scroll	Scroll
	Quantity	Pieces	1	1
Fan motor	Type		AC motor	AC motor
	Quantity	Pieces	1	1
Air side heat exchanger	Type		Fin-coil	Fin-coil
Water side heat exchanger	Type		Tube-in-tube	Tube-in-tube
Refrigerant	Refrigerant Type/Quantity	kg	R410A/1.5	R410A/2.8
	Throttle type		Electric expansion valve	
water pipe	water inlet pipe	mm	DN25	DN25
	water outlet pipe	mm	DN25	DN25
Controller			KJR-51/BMKE-A	KJR-51/BMKE-A
Hot Water Yield		m ³ /h	0.25	0.45

Model			RSJ-420/SZN1-H	RSJ-800/SZN1-H
Power supply		V/Ph/Hz	380-415/3 / 50	380-415/3 / 50
Running ambient temp		°C	-15~46	-15~46
Outwater Temp		°C	Default 56°C, 48°C~60°C	
Water Heating	Capacity	kW	39.0	80.0
	Input	kW	9.65	20.00
	COP		4.04	4.00
	Max. input current	A	24.0	34.0
Unit dimension (WxHxD)		mm	1,015x1,775x1,026	1,995x1,770x1,025
Packing dimension (WxHxD)		mm	1,070x1,900x1,030	2,080x1,895x1,120
Net/Gross weight		kg	323/343	599/627
Outdoor noise level		dB(A)	66	68
Max. combination quantity		Pieces	4	2
Compressor	Type		Scroll	Scroll
	Quantity	Pieces	1	2
Fan motor	Type		AC motor	AC motor
	Quantity	Pieces	1	2
Air side heat exchanger	Type		Fin-coil	Fin-coil
Water side heat exchanger	Type		Tube-in-tube	Tube-in-tube
Refrigerant	Refrigerant Type/Quantity	kg	R410A/4.5	R410A/2x4.4
	Throttle type		Electric expansion valve	
water pipe	water inlet pipe	mm	DN32	DN50
	water outlet pipe	mm	DN32	DN50
Controller			KJR-51/BMKE-A	KJR-51/BMKE-A
Hot Water Yield		m ³ /h	0.85	1.72

Remark:

1. The test conditions: outdoor temperature 20/15°C(DB/WB), inlet water temperature 15°C, outlet water temperature 55°C.
2. The specifications may be changed for product improvement, please refer to the nameplate.

Direct heating 60Hz

Model			RSJ-380/PN1-820	RSJ-820/PZN1-H
Power supply	V/Ph/Hz		380/3 / 60	
Running ambient temp	°C		-15~43	-15~46
Outwater Temp	°C		Default 56°C, 40°C~60°C	
Water Heating	Capacity	kW	42.0	82.5
	Input	kW	10.70	21.10
	COP		3.93	3.91
	Max. input current	A	26.0	47.8
Unit dimension (WxHxD)	mm		997x1,771x894	1,995x1,770x1,025
Packing dimension (WxHxD)	mm		1,100x1,965x920	2,080x1,895x1,120
Net/Gross weight	kg		283 / 310	592/613
Outdoor noise level	dB(A)		65	68
Max. combination quantity	Pieces		4	2
Compressor	Type		Scroll	Scroll
	Quantity	Pieces	1	2
Fan motor	Type		AC motor	AC motor
	Quantity	Pieces	1	2
Air side heat exchanger	Type		Fin-coil	Fin-coil
Warer side heat exchanger	Type		Tube-in-tube	Tube-in-tube
Refrigerant	Refrigerant Type/Quantity	kg	R410A/5.0	R410A/2x4.4
	Throttle type		Electric expansion valve	
water pipe	water inlet pipe	mm	DN25	DN50
	water outlet pipe	mm	DN25	DN50
Controller			KJR-51/BMKE-A	KJR-51/BMKE-A
Hot Water Yield	m ³ /h		0.89	1.77

Remark:

1. The test conditions: outdoor temperature 20/15°C(DB/WB), inlet water temperature 15°C, outlet water temperature 55°C.
2. The specifications may be changed for product improvement, please refer to the nameplate.

Cycle heating 50Hz

Model			RSJ-300/MSN1-G	
Power supply	V/Ph/Hz		380-415/3 / 50	
Running ambient temp	°C		-10~46	
Outwater Temp	°C		Default 50°C, 20°C~55°C	
Water Heating	Capacity	kW	27.0	
	Input	kW	6.40	
	COP		4.22	
	Max. input current	A	16.5	
Unit dimension (WxHxD)	mm		970x1,565x990	
Packing dimension (WxHxD)	mm		995x1,700x1,010	
Net/Gross weight	kg		249/256	
Outdoor noise level	dB(A)		58	
Max. combination quantity	Pieces		6	
Compressor	Type		Scroll	
	Quantity	Pieces	1	
Fan motor	Type		AC motor	
	Quantity	Pieces	1	
Air side heat exchanger	Type		Fin-coil	
Warer side heat exchanger	Type		Tube-in-tube	
Refrigerant	Refrigerant Type/Quantity	kg	R410A/3.3	
	Throttle type		Electric expansion valve	
water pipe	water inlet pipe	mm	DN32	
	water outlet pipe	mm	DN32	
Controller			KJR-51/BMKE-A	
Hot Water Yield	m ³ /h		0.58	

Remark:

1. The test conditions: outdoor temperature 20/15°C(DB/WB), initial water temperature 15°C, terminal water temperature 55°C.
2. The specifications may be changed for product improvement, please refer to the nameplate.

Reference projects



Aston Kuta Bali Hotel (Five Star)

Country: Indonesia
City: Bali
Completion Year: 2010



Sheraton Bandara Resort Hotel (Five Star)

Country: Indonesia
City: Jakarta
Completion Year: 2011



Ramada Plaza (Five Star)

Country: China
City: Shunde
Completion Year: 2009



Grand Aston Tunjungan (Five Star)

Country: Indonesia
City: Surabaya
Completion Year: 2013



The Royale Springhill Residences

Country: Indonesia
City: Jakarta
Completion Year: 2010



Agile Estate (Clear Water Bay)

Country: China
City: Sanya
Completion Year: 2011



Shanghai Fudan University (Dormitory Building)

Country: China
City: Shanghai

1706-1H1612



Midea CAC After-service Application



iOS Version



Android Version



Midea CAC News Application



iOS Version

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Note: Product specifications change from time to time as product improvements and developments are released and may vary from those in this document.