1906-1H1905

Commercial Air Conditioners **2019**

Air Source Heat Pump

Commercial Air Conditioner Division

Midea Group

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Quality Assurance ISO 9001 · Environmental Management ISO 14001 · Occupational Health and Safety Assessment OHSAS 18001

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.

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.

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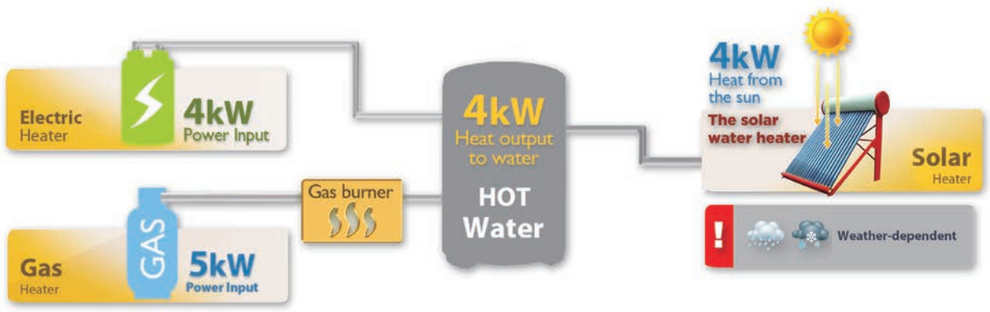
500

2016 » Acquired 80% stake in 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.

Introduction

Why choose an air source heat pump?

Typically around 3kWh of energy can be captured for every 1kWh of electrical energy expended, giving almost 4kWh of heat energy for only 1kWh of electrical input and giving efficiency of almost 400%.



Comparison of energy sources

	Midea air source heat pump	Gas boiler	Electric water Heater	Diesel boiler	Solar water heater
Energy source	Air and electricity	LPG	Electric	Diesel	Sun and electricity
Calorific value	860kcal/kWh	24000kcal/m^3	860kcal/kWh	10200kcal/kg	860kcal/kWh
Average efficiency	4.0	0.8	0.95	0.7	2.7
Consumption*	11.63kWh	2.09m^3	48.96kWh	5.6kg	17.22kWh
Running cost(USD)	0.9	5.9	4.3	6.5	1.5

LPG: Liquefied Petroleum Gas

1. Products tested under controlled conditions at Midea laboratories.

2. * 40,000kcal are required to heat 1 ton of water from 15^{0}C to 55^{0}C.

Contents

Sanitary Hot Water
Combo Type

Nomenclature

RSJ — 35 / 300 R D N3 — F1

- RSJ: Midea Heat Pump Water Heater
- 35: Heating Capacity (Unit: ×100W)
- 300: Water Storage (Unit: L)
- R: Refrigerant Cycle-heating Type
- D: Function Code
  - D: E-Heater
- N3: Refrigerant Type
  - N3: R134a
- F1: Design Code

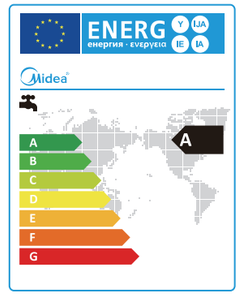
Features

Environmental protection »

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

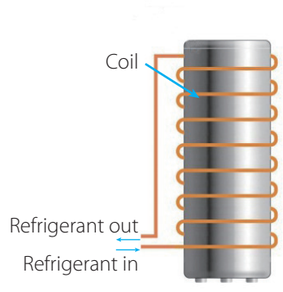
High heating energy efficiency »

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 »

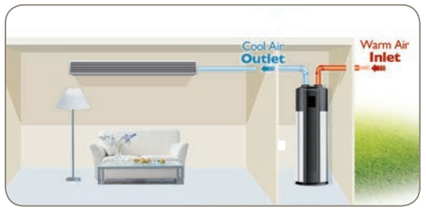
- Enamel water tank
- Complete isolation between water and electricity without electric shock problem.
- No fuel tubes and storage, no potential danger from oil leakage, fire, explosion, and so on.
- No cross contamination potential, the condenser coil is wrapped around the inner tank.



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

DISINFECT

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℃
- Water output temperature 38~70℃
- 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		℃	-7~43	-20~43
Output water temperature		℃	Default 60℃,38℃~70℃	
Storage size[1]		Ltr	180	
Capacity[2]		kW	1.45	3.15
COP			3.80	1.00
Max. current		A	16	
Water heating energy efficiency class			A	
Dimension (D×H)		mm	Φ560×1,760	
Packing (W×H×D)		mm	695×1,805×685	
Net/gross weight		kg	107/120	
Sound pressure level[3]		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	kg	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 storage size is labeled according to NF certification requirement.
2.The test conditions: outdoor temperature 15/12℃(DB/WB), initial water temperature in the units is 15℃, terminal water temperature is 45℃.
3. Sound pressure value test conditions: four side of the unit, distance is 1m, and height is 1m + half of the unit's height.
4. The above data test reference standard EN16147:2011; EN60379:2004; EN12103:2011; (EU)No:812:2013; (EU)No:814:2013.
5. The specifications may be changed for product improvement without notice.

DISINFECT

Combo Type 300L

RSJ-35/300RDN3-F1

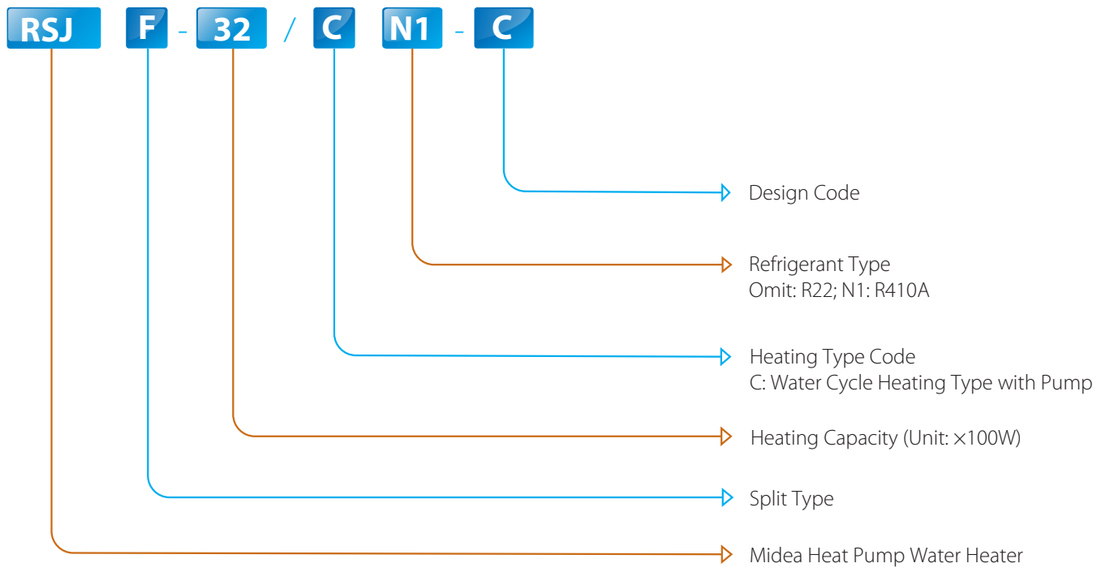
- 25Pa air flow pressure enables ducted length up to 10m
- A rated energy efficiency
- Running ambient temperature -20~43℃
- Water output temperature 38~65℃
- 9 key LCD display panel
- Automatic weekly disinfect function

Specifications

Model			RSJ-35/300RDN3-F1	
Power supply		V/Ph/Hz	220-240/1/50	
Heat Source			Economy	E-heater
Running ambient temperature		℃	-7~43	-20~43
Output water temperature		℃	Default 55,38~65	
Storage size[1]		Ltr	280	
Capacity[2]		kW	3.00	3.00
COP			3.60	1.00
Max. current		A	6.5	13.0
Water heating energy efficiency class			A	
Dimension (D×H)		mm	Φ650×1,920	
Packing (W×H×D)		mm	750×2,150×780	
Net/gross weight		kg	145.5/175.5	
Sound pressure level[3]		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	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 storage size is labeled according to NF certification requirement.
2. The test conditions: outdoor temperature 15/12℃(DB/WB), initial water temperature in the units is 15℃, terminal water temperature is 45℃.
3. Sound pressure value test conditions: four side of the unit, distance is 1m, and height is 1m + half of the unit's height.
4. The above data test reference standard EN16147:2011; EN60379:2004; EN12103:2011; (EU)No:812:2013; (EU)No:814:2013.
5. The specifications may be changed for product improvement without notice.

Nomenclature



Features

- Max. water output temperature: 60℃.
- Automatic startup and shutdown, automatic defrost.
- Close refrigerant circuit, easy for plumber installation.
- Built-in water pump.

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.

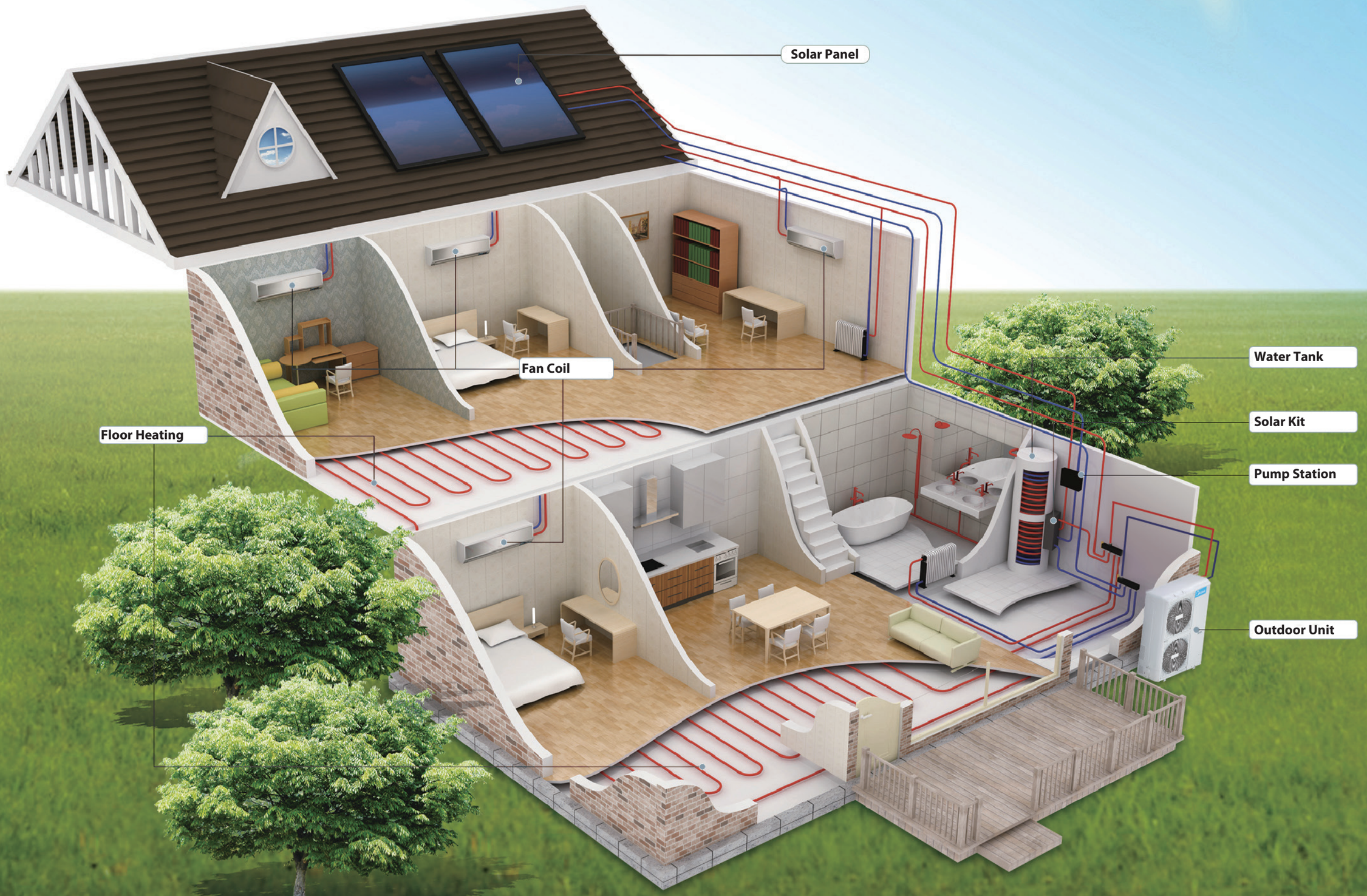
Specifications

Model			RSJF-32/CN1-C	RSJF-50/CN1-C	RSJF-72/CN1-C
Power supply		V/Ph/Hz	220-240/1/50		
Running ambient temperature		℃	-7~43	-7~43	-7~43
Output water temperature		℃	Default 50℃, 40℃~60℃		
Water heating	Capacity	kW	3.00	4.30	6.50
	Input	kW	0.87	1.22	1.72
	COP		3.45	3.53	3.78
	Max. current	A	6.8	8.5	12.4
Dimension (W×H×D)		mm	790×765×275	790×765×275	845×945×335
Packing (W×H×D)		mm	905×807×355	905×807×355	965×1,009×395
Net/gross weight		kg	48/52	55/58	68.5/74
Outdoor noise level		dB(A)	53	55	55
Air flow		m^3/h	2,000	2,000	3,200
Compressor	Type		Rotary		
Fan motor	Type		AC Motor		
Water side heat exchanger	Type		Single-wall heat exchanger		
Air side heat exchanger	Type		Fin-coil		
Water pump	Pump head	m	5.5	5.5	5.5
	Water volume	L/min	10	10	10
Refrigerant	Type/Quantity	kg	R410A/0.7	R410A/0.9	R410A/1.0
	Throttle type		Electric expansion valve		
Water pipeline	Water inlet pipe	mm	DN20	DN20	DN20
	Water outlet pipe	mm	DN20	DN20	DN20
Controller			KJR-51/BMKE-A		
Hot water yield		m^3/h	0.516	0.74	1.12
Storage size of optional tank		L	100~300	150~350	300~500

Remark:
1. The test conditions: outdoor temperature 7/6℃(DB/WB), inlet water temperature 30℃, outlet water temperature 35℃.
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



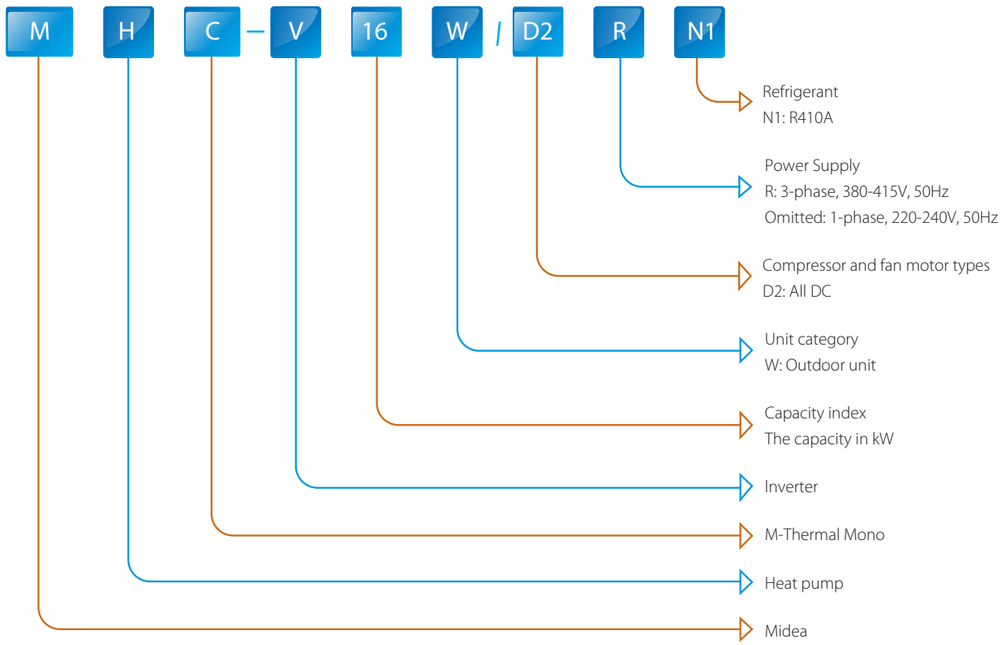
M-Thermal

M-Thermal

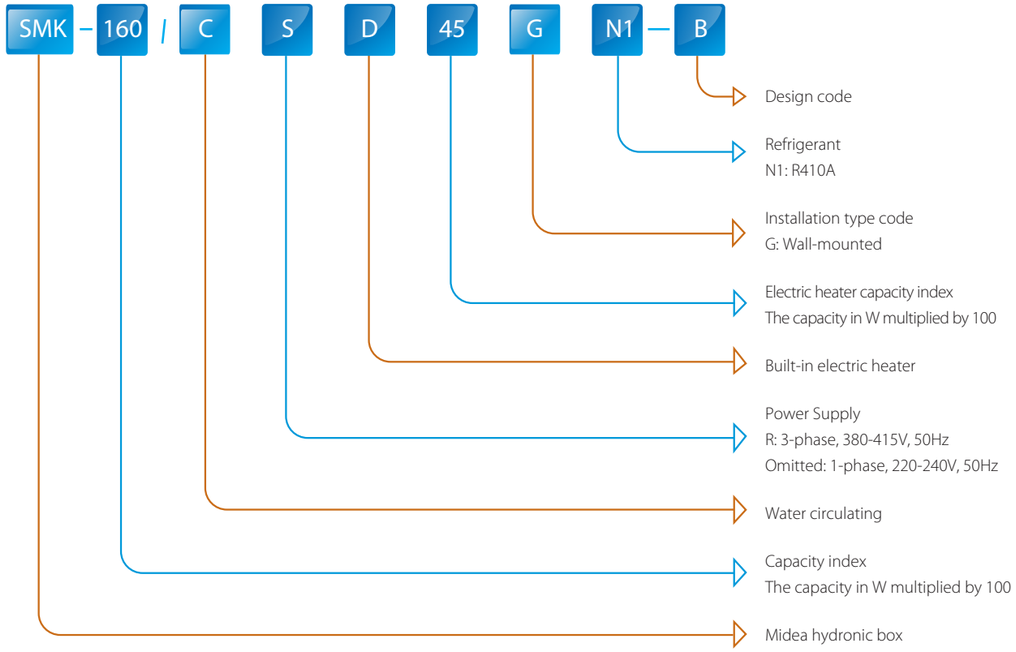
The M-Thermal range offers the flexibility to either have the hydronic components installed indoors or outdoors. With M-Thermal Mono, the hydronic components are integrated into the outdoor unit, offering ease of installation, whilst with M-Thermal Split the hydronic components are contained in a separate hydronic box, offering more installation flexibility. Both the Mono and Split products are rated A++ on the energy efficiency and make a significant contribution to limiting the impact on the environment.

Nomenclature

Outdoor units



Hydronic box



Product lineup

M-Thermal Mono

Capacity(kW)	5	7	9	10	12	14	16
Appearance							
220~240V-1Ph	●	●	●	●	●	●	●
380~415V-3Ph					●	●	●

M-Thermal Split

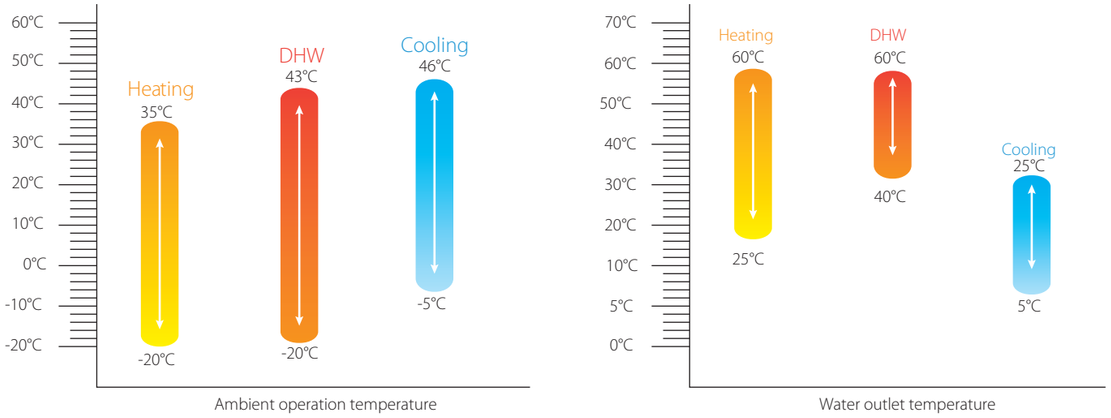
Capacity(kW)	4	6	8	10	12	14	16
Appearance							
220~240V-1Ph	●●	●●	●●	●●	●●	●●	●●
380~415V-3Ph					●●	●●	●●

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

M-Thermal

Features and Technologies

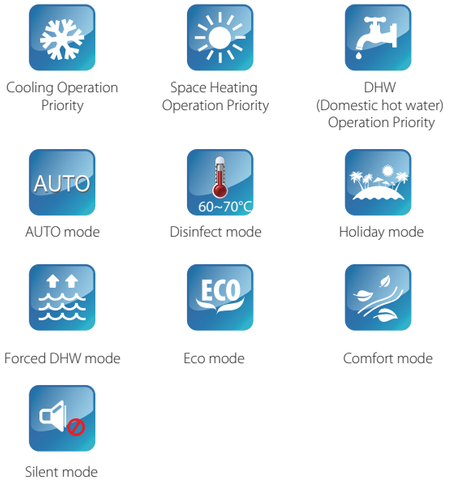
- DC inverter technology to guarantee optimal operational reliability and efficiency.
- Offers heating capacity of 80% at -7℃ thanks to the large heat exchanger and large compressor.
- Built-in backup electric heater for additional heating during extremely cold weather. The capacity of the backup electric heater is customizable and the output capacity is adjustable.
- Heating, cooling and domestic hot water: a total heat solution.
- Wide ambient temperature and water outlet temperature operating ranges.



- Compatible with additional heat sources (AHSs) including solar water heaters and boilers. AHSs 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. It reduces water pump cycle time and save energy.

- Priority setting function and multi modes choice



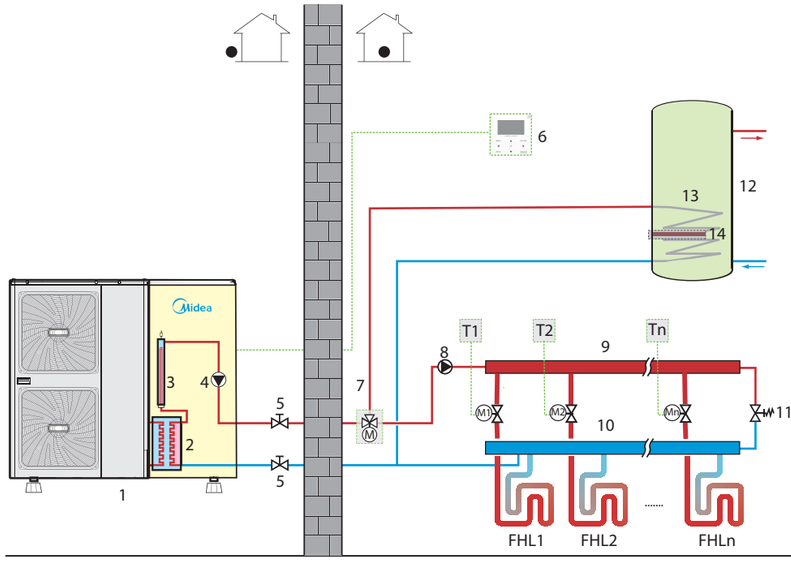
- Newly designed touch-key wired controller.

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

Typical Applications

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

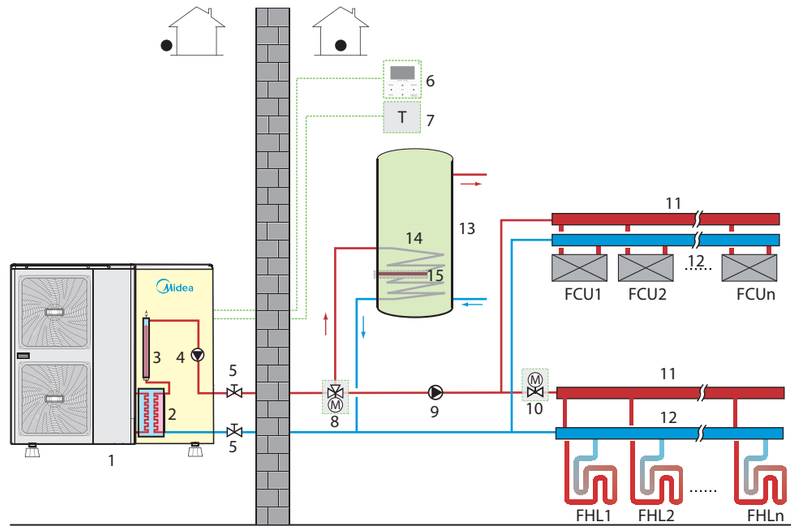
The room thermostats are not connected to the Mono unit but to a motorized valve. Each room’ s temperature is regulated by the motorized valve on its water circuit. Domestic hot water is supplied from the domestic hot water tank connected to the Mono unit. A bypass valve is required.



1 Outdoor unit
2 Plate heat exchanger
3 Backup electric heater
4 Internal circulator pump
5 Stop valve (field supplied)
6 User interface
7 Motorized 3-way valve (field supplied)
8 External circulator pump (field supplied)
9 Distibutor (field supplied)
10 Collector (field supplied)
11 Bypass valve (field supplied)
12 Domestic hot water tank (field supplied)
13 Heat exchanger coil
14 Immersion heater
FHL 1…n Floor heating loops (field supplied)
M1...n Motorized valves (field supplied)
T1…n Room thermostats (field supplied)

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

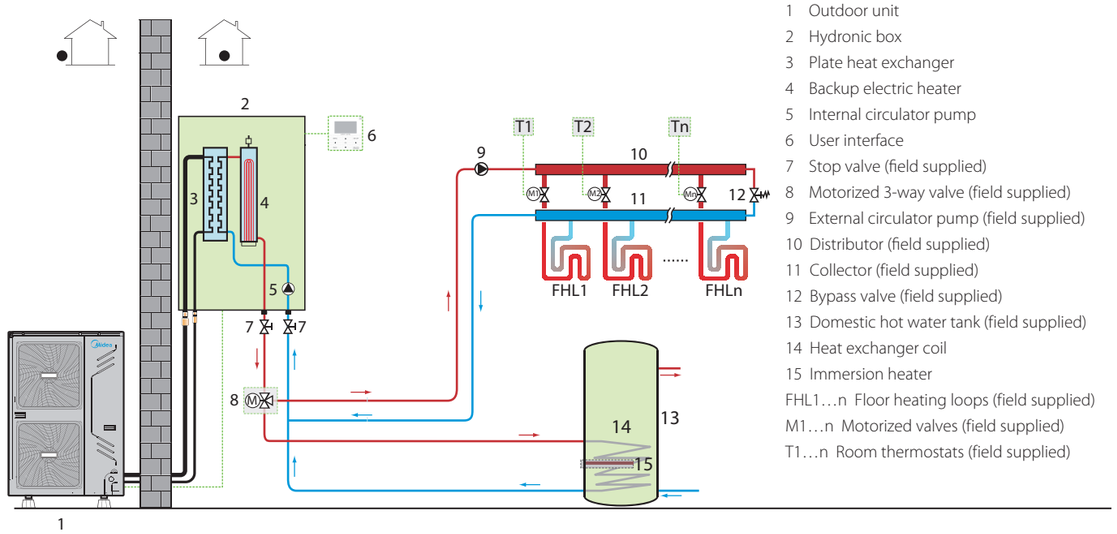
Floor heating loops and fan coil units are used for space heating and fan coil units are used for space cooling. Domestic hot water is supplied from the domestic hot water tank connected to the Mono unit. The unit switches to heating or cooling mode according to the temperature detected by the room thermostat. In space cooling mode, the 2-way valve is closed to prevent cold water entering the floor heating loops.



1 Outdoor unit
2 Plate heat exchanger
3 Backup electric heater
4 Internal circulator pump
5 Stop valve (field supplied)
6 User interface
7 Room thermostat (field supplied)
8 Motorized 3-way valve (field supplied)
9 External circulator pump (field supplied)
10 Two-way valve (field supplied)
11 Distributor (field supplied)
12 Collector (field supplied)
13 Domestic hot water tank (field supplied)
14 Heat exchanger coil
15 Immersion heater
FHL 1...n Floor heating loops (field supplied)
FCU 1...n Fan coil units (field supplied)

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

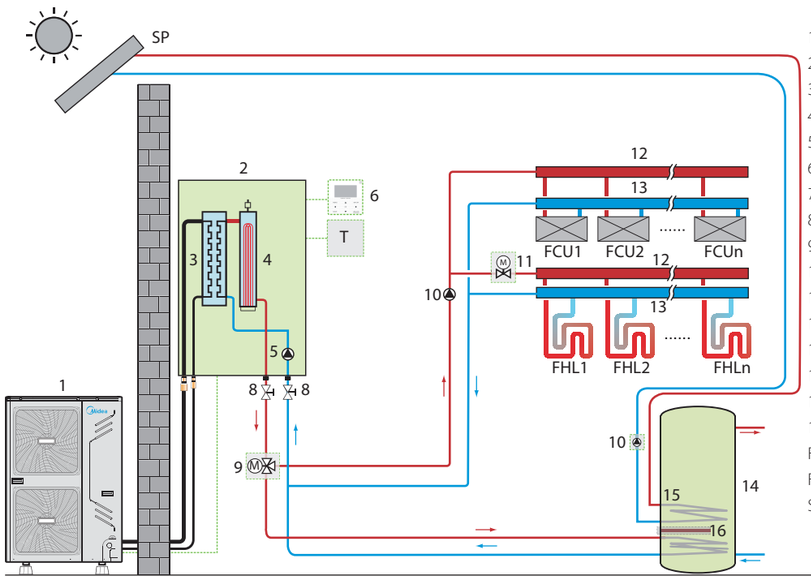
The room thermostats are not connected to the hydronic box but to a motorized valve. Each room' s temperature is regulated by the motorized valve on its water circuit. Domestic hot water is supplied from the domestic hot water tank connected to the hydronic box. A bypass valve is required.



1 Outdoor unit
2 Hydronic box
3 Plate heat exchanger
4 Backup electric heater
5 Internal circulator pump
6 User interface
7 Stop valve (field supplied)
8 Motorized 3-way valve (field supplied)
9 External circulator pump (field supplied)
10 Distributor (field supplied)
11 Collector (field supplied)
12 Bypass valve (field supplied)
13 Domestic hot water tank (field supplied)
14 Heat exchanger coil
15 Immersion heater
FHL1…n Floor heating loops (field supplied)
M1…n Motorized valves (field supplied)
T1…n Room thermostats (field supplied)

❖ Application 4: M-Thermal Split type unit compatible with solar water heater space heating, space cooling and domestic hot water

Floor heating loops and fan coil units are used for space heating and fan coil units are used for space cooling. Domestic hot water is supplied from the domestic hot water tank connected to both the hydronic box and solar water heater. The unit switches to heating or cooling mode according to the temperature detected by the room thermostat. In space cooling mode, the 2-way valve is closed to prevent cold water entering the floor heating loops.



1 Outdoor unit
2 Hydronic box
3 Plate heat exchanger
4 Backup electric heater
5 Internal circulator pump
6 User interface
7 Room thermostat
8 Stop valve (field supplied)
9 Motorized 3-way valve (field supplied)
10 External circulator pump (field supplied)
11 Motorized 2-way valve (field supplied)
12 Distributor (field supplied)
13 Collector (field supplied)
14 Domestic hot water tank (field supplied)
15 Heat exchanger coil
16 Immersion heater
FHL 1...n Floor heating loops (field supplied)
FCU 1...n Fan coil units (field supplied)
SP Solar panel

Specifications

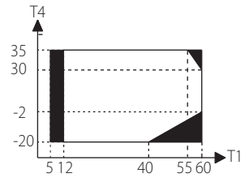
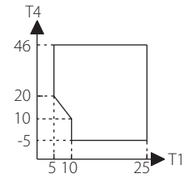
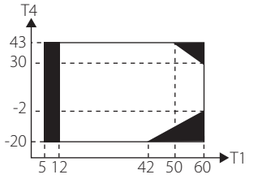
Mono type

Model name MHC-			V5W/D2N1	V7W/D2N1	V9W/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[2]	Capacity	kW	4.58	6.55	8.67	10.43	12.17	14.76	16.33	12.37	14.10	16.30
	Rated input	kW	0.97	1.45	2.02	2.28	2.73	3.40	3.90	2.76	3.26	3.88
	COP		4.72	4.52	4.30	4.57	4.46	4.34	4.19	4.48	4.33	4.20
Heating[3]	Capacity	kW	4.67	6.69	8.62	10.17	12.58	14.08	16.12	12.02	14.11	16.06
	Rated input	kW	1.43	2.05	2.64	3.08	3.86	4.47	5.22	3.72	4.47	5.23
	COP		3.27	3.26	3.27	3.30	3.26	3.15	3.09	3.23	3.16	3.07
Cooling[4]	Capacity	kW	4.55	6.45	8.11	10.25	12.19	14.61	14.82	12.64	14.03	15.10
	Rated input	kW	1.00	1.47	2.08	2.06	2.65	3.32	3.66	2.75	3.26	3.78
	EER		4.55	4.40	3.90	4.98	4.60	4.40	4.05	4.60	4.30	4.00
Cooling[5]	Capacity	kW	4.55	6.71	8.09	10.44	12.21	12.95	13.72	12.58	13.80	15.26
	Rated input	kW	1.55	2.57	3.41	3.28	4.17	4.53	5.16	4.32	5.15	6.41
	EER		2.94	2.61	2.37	3.18	2.93	2.86	2.66	2.91	2.68	2.38
Seasonal space heating energy efficiency class[6]	LWT at 35 C		A++									
	LWT at 55 C		A++									
SCOP[6]	LWT at 35 C		4.47	4.53	4.16	4.12	4.21	4.39	4.26	4.45	4.27	4.17
	LWT at 55 C		3.29	3.29	3.25	3.25	3.25	3.25	3.2	3.25	3.27	3.22
SEER[6]	LWT at 7 C		3.2	3.39	4.52	4.49	4.42	4.29	4.01	4.39	4.46	4.52
	LWT at 18 C		4.43	4.87	5.69	6.22	6.64	6.18	5.88	5.78	5.72	6.19
Air flow		m3/h	3050	3050	3050	6150	6150	6150	6150	6150	6150	6150
Sound power level[7]	Heating	dB(A)	61	65	68	66	67	71	71	68	71	72
	Cooling	dB(A)	63	67	70	68	69	73	73	70	73	75
Net dimensions (WxHxD)		mm	1210×945×402			1404×1414×405				1404×1414×405		
Packed dimensions (WxHxD)		mm	1500×1140×450			1475×1580×440				1475×1580×440		
Net/Gross weight		kg	99/117			162/183				177/198		
Water piping connections		mm	Φ25 Female BSP			Φ32 Female BSP				Φ32 Female BSP		
Safety valve set pressure		MPa	0.3			0.3				0.3		
Total water volume		L	2.0			5.5				5.5		
Operating temperature range	Cooling	C	-5 to 46									
	Heating	C	-20 to 35									
	DHW	C	-20 to 43									
LWT range	Cooling	C	5 to 25									
	Heating	C	25 to 60									
	DHW	C	40 to 60									
Refrigerant	Type		R410A									
	Charged volume	kg	2.4	2.4	2.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Throttle type			Electronic expansion valve				Electronic expansion valve			Electronic expansion valve		
Backup electric heater	Standard mounted	kW	-	-	-	3.0	3.0	3.0	3.0	4.5	4.5	4.5
	Optional	kW	3.0	3.0	3.0	4.5	4.5	4.5	4.5	-	-	-
	Capacity steps		1	1	1	2	2	2	2	1	1	1

Notes:
1. Relevant EU standards and legislation: EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.
2. Outdoor air temperature 7°C DB, 85% R.H.; EWT 30°C, LWT 35°C.
3. Outdoor air temperature 7°C DB, 85% R.H.; EWT 40°C, LWT 45°C.
4. Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C.
5. Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C.
6. Seasonal space heating energy efficiency class tested in average climate conditions.
7. Sound power level tested in average climate conditions, heating： outdoor air temperature 7°C DB, 6°C WB; EWT 47°C, LWT 55°C; cooling:outdoor air temperature 35°C DB, 24°C WB; EWT 12°C, LWT 7°C.

Abbreviations:
DHW: Domestic hot water
EWT: Entering water temperature
LWT: Leaving water temperature

Operating Limits

Heating operating limits[1]	Cooling operating limits	Domestic hot water operating limits[1]
		

Abbreviations:
T4: Outdoor temperature(°C)
T1: Leaving water temperature (°C)
Notes:
1.Shaded areas indicate no heat pump operation (backup electric heater or auxiliary heat source 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[2]	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[3]	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[4]	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[5]	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 efficiency class[6]	LWT at 35℃			A++									
	LWT at 55℃			A+	A+	A++	A+	A++	A++	A+	A++	A++	A++
SCOP[6]	LWT at 35℃			4.62	4.68	4.33	4.5	4.46	4.28	4.01	4.58	4.62	4.37
	LWT at 55℃			3.25	3.3	3.2	3.12	3.24	3.24	3.2	3.23	3.31	3.29
SEER[6]	LWT at 18℃			4.72	4.91	4.98	4.51	4.65	4.25	3.80	4.41	4.30	4.01
Sound power level[7]			dB(A)	62	66	69	67	68	71	72	70	72	72
Dimension (WxHxD)			mm	960×860×380		1075×965×395	900×1327×400				900×1327×400		
Packing (WxHxD)			mm	1040×1000×430		1120×1100×435	1030×1457×435				1030×1457×435		
Net/gross weight			kg	60/72		76/88	99/112				115/126		
Compressor	Type			Twin-rotary inverter									
Outdoor fan	Type			Brushless DC motor									
	Air flow		m³/h	3180		5116	6250				6250		
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		
	Installtion height difference	OU above	m	10		20	30				30		
		OU below	m	8		15	25				25		
Refrigerant	Type			R410A									
	Charged volume		kg	2.5		2.8	3.9				4.2		
Throttle type				Electric expansion valve									
Operating temperature range	Cooling		℃	-5 to 46									
	Heating		℃	-20 to35									
	DHW		℃	-20 to 43									

Notes:

1. Relevant EU standards and legislation: EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.
2. Outdoor air temperature 7°C DB, 85% R.H.; EWT 30°C, LWT 35°C.
3. Outdoor air temperature 7°C DB, 85% R.H.; EWT 40°C, LWT 45°C.
4. Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C.
5. Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C.
6. Seasonal space heating energy efficiency class tested in average climate conditions.
7. Sound power level tested in average climate conditions, outdoor air temperature 7°C DB, 6°C WB; EWT 47°C, LWT 55°C

Abbreviations:
DHW: Domestic hot water
EWT: Entering water temperature
LWT: Leaving water temperature

Hydronic box

Hydronic box	Model			SMK-80/CD30GN1-B	SMK-160/CD30GN1-B	SMK-160/CSD45GN1-B
	Compatible outdoor unit model names			MHA-V4(6, 8)W/D2N1	MHA-V10/12/14/16W/D2N1	MHA-V12/14/16W/D2RN1
Function				Heating and cooling		
LWT range	Space heating	Low	℃	25 to 55		
		High	℃	35 to 60		
	Space cooling	Low	℃	7 to 25		
		High	℃	18 to 25		
	DHW		℃	40 to 60		
Power supply			V/Ph/Hz	220-240/1/50	220-240/1/50	380-415/3/50
Sound power level[1]			dB(A)	42	45	45
Dimension (WxHxD)			mm	400x865x427		
Packing (WxHxD)			mm	495x1040x495		
Net/gross weight			kg	51/57	54/60	53/59
Water circuit	Piping connections		mm	DN25		
	Safety valve set pressure		MPa	0.3		
	Total water volume		L	5		
	Drainage pipe		mm	Φ16		
	Expansion tank	Volume	L	3		
		Max. water pressure	MPa	0.8		
		Pre pressure	MPa	0.15		
	Water side heat exchanger	Type		Plate		
		Volume	L	0.7	1	1
	Water pump head		m	6	7.5	7.5
Refrigerant circuit	Liqiud side		mm	Φ9.5		
	Gas side		mm	Φ15.9		
Backup electric heater	Size		kW	3.0	3.0	4.5
	Step			2	2	2
	Power supply			220-240/1/50	220-240/1/50	380-415/3/50

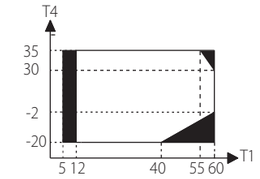
Notes:

1. Sound power level tested in average climate conditions, outdoor air temperature 7°C DB, 6°C WB; EWT 47°C, LWT 55°C.

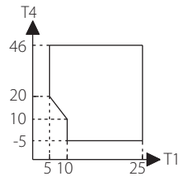
Abbreviations:
DHW: Domestic hot water
EWT: Entering water temperature
LWT: Leaving water temperature

Operating Limits

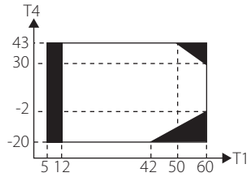
Heating operating limits[1]



Cooling operating limits



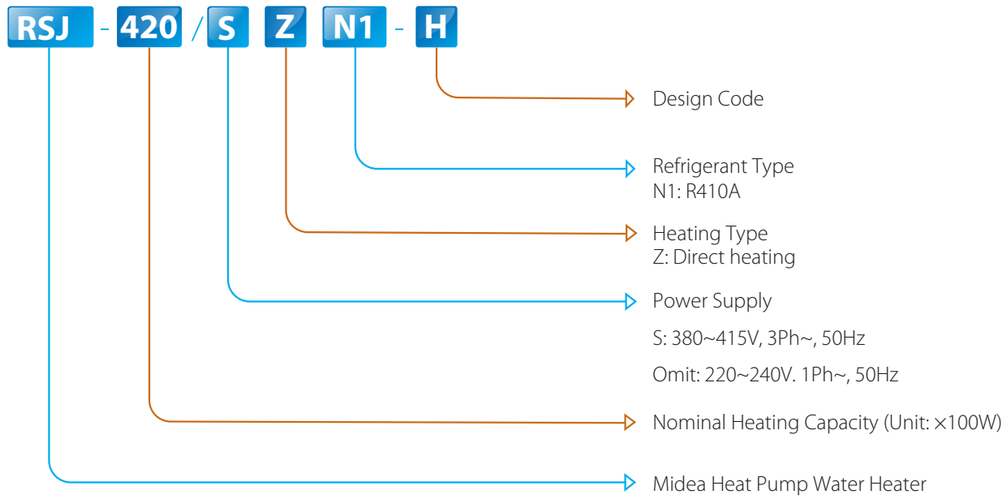
Domestic hot water operating limits[1]



Abbreviations:
T4: Outdoor temperature(°C)
T1: Leaving water temperature (°C)
Notes:
1.Shaded areas indicate no heat pump operation (backup electric heater or auxiliary heat source only)

Commercial Applications

Nomenclature



Product lineup

Capacity (kW)	12	20	42	80
Apperanace Series				
220~240V-1Ph	●			
380~415V-3Ph		●	●	●

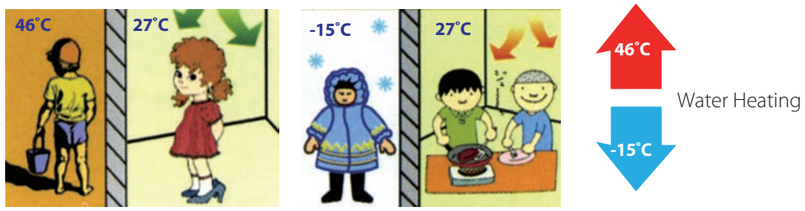
Commercial Application

Features

Wide application range »

- 4 basic models with heating capacity ranging from 12kW to 80kW.
- Free modular combination.
- Wide operation ambient temperature range.

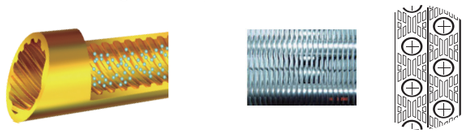
  Operates stably under extreme conditions, ranging from minus 15°C to 46°C.



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.
- G-shape fin-coil heat exchanger to optimize air flow system of unit.

Wired controller »

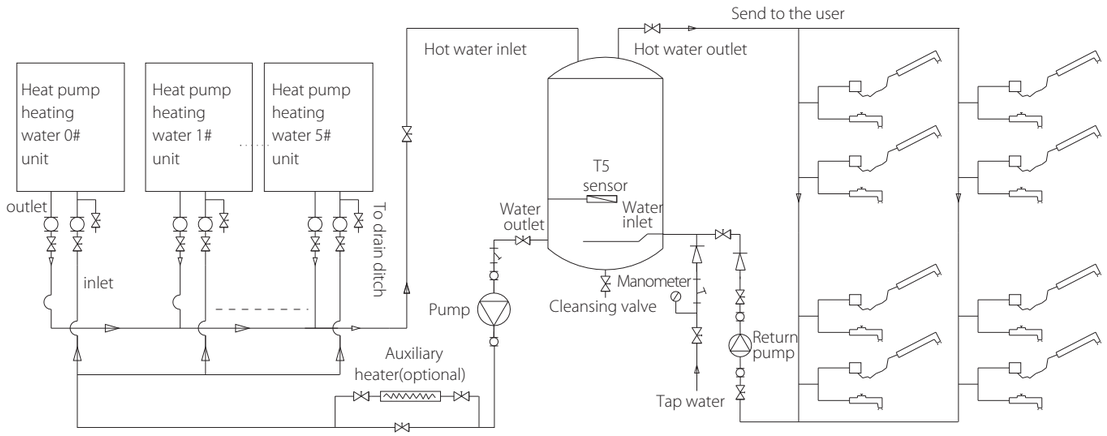
- Touch key operation.
- LCD displays operation parameters.
- Multiple timers.
- Real-time clock function.
- Power-off memory function.

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

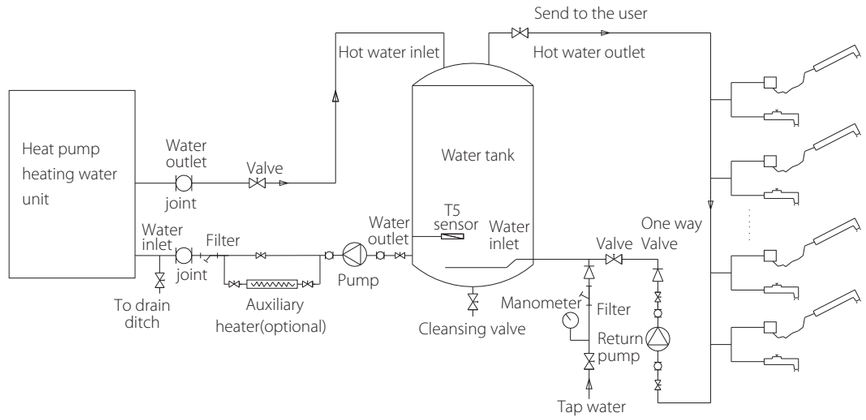
KJR-51/BMKE-A

Simple refrigeranting system diagram

Parallel connected heat pump system »



Single connected heat pump system »



Commercial Application

Specifications

Model			RSJ-120/ZN1-540V1	RSJ-200/SZN1-540V1
Power supply		V/Ph/Hz	220-240/1/50	380-415/3 / 50
Running ambient temp		℃	-15~46	-15~46
Outwater Temp		℃	Default 56℃, 48℃~60℃	
Water Heating	Capacity	kW	11.8	20.4
	Input	kW	2.95	5.05
	COP		4.00	4.04
	Max. input current	A	18.0	13.3
Unit dimension (W×H×D)		mm	790×1100×810	790×1100×810
Packing dimension (W×H×D)		mm	860×1220×885	860×1220×885
Net/Gross weight		kg	113/130	154/172
Outdoor noise level		dB(A)	59	63
Max. combination quantity		Pieces	6	6
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
Warer side heat exchanger	Type		Tube-in-tube	Tube-in-tube
Refrigerant	Refrigerant Type/Quantity	kg	R410A/1.55	R410A/2.9
	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		℃	-15~46	-15~46
Outwater Temp		℃	Default 56℃, 48℃~60℃	
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 (W×H×D)		mm	1,015×1,775×1,026	1,995×1,770×1,025
Packing dimension (W×H×D)		mm	1,070×1,900×1,030	2,080×1,895×1,120
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
Warer side heat exchanger	Type		Tube-in-tube	Tube-in-tube
Refrigerant	Refrigerant Type/Quantity	kg	R410A/4.5	R410A/2×4.4
	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℃(DB/WB), inlet water temperature 15℃, outlet water temperature 55℃.
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