


# Commercial Air Conditioners 2016




## Air Cooled Chillers & Fan Coil Units 50Hz&60Hz



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Midea CAC After-service Application

Midea CAC News Application



iOS Version



Android Version



iOS Version

## Introduction

midea air-cooled scroll chiller adopts air as the cooling/heating source and water as the cooling/heating medium to cooling/heating the indoor ambient temperatures through the indoor terminals (ahus/fcus). they are environment friendly products for the r410a refrigerant adopted, which does no harm to ozone layer. the chiller system always works at the most high efficiency stage thanks to the advanced technology. also, the air cooled chiller system has a lower initial investment cost than water cooled system, it does not require cooling tower, condenser water pump and associated condenser water chemical treatment system.

midea air-cooled scroll chillers are divided to mini series, tempo power series and tempo super series according to their structure and capacity. single unit's capacity range is from 5kw to 250kw. modular design concept makes the application from single unit to multiple units. maximum combination air-cooled scroll system's cooling capacity ups to 2080kw.

midea fan coil units are divided to ceiling exposed type, ceiling concealed type, wall-mounted type and floor-standing type according to their structure design and installation method. the air volume ranges from 150cfm to 2200cfm (255m<sup>3</sup>/h~3740m<sup>3</sup>/h). it is a highly versatile product suitable for hospitals, office buildings, hotels, airports and various other applications.

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- ▶ 13 Aqua Tempo Power Series
- ▶ 25 Aqua Tempo Super Series
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## Reference Projects

### Office >>



**Vimpelcom Office Building**

Country: Russia  
 City: Yaroslavl  
 Total Capacity: 186 HP  
 Outdoor Unit: Air-cooled scroll chiller  
 Indoor Unit: FCU  
 Completion Year: 2012  
 Total Floor Area: 5,300 m<sup>2</sup>

### Hotel&Restaurant >>



**Sheraton Bandara Resort Hotel(Five Star)**

Country: Indonesia  
 City: Jakarta  
 Total Capacity: 1,050 RT  
 Outdoor Unit: Air-cooled screw chiller  
 Indoor Unit: FCU  
 Completion Year: 2011



**Ramada Plaza (Five Star)**

Country: China  
 City: Shunde  
 Total Capacity: 2,500 RT  
 Outdoor Unit: Water-cooled screw chiller  
 Indoor Unit: AHU & FCU  
 Completion Year: 2009  
 Total Floor Area: 50,000 m<sup>2</sup>

### Governmental project >>



**Police Station Vazisubani**

Country: Georgia  
 City: Vazisubani  
 Total Capacity: 1,180 HP  
 Outdoor Unit: Air-cooled scroll chiller  
 Indoor Unit: FCU  
 Completion Year: 2011  
 Total Floor Area: 11,000 m<sup>2</sup>

### Transportation >>



**Mozambique Capital Airport**

Country: Mozambique  
 City: Maputo  
 Total Capacity: 4,000 RT  
 Outdoor Unit: Air-cooled screw chiller  
 Indoor Unit: FCU & AHU  
 Completion Year: 2012



### Industry >>



**Castagna Univel Factory**

Country: Italy  
 City: Milan  
 Total Capacity: 250 HP  
 Outdoor Unit: Air-cooled scroll chiller  
 Indoor Unit: FCU  
 Completion Year: 2011  
 Total Floor Area: 3,000 m<sup>2</sup>



❖ Aqua Mini Chiller

❖ Aqua Mini Chiller

## Aqua Mini Chiller (Fixed Type)

Midea Aqua Mini Chillers adopt unitary structure design. Hydraulic module is built in the outdoor unit. They are air-cooled water heat pump chiller, no need cooling water tower at the condensing side. Fixed Type Aqua Mini chillers' capacity range is from 5kW to 16kW and they can freely combine with fan coil units.

These units are designed for residential applications or light commercial applications that require cold or hot water. They are compact units equipped with axial fans, easy to install and maintain. So they are widely applied in small business office building, apartments, villas, as well as restaurants, etc.

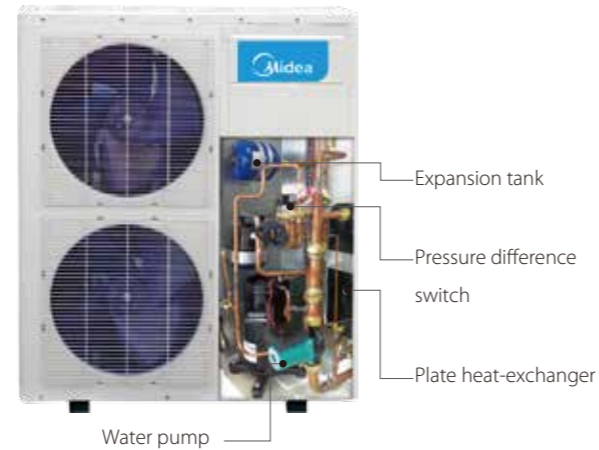
## Product Lineup

Capacity(kW)	5	7	10	12	14	16
Appearance						
Power supply						
220~240V-1Ph-50Hz	●	●	●			
380~415V-3Ph-50Hz			●	●	●	●

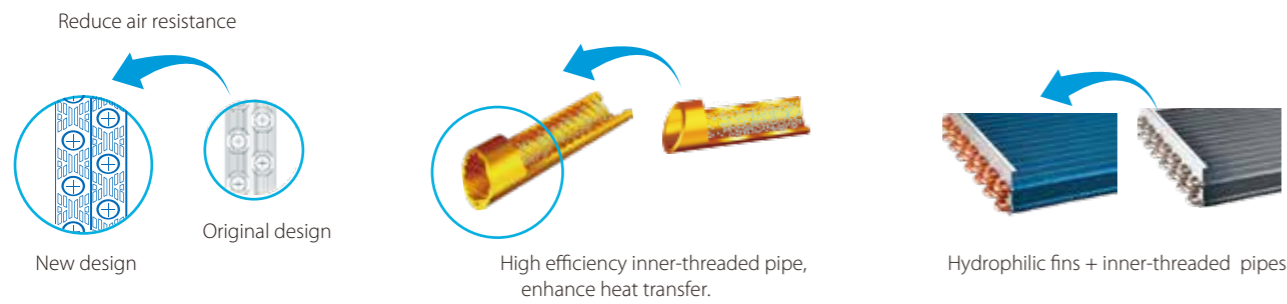
## Features

### Easy installation >>

Compact structure design saves you much installation space. Air Cooled Mini Chillers are equipped with axial fans that can be installed directly outdoors. Hydronic module is built-in the outdoor unit, which is including water pump, expansion tank and plate heat-exchanger.

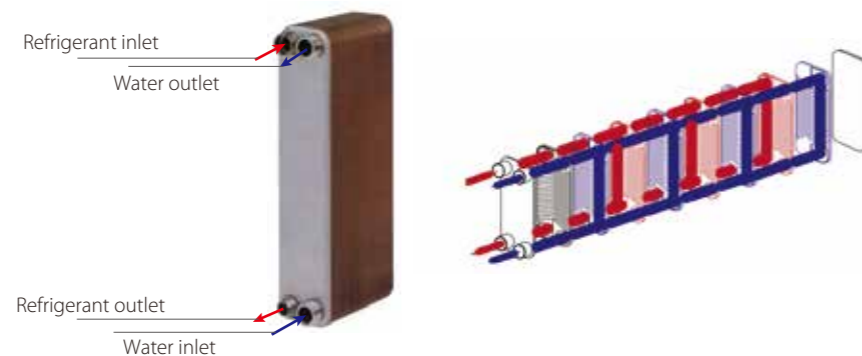


### High performance heat exchanger >>



- ❖ 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.

### 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.

### Easy control >>

- ❖ User-friendly electronic controller is built in the outdoor unit.
- ❖ LCD remote controller is optional.
- ❖ Auto-restart function.
- ❖ Emergency switch and water pressure gauge are equipped with to ensure system safety.



Electronic controller



Remote controller


 Water pressure gauge  
Emergency switch  
Electronic controller

## Specifications

**220~240V-1Ph-50Hz**

Model			MGC-F05W/N1	MGC-F07WN1	MGC-F10WN1
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50
Cooling <sup>1</sup>	Capacity	kW	5.0	7.2	10.5
	Input	kW	1.9	2.8	3.6
Heating <sup>2</sup>	Capacity	kW	5.5	7.7	12.0
	Input	kW	2.0	2.8	4.0
Max input current		A	11.7	16.7	25.7
Compressor	Type		Rotary	Rotary	Fixed Scroll
	Quality	Pieces	1	1	1
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor
	Quality of fan motor	Pieces	1	1	2
	Air flow	m <sup>3</sup> /h	5,563	5,624	6,500
Water side heat exchanger	Type		Plate type	Plate type	Plate type
	Water flow	m <sup>3</sup> /h	0.86	1.24	1.74
	Water pressure drop	kPa	21	35	44
Water pump	Pump head	m	6	6	8
	Water volume	L/min	4	4	7.5
Expansion tank volume		L	2	2	3
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	kg	1.6	2.1	3.0
	Throttle type		Capillary	Capillary	Capillary
Sound pressure level <sup>3</sup>		dB(A)	55	56	60
Unit net dimension (WxHxD)		mm	990x966x354	990x966x354	940x1245x360
Packing dimension (WxHxD)		mm	1,120x1,100x435	1,120x1,100x435	1,058x1,300x438
Net/ Gross weight		kg	83/89	94/100	138/145
The Max and Min. water inlet pressure		kPa	500/150	500/150	500/150
Pipe connections	Water inlet/outlet	mm	DN25	DN25	DN32
Controller			Electronic controller (standard), remote controller (optional)		
Ambient temperature range	Cooling	°C	10~43	10~43	10~43
	Heating	°C	-15-24	-15-24	-15-24
Water outlet temperature range	Cooling	°C	10~20	10~20	10~20
	Heating	°C	30~50	30~50	30~50

1. Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.  
2. Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.  
3. 1m away in semi-anechoic room.

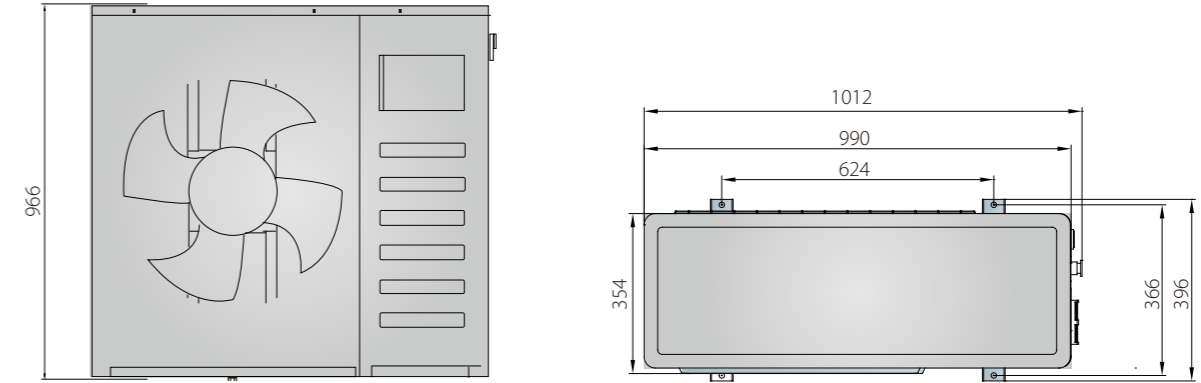
### 380~415V-3Ph-50Hz

Model			MGC-F10W/SN1	MGC-F12W/SN1	MGC-F14W/SN1	MGC-F16W/SN1
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
Cooling <sup>1</sup>	Capacity	kW	10.5	12.0	14.0	16.0
	Input	kW	3.9	4.4	4.9	6.4
Heating <sup>2</sup>	Capacity	kW	12.0	14.0	16.1	18.0
	Input	kW	4.2	4.6	5.2	6.4
Max input current		A	8.3	9.1	10.5	14.3
Compressor	Type		Fixed Scroll	Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quality	Pieces	1	1	1	1
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor	AC Motor
	Quality of fan motor	Pieces	2	2	2	2
	Air flow	m <sup>3</sup> /h	7,000	7,000	7,000	7,000
Water heat exchanger	Type		Plate type	Plate type	Plate type	Plate type
	Water flow	m <sup>3</sup> /h	1.72	2	2.4	2.8
	Water pressure drop	kPa	44	40	34	38
Water pump	Pump head	m	8	8	8	8
	Water volume	L/min	7.5	7.5	7.5	7.5
Expansion tank volume		L	3	3	3	3
Refrigerant	Type		R410A	R410A	R410A	R410A
	Charged volume	kg	2.7	3.0	3.6	4.2
	Throttle type		Capillary	Capillary	Capillary	Capillary
Sound pressure level <sup>3</sup>		dB(A)	58	59	60	60
Unit net dimension (WxHxD)		mm	940x1,245x360	1,070x1,249x420	1,070x1,249x420	1,070x1,249x420
Packing dimension (WxHxD)		mm	1,058x1,300x438	1,188x1,385x498	1,188x1,385x498	1,188x1,385x498
Net/ Gross weight		kg	131/139	137/145	145/160	151/165
The Max and Min. water inlet pressure		kPa	500/150	500/150	500/150	500/150
Pipe connections	Water inlet/outlet	mm	DN32	DN32	DN32	DN32
Controller			Electronic controller (standard), remote controller (optional)			
Ambient temperature range	Cooling	°C	10~43	10~43	10~43	10~43
	Heating	°C	-15~24	-15~24	-15~24	-15~24
Water outlet temperature range	Cooling	°C	10~20	10~20	10~20	10~20
	Heating	°C	30~50	30~50	30~50	30~50

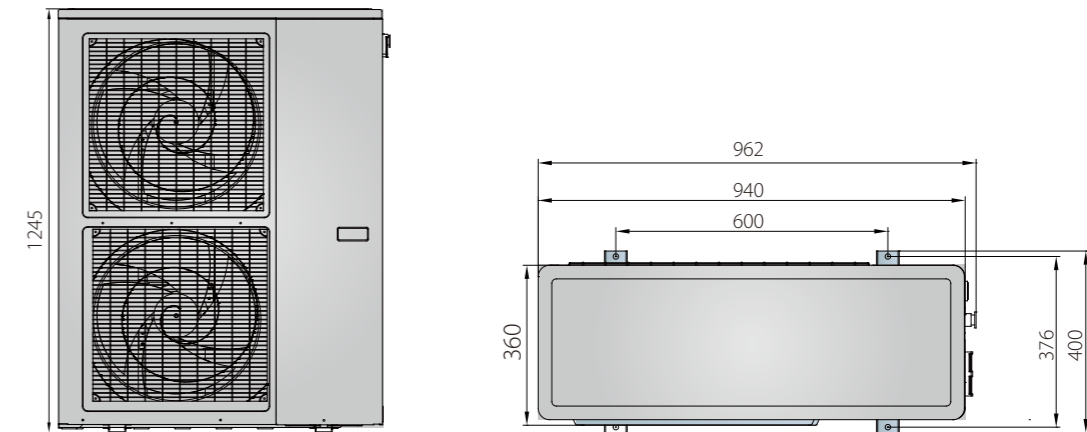
1. Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.  
 2. Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.  
 3. 1m away in semi-anechoic room.

### Dimensions (unit: mm)

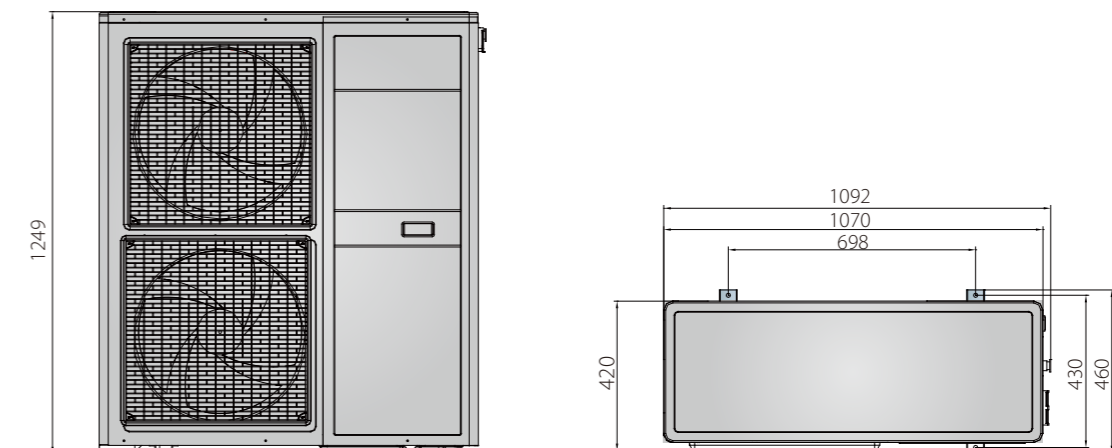
MGC-F05W/N1 MGC-F07W/N1 >>



MGC-F10W/N1 MGC-F10W/SN1 >>



MGC-F12W/SN1 MGC-F14W/SN1 MGC-F16W/SN1 >>





Aqua Tempo Power

Aqua Tempo Power

# Air Cooled Scroll Chiller

## Aqua Tempo Power

Midea Aqua Tempo Power chillers adopt V shape heat exchanger and single unit's capacity from 30kW to 250kW. They are divided to PS, PS-LA and PS-HMLA series according to their operation ambient temperature range and inner components. PS-LA series is products with low ambient temperature cooling function and PS-HMLA series is products built-in with hydraulic module based on PS-LA products.

## Product Lineup

Capacity (kW)	30	65	130	200	250
Appearance					
Series					
50Hz PS (F/D)	● / ●	● / ●	● /	● /	/
50Hz PS-LA (F/D)	● / ●	● / ●	● /	● /	● /
50Hz PS-HMLA (F/D)	● / ●	/	/	/	/
60Hz PS (F/D)	/	● /	● /	/	/

PS: Standard Power Series  
 PS-LA: Power Series with low ambient temperature cooling function  
 PS-HMLA: Power Series with low ambient temperature cooling function and built-in with hydraulic module  
 F: Product adopted fixed speed scroll compressor  
 D: Product adopted digital scroll compressor

## Features

### Wide application range >>

- ❖ 17 basic models with cooling capacity ranging from 30kW to 250kW, combination model's maximum capacity ups to 2000kW.



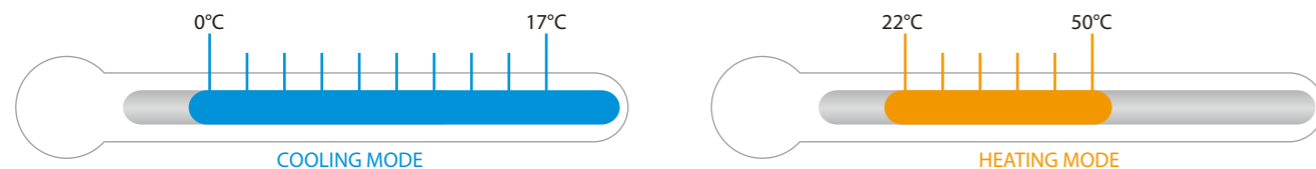
- ❖ Freely combine with fan coil units and air handling units. Project owners may choose the best types according to their design taste (for interior) or functional needs.



- ❖ Wide operation ambient temperature range  
For the Aqua Tempo Power chillers with low ambient temperature cooling function, the running ambient temperature down to -10°C both in cooling and heating.



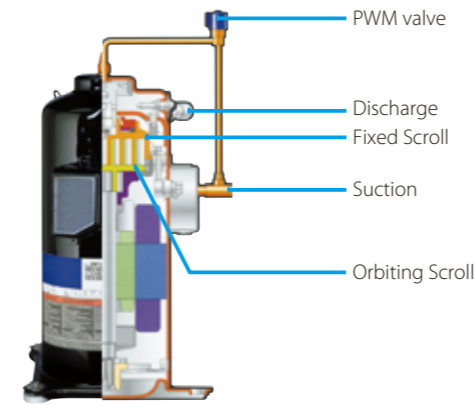
- ❖ Wide range of outlet water temperature  
For the Aqua Tempo Power chillers with low ambient temperature cooling function, the lowest outlet temperature in cooling mode is 0°C.



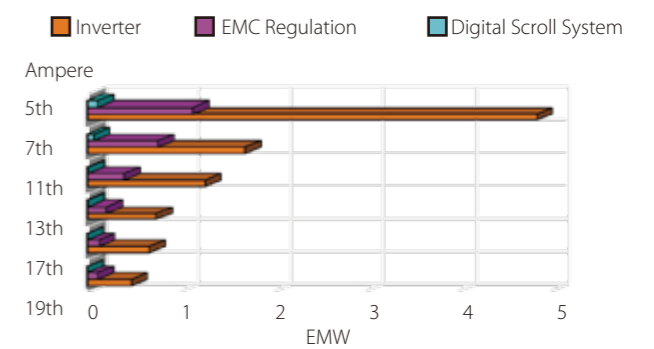
### Advanced technology >>

- ❖ Digital scroll technology

The digital scroll compressor utilizes axial compliant sealing technology to precisely adjust the axial motion range of the stator scroll pan. And there is an additional connecting by-pass between the suction inlet and the pressure bore at the floating sealing point of axial stator.

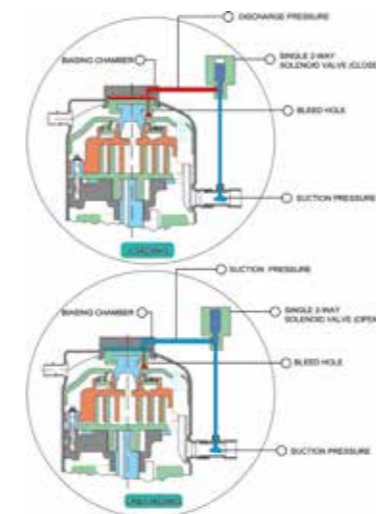


- Provides 40 million times the average service life of PWM solenoid valves, making sure the long life of compressor.
- Guarantees high efficiency by applying axial-compliant sealing technology.



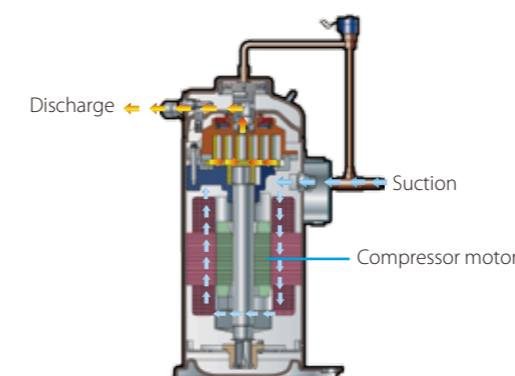
- Provides 10% to 100% stepless capacity output to precisely control room temperature.
- Less electromagnetic interference, no EMC problem.

#### Operation Principle of Digital Scroll Compressor



- When the PWM solenoid valve is open, the pressure in the pressure bore is released. The pressure in the compression bore is higher than that top of the stator, then the stator axis of the compressor will move upward a little.
- So high pressure bore and low pressure inlet is connected and the unloading is achieved.
- When the PWM solenoid valve is closed, two stators engage to achieve an airtight state and loading functionality.
- The compressor can adjust the ratio of ON to OFF freely to control the refrigerant output of the compressor.

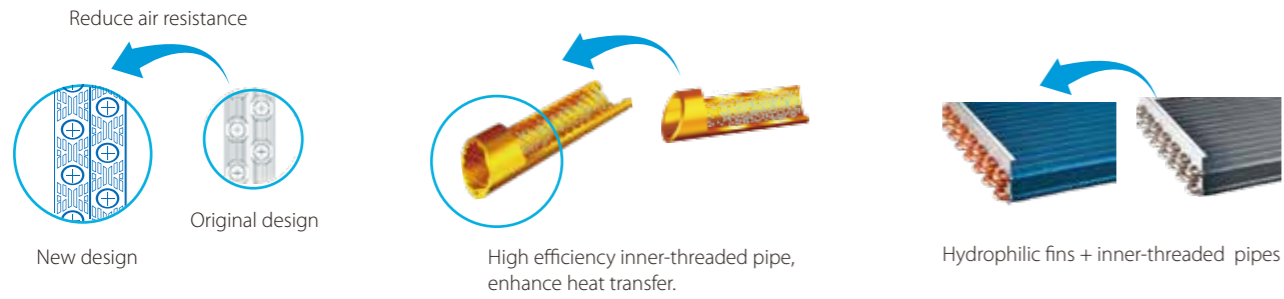
High reliability in high ambient temperatures is guaranteed by the low pressure design of the compressor motor.



- Effectively cools the compressor motor by suction gas.
- Creates stronger resistance to the compressor liquid hammer.
- Provides strong reliability in high ambient temperatures.



❖ High performance heat exchanger



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.

❖ Back-up functions

In a combination system, if one module failed, other modules can be back-up instead of the failed one for continuing operation.



Compliance with ErP directive >>

30kW and 65kW products are compliance with ErP directive, including both PS series and PS-LA series. The seasonal space heating energy efficiency classes for 30kW models are A rated and 65kW models are A+ rated.



Flexible installation >>

❖ Built-in hydraulic module

MGCSL-F (D) 30W/RN1 are equipped with a hydraulic 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 terminals.



❖ Individual hydraulic module optional

Individual hydraulic module compatible with cooling capacity of 65kW and 130kW is optional. Water box, expansion water tank, two water pumps are built in the hydraulic box. The integral structure design saves you much installation labor and cost.



HM/II-65S  
HM/II-130S



Easy control >>

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



❖ Remote control functions for convenient operation.

There are ON/OFF, Heat/Cool and Alarm terminals ports on PCB, connect switches from these terminal ports and remote control functions can be easily realized.



Note: When use the remote control function, the wired controller will be invalid for ON/OFF and mode selection.

# Specifications

## 50Hz PS & PS-LA series (Fixed type)

Model			MGB-F30W/RN1 MGCL-F30W/RN1	MGB-F65W/RN1 MGBL-F65W/RN1	MGB-F130W/RN1 MGBL-F130W/RN1	MGB-F200W/RN1 MGBL-F200W/RN1	MGBL-F250W/RN1
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
Cooling <sup>1</sup>	Capacity	kW	30	65	130	185	250
	Input	kW	10.0	20.4	40.8	63.0	78.3
	EER		3.00	3.18	3.18	2.93	3.19
Heating <sup>2</sup>	Capacity	kW	32	69	138	200	270
	Input	kW	9.8	21.5	43.0	61.0	80.0
	COP		3.27	3.21	3.21	3.27	3.38
Max running current		A	21.1	54.5	109	150	200
Compressor	Type		Fixed Scroll	Fixed Scroll	Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quantity	Pieces	2	2	4	6	8
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor	AC Motor	AC Motor
	Quality of fan motor	Pieces	1	2	4	6	8
	Air flow	m <sup>3</sup> /h	12,000	24,000	48,000	72,000	96,000
Water side heat exchanger	Type		Double-pipe	Shell-tube	Shell-tube	Shell-tube	Shell-tube
	Water pressure drop	kPa	60	15	25	30	40
	Volume	L	10	42	64	90	131
	Water flow volume	m <sup>3</sup> /h	5.2	11.2	22.4	31.8	43
Refrigerant	Type		R410A	R410A	R410A	R410A	R410A
	Charged volume	kg	7.0	14.0	28.0	42.0	60.0
	Throttle type		EXV	EXV	EXV	EXV	EXV+Capillary
Sound pressure level <sup>3</sup>		dB(A)	65	67	70	74	74
Unit net dimension(DxHxW)		mm	1,514x1,865x841	2,000x1,880x900	2,000x2,090x1,685	2,850x2,110x2,000	3800x2130x2000
Packing dimension(DxHxW)		mm	1,590x2,065x995	2,106x2,090x998	2,090x2,240x1,755	2,980x2,260x2,135	3900x2200x2100
Net/Gross weight		kg	375/400	580/650	1,150/1,270	1730/2,000	2,450/2,600
Pipe connections	Water inlet/outlet	mm	DN40	DN100	DN65	DN80	DN100
Controller			Wired controller	Wired controller	Wired controller	Wired controller	Wired controller
Ambient temperature range	Cooling	°C	10~46	10~46	10~46	10~46	10~46
	Heating	°C	-10~21	-10~21	-10~21	-10~21	-10~21
Ambient temperature range <sup>4</sup>	Cooling	°C	-10~46	-10~46	-10~46	-10~46	-10~46
	Heating	°C	-10~21	-10~21	-10~21	-10~21	-10~21
Water outlet temperature range	Cooling	°C	5~17	5~17	5~17	5~17	5~17
	Heating	°C	45~50	45~50	45~50	45~50	45~50
Water outlet temperature range <sup>4</sup>	Cooling	°C	0~17	0~17	0~17	0~17	0~17
	Heating	°C	22~50	22~50	22~50	22~50	22~50

1. Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
2. Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
3. 1m away in open field.
4. The date is for PS-LA series.

## 50Hz PS & PS-LA series (Digital type)

Model			MGB-D30W/RN1 MGCL-D30W/RN1	MGB-D65W/RN1 MGBL-D65W/RN1
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50
Cooling <sup>1</sup>	Capacity	kW	30	65
	Input	kW	10.0	20.4
	EER		3.00	3.18
Heating <sup>2</sup>	Capacity	kW	32	69
	Input	kW	9.8	21.5
	COP		3.27	3.21
Max running current		A	21.1	54.5
Compressor	Type		Digital Scroll+Fixed Scroll	Digital Scroll+Fixed Scroll
	Quantity	Pieces	2	3
Air side heat exchanger	Type		Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor
	Quality of fan motor	Pieces	1	2
	Air flow	m <sup>3</sup> /h	12,000	24,000
Water side heat exchanger	Type		Double-pipe	Shell-tube
	Water pressure drop	kPa	60	15
	Volume	L	10	42
	Water flow volume	m <sup>3</sup> /h	5.2	11.2
Refrigerant	Type		R410A	R410A
	Charged volume	kg	7.0	14.0
	Throttle type		EXV	EXV
Sound pressure level <sup>3</sup>		dB(A)	65	67
Unit net dimension(DxHxW)		mm	1,514x1,865x841	2,000x1,880x900
Packing dimension(DxHxW)		mm	1,590x2,065x995	2,106x2,090x998
Net/Gross weight		kg	375/400	610/680
Pipe connections	Water inlet/outlet	mm	DN40	DN100
Controller			Wired controller	Wired controller
Ambient temperature range	Cooling	°C	10~46	10~46
	Heating	°C	-10~21	-10~21
Ambient temperature range <sup>4</sup>	Cooling	°C	-10~46	-10~46
	Heating	°C	-10~21	-10~21
Water outlet temperature range	Cooling	°C	5~17	5~17
	Heating	°C	45~50	45~50
Water outlet temperature range <sup>4</sup>	Cooling	°C	0~17	0~17
	Heating	°C	22~50	22~50

1. Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
2. Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
3. 1m away in open field.
4. The date is for PS-LA series.

## 50Hz PS-HMLA series

Model			MGCSL-F30W/RN1	MGCSL-D30W/RN1
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50
Cooling <sup>1</sup>	Capacity	kW	30	30
	Input	kW	10+1.2(Pump)	10+1.2(Pump)
	EER		2.68	2.68
Heating <sup>2</sup>	Capacity	kW	32	32
	Input	kW	9.8+1.2(Pump)	9.8+1.2(Pump)
	COP		3.20	3.20
Max running current		A	25.3	25.3
Compressor	Type		Fixed Scroll	Digital Scroll+Fixed Scroll
	Quantity	Pieces	2	2
Water side heat exchanger	Type		Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor
	Quality of fan motor	Pieces	1	1
	Air flow	m <sup>3</sup> /h	12,000	12,000
Water side heat exchanger	Type		Double-pipe	Double-pipe
	Volume	L	10	10
	Water flow volume	m <sup>3</sup> /h	5.2	5.2
Refrigerant	Type		R410A	R410A
	Charged volume	kg	7.0	7.0
	Throttle type		EXV	EXV
Sound pressurer level <sup>3</sup>		dB(A)	67	67
Unit net dimension(DxHxW)		mm	1,514x1,865x910	1,514x1,865x910
Packing dimension(DxHxW)		mm	1,590x2,065x995	1,590x2,065x995
Net/Gross weight		kg	430/450	430/450
Pipe connections	Water inlet/outlet	mm	DN40	DN40
Controller			Wired controller	Wired controller
Ambient temperature range	Cooling	°C	-10~46	-10~46
	Heating	°C	-10~21	-10~21
Water outlet temperature range	Cooling	°C	0~17	0~17
	Heating	°C	22~50	22~50

- Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
- Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
- 1m away in open field.

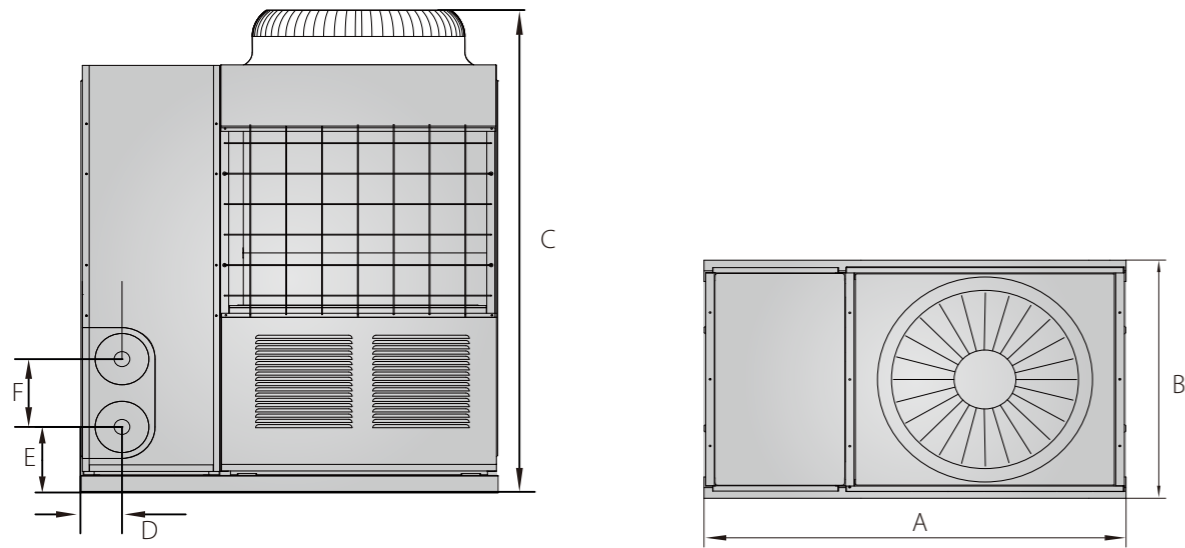
## 60Hz PS series

Model			MGB-F65W/PN1	MGB-F130W/PN1
Power supply		V/Ph/Hz	380/3/60	380/3/60
Cooling <sup>1</sup>	Capacity	kW	65	130
	Input	kW	21.3	42.6
	EER		3.20	3.21
Heating <sup>2</sup>	Capacity	kW	70	140
	Input	kW	21.9	43.8
	COP		3.20	3.21
Max running current		A	51.5	103
Compressor	Type		Fixed Scroll	Fixed Scroll
	Quantity	Pieces	2	4
Air side heat exchanger	Type		Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor
	Quality of fan motor	Pieces	2	4
	Air flow	CFM(m <sup>3</sup> /h)	14,126(24,000)	28,253(48,000)
Water side heat exchanger	Type		Shell-tube	Shell-tube
	Water pressure drop	kPa	15	25
	Volume	L	42	64
Water flow volume		CFM(m <sup>3</sup> /h)	6.6(11.2)	13.2(22.4)
Refrigerant	Type		R410A	R410A
	Charged volume	lbs(kg)	30.8(14.0)	61.6(28.0)
	Throttle type		EXV	EXV
Sound pressurer level <sup>3</sup>		dB(A)	67	70
Unit net dimension(DxHxW)		inch	78-47/64x74-1/64x35-7/16	78-47/64x82-9/32x66-11/32
		mm	2,000x1,880x900	2,000x2,090x1,685
Packing dimension(DxHxW)		inch	82-9/32x80-29/32x38-25/32	82-9/32x88-3/16-69-3/32
		mm	2,090x2,055x985	2,090x2,240x1,755
Net/Gross weight		lbs	1,301/1,389	2,602/2,867
		kg	590/630	1,180/1,300
Pipe connections	Water inlet/outlet	mm	DN100	DN65
Controller			Wired controller	Wired controller
Ambient temperature range	Cooling	F(°C)	50~115(10~46)	50~115(10~46)
	Heating	F(°C)	14~70(-10~21)	14~70(-10~21)
Water outlet temperature range	Cooling	F(°C)	41~63(5~17)	41~63(5~17)
	Heating	F(°C)	113~122(45~50)	113~122(45~50)

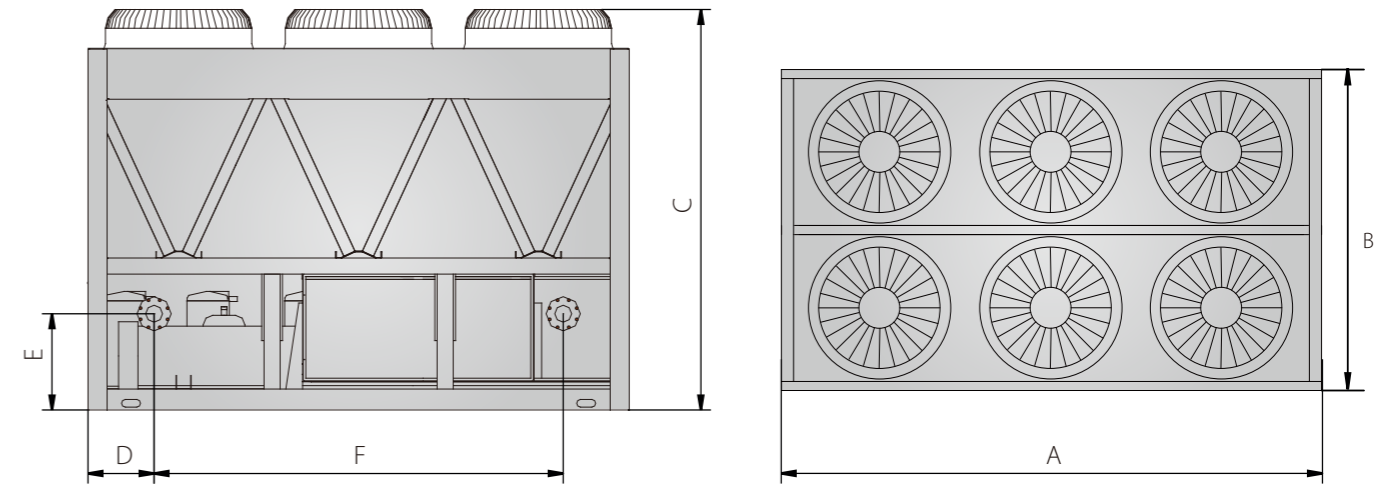
- Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
- Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
- 1m away in open field.

## Dimensions (Unit:mm)

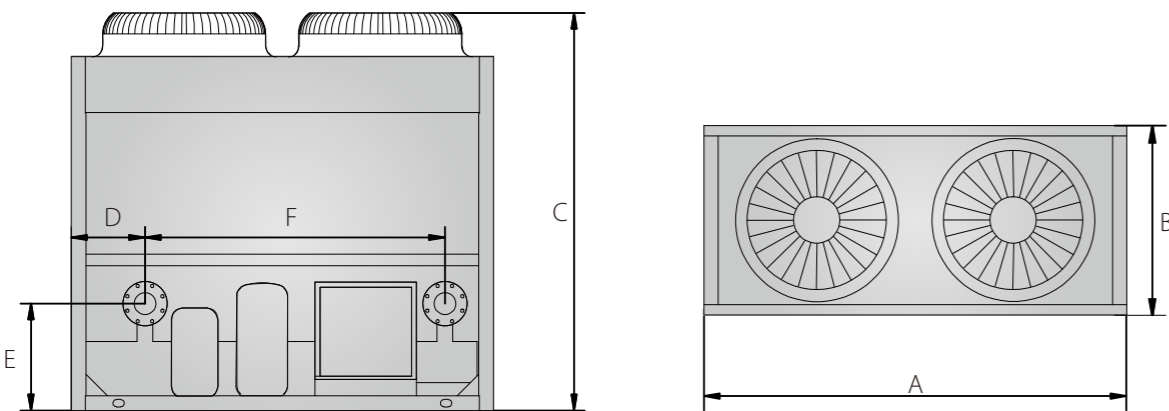
### 30kW module >>



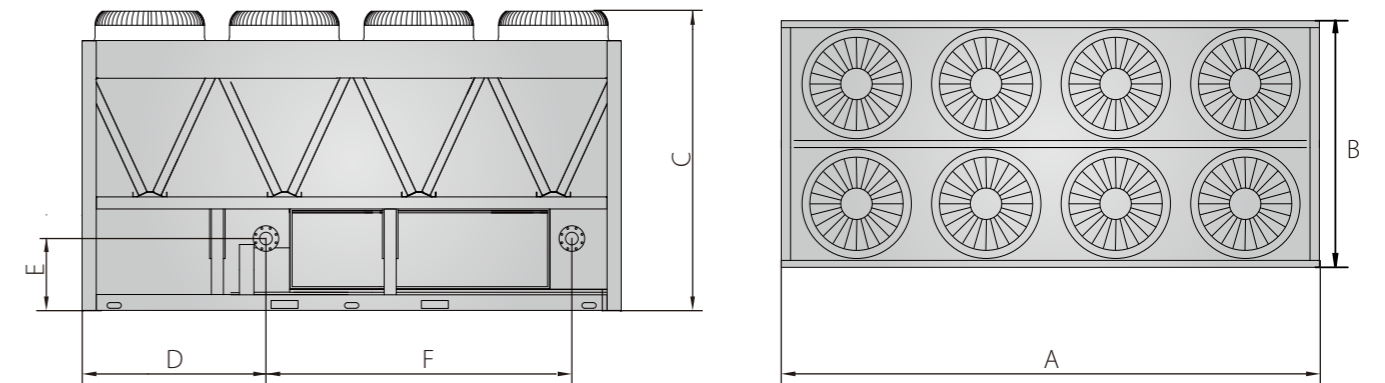
### 200kW module >>



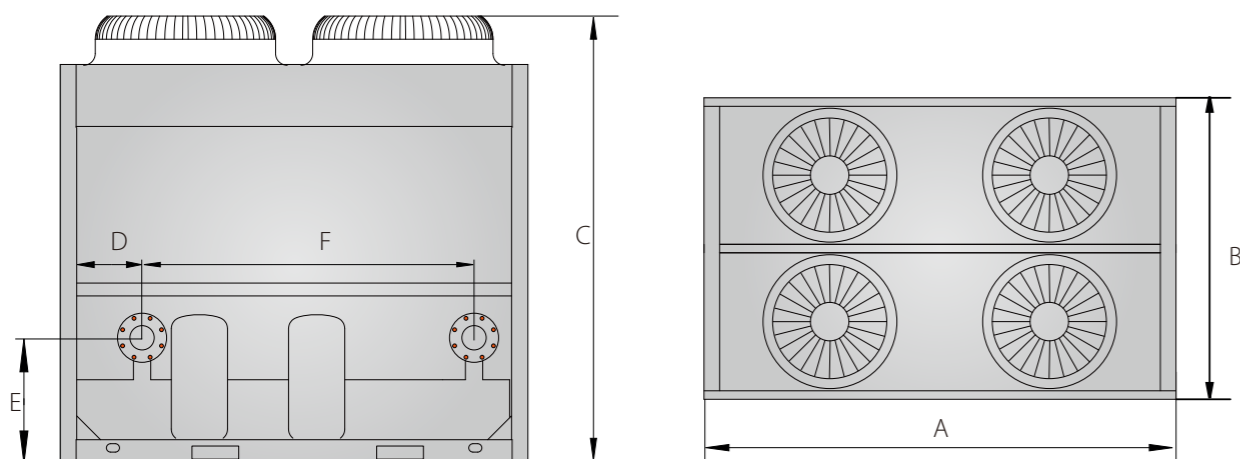
### 65kW module >>



### 250kW module >>



### 130kW module >>



Model	A	B	C	D	E	F
MGB-F(D)30W/RN1 MGBL-F(D)30W/RN1	1514	841	1865	115	315	172
MGCSL-F(D)30W/RN1	1514	910	1865	110	317	557
MGB-F(D)65W/RN1 MGBL-F(D)65W/RN1 MGB-F65W/PN1	2000	900	1880	350	506	1420
MGB-F130W/RN1 MGBL-F130W/RN1 MGB-F130W/PN1	2000	1685	2080	350	506	1420
MGB-F200W/RN1 MGBL-F200W/RN1	2850	2000	2110	3470	506	2156
MGBL-F250W/RN1	3800	2000	2130	1235	573	2156



Aqua Tempo Super

Aqua Tempo Super

# Air Cooled Scroll Chiller

## Aqua Tempo Super

Midea Aqua Tempo Super chillers adopt H shape heat exchanger at air side and single unit's capacity from 25kW to 130kW. They are all products with low ambient temperature cooling function. Super chillers are divided to SS-LA, SP-LA and SP-HMLA series according to their water side heat exchanger and inner components. SS series adopt tube-in-tube or shell-tube heat exchanger and SP series adopt plate type heat exchanger at water side. SP-HMLA series is products built-in with hydraulic module based on SP-LA products.

### Product Lineup

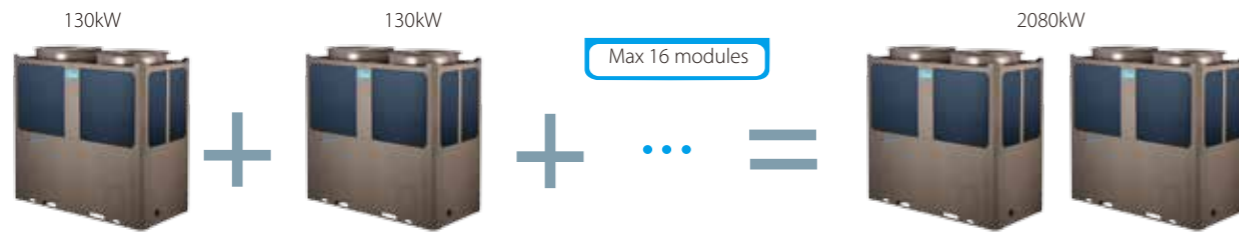
Capacity (kW)	25	35	65	80	130
Appearance					
Series					
SP-LA	●	●	●		
SP-HMLA	●	●	●		
SS-LA		●	●	●	●

SP-LA: Super series adopt plate type heat exchanger  
 SP-HMLA: Super series adopt plate type heat exchanger and built-in hydraulic module  
 SS-LA: Super series adopt tube-in-tube or shell-tube heat exchanger

## Features

### Wide application range >>

- ❖ 10 basic models with cooling capacity ranging from 25kW to 130kW, combination model's maximum capacity up to 2080kW.



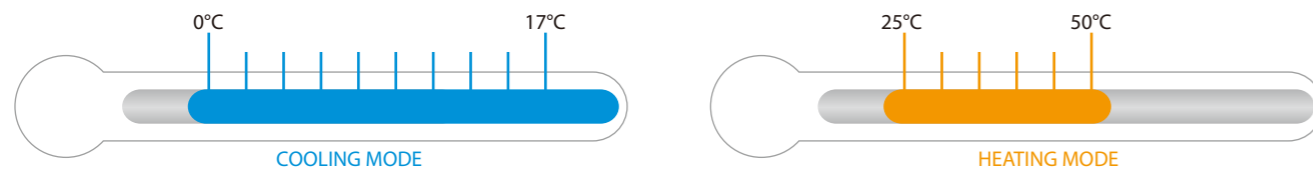
- ❖ Freely combine with fan coil units and air handling units. Home owners may choose the best types according to their functional needs.



- ❖ Wide range of ambient temperature



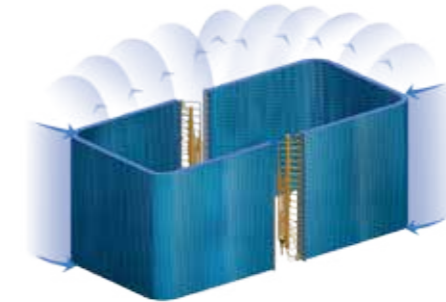
- ❖ Wide range of outlet water temperature



### Advanced technology >>

- ❖ H shape high performance heat exchanger

The chillers adopt new structure design, H shape condenser, 360° air intake, increase the heat exchanging area, efficiently enhance the heat exchange efficiency, and decrease the covering area.



Newly designed air profile  
Big air flow lower noise

360° Condenser coil  
High efficiency

Removable panel  
Easy to maintain

Transportation hole  
Easy to install

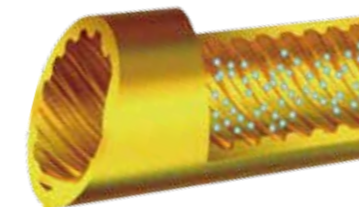
Multi folder frame  
Nice and strong



H shape condenser adopts inner grooved copper tube and hydrophilic aluminum foil, greatly improve the heat exchange efficiency.

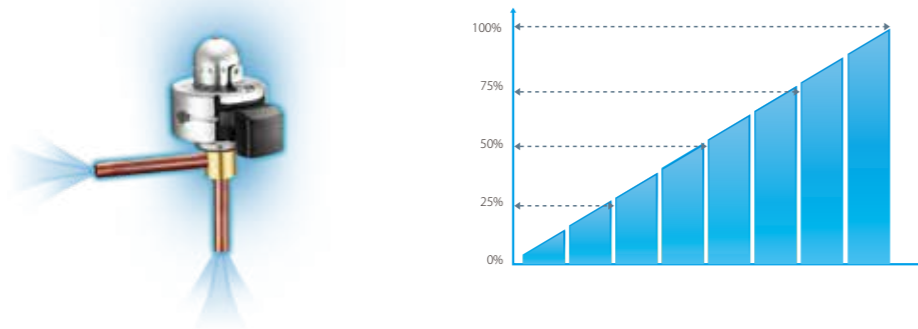
Inner grooved copper tube

Hydrophilic aluminum foil



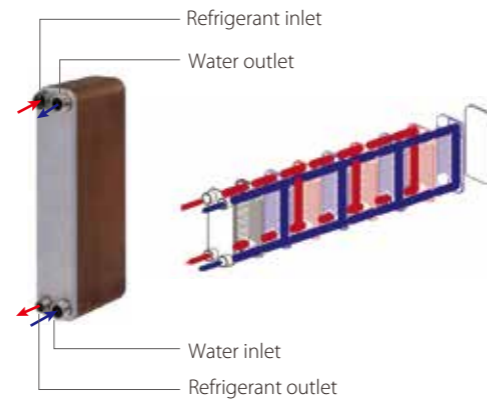
❖ EXV for more precisely flow control

Patented liquid distribution components to maximize performance and minimize defrost impact.  
500 steps EXV plus capillary for stable and accurate gas flow control.  
Fast respond resulting in higher efficiency and improved reliability.

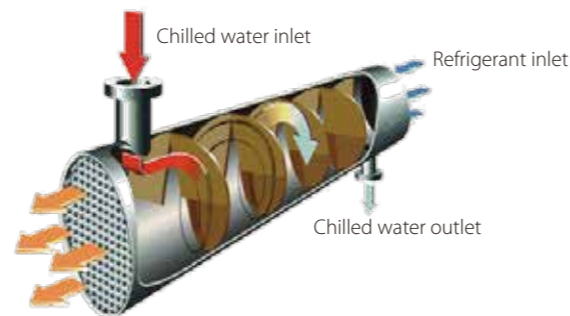
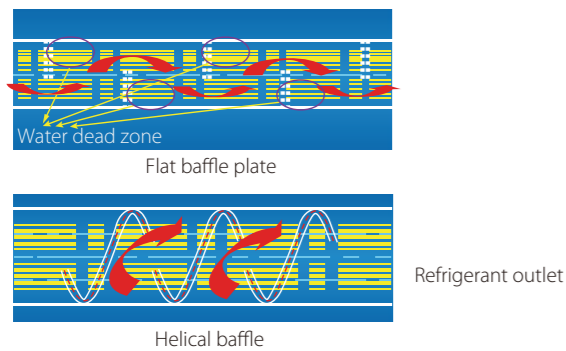


❖ High efficiency plate heat exchanger (For SP series)

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.



❖ Tube-in-tube & shell-tube heat exchanger (For SS series)



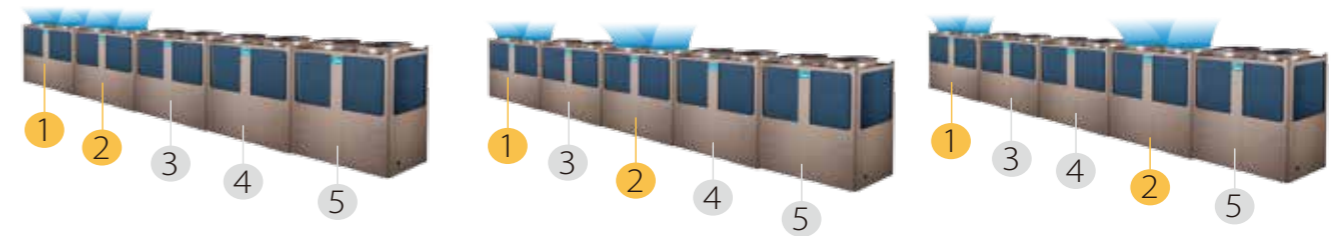
For shell-tube heat exchanger, the module adopts the new helical baffle design to avoid the rectangular place of water dead zone, greatly improve the heat exchange efficiency.

High reliability >>

❖ Alternative cycle duty operation

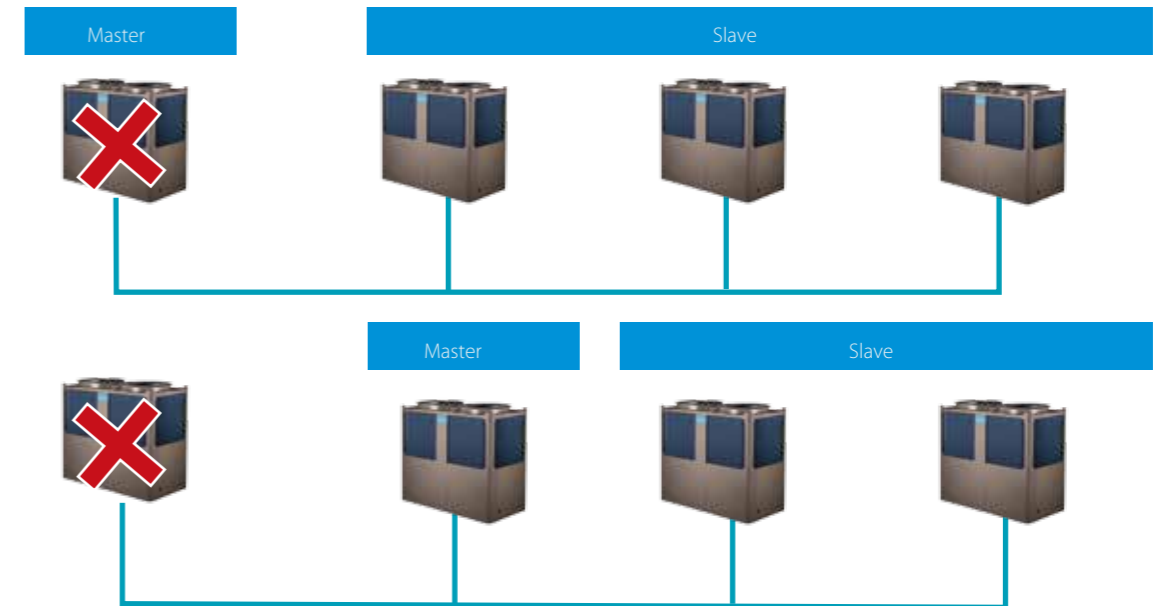
In one combination module, all slave units operate as alternative in cycle duty to keep equal running time, realize higher stability, better reliability and longer lifespan.

For example, five modules combination, no.1 is master unit, others are slave units.



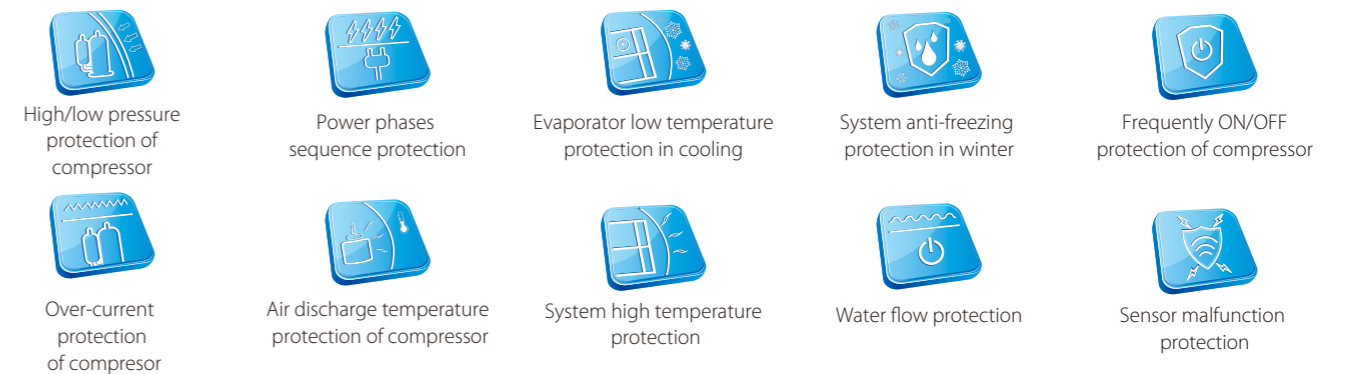
❖ Back-up functions

In a combination system, if one module failed, other modules can be back-up instead of the failed one for continuing operation.



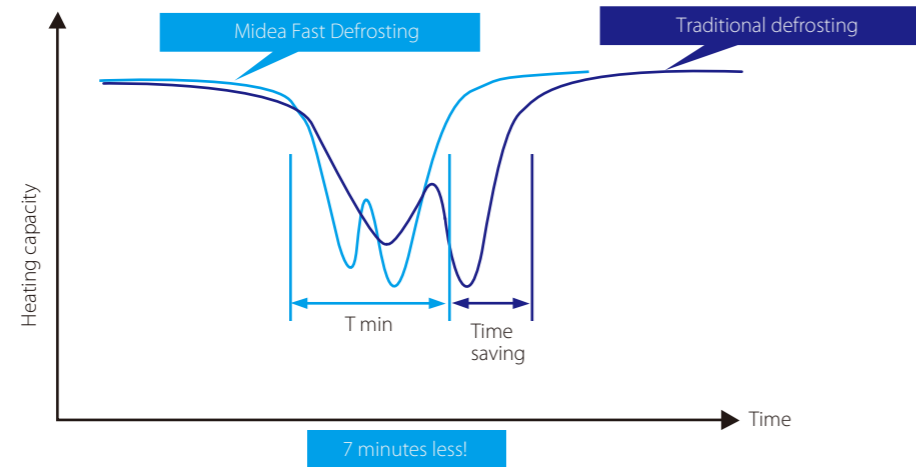
❖ Reliable protections

Multiple protections are adopted to ensure system stable running.



❖ Intelligent defrosting technology

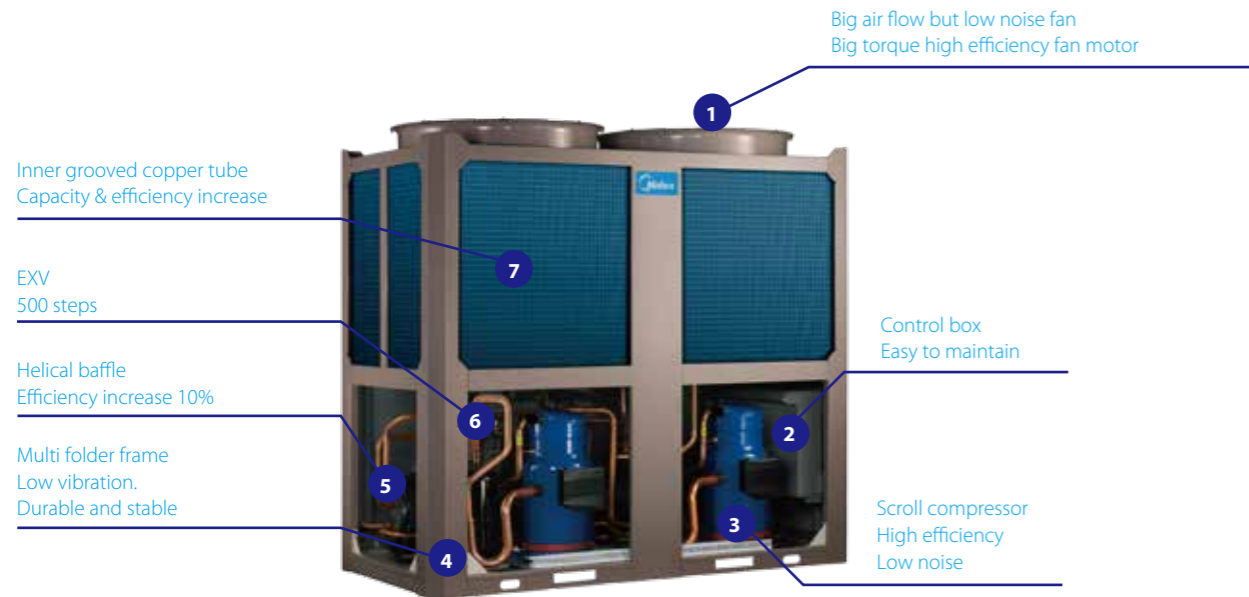
Model alternative defrosting technology ensures little fluctuation on water temperature. Manual defrosting program is available for service purpose.



Flexible installation >>

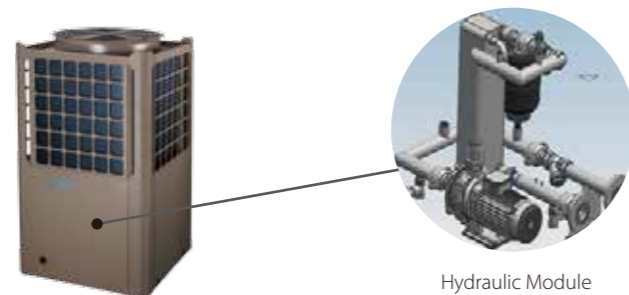
❖ Compact structure design

Super power chiller adopts compact structure design, light weight, easy for transportation and installation.



❖ Built-in hydronic module

For SP series, built-in hydraulic module products are available. The modules are fully integrated and built-in expansion tank, plate heat exchanger, water circulating pump, etc. It saves you much installation space and cost.



❖ Individual hydronic module optional

Individual hydronic module compatible with cooling capacity of 65kW and 130kW is optional. Water box, expansion water tank, two water pumps are built in the hydronic box. The integral structure design saves you much installation labor and cost.



Easy control >>

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



❖ Remote control functions for convenient operation

There are ON/OFF, Heat/Cool and Alarm terminals ports on PCB, connect switches from these terminal ports and remote control functions can be easily realized.



Note: When use the remote control function, the wired controller will be invalid for ON/OFF and mode selection.



# Specifications

## SP-LA series

Model			MC-SP25-RN1L	MC-SP35-RN1L	MC-SP65-RN1L
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50
Cooling <sup>1</sup>	Capacity	kW	25	35	65
	Input	kW	8.0	11.5	20.4
	EER		3.13	3.04	3.19
Heating <sup>2</sup>	Capacity	kW	26	37	69
	Input	kW	8.0	11.3	21.5
	COP		3.27	3.27	3.21
Max running current		A	20.7	28.8	54.5
Compressor	Type		Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quantity	Pieces	1	1	1
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor
	Quantity of fan motor	Pieces	1	1	2
	Air flow	m <sup>3</sup> /h	13,500	13,500	27,000
Water side heat exchanger	Type		Plate type	Plate type	Plate type
	Water pressure drop	kPa	77	63	55
	Volume	L	1.89	2.77	4.44
	Water flow volume	m <sup>3</sup> /h	4.3	6	11.2
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	kg	3.1	5.4	10
	Throttle type		EXV	EXV	EXV
Sound pressure level <sup>3</sup>		dB(A)	65	65	67
Unit net dimension(DxHxW)		mm	1,020x1,770x980	1,020x1,770x980	2,000x1,770x960
Packing dimension(DxHxW)		mm	1,070x1,900x1,030	1,070x1,900x1,030	2,090x1,890x1,030
Net/Gross weight		kg	276/286	304/314	470/490
Pipe connections	Water inlet/outlet	mm	DN40	DN40	DN50
Controller			Wired controller	Wired controller	Wired controller
Ambient temperature range	Cooling	°C	-10~46	-10~46	-10~46
	Heating	°C	-15~24	-15~24	-15~24
Water outlet temperature range	Cooling	°C	5~17	5~17	5~17
	Heating	°C	25~50	25~50	25~50

1. Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
2. Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
3. 1m away in open field.

## SP-HMLA series

Model			MC-SP25M-RN1L	MC-SP35M-RN1L	MC-SP65M-RN1L
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50
Cooling <sup>1</sup>	Capacity	kW	25	35	65
	Input	kW	9.2	12.7	22.6
	EER		2.72	2.76	2.88
Heating <sup>2</sup>	Capacity	kW	26	37	69
	Input	kW	9.2	12.5	23.7
	COP		2.84	3.04	2.91
Max running current		A	24.0	32.1	60.4
Compressor	Type		Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quantity	Pieces	1	1	1
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor
	Quantity of fan motor	Pieces	1	1	2
	Air flow	m <sup>3</sup> /h	13,500	13,500	27,000
Water side heat exchanger	Type		Plate type	Plate type	Plate type
	Volume	L	1.89	2.77	4.44
	Water flow volume	m <sup>3</sup> /h	4.3	6	11.2
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	kg	3.1	5.4	10
	Throttle type		EXV	EXV	EXV
Sound pressure level <sup>3</sup>		dB(A)	65	65	67
Unit net dimension(DxHxW)		mm	1,020x1,770x980	1,020x1,770x980	2,000x1,770x960
Packing dimension(DxHxW)		mm	1,070x1,900x1,030	1,070x1,900x1,030	2,090x1,890x1,030
Net/Gross weight		kg	313/323	343/353	540/560
Pipe connections	Water inlet/outlet	mm	DN40	DN40	DN50
Controller			Wired controller	Wired controller	Wired controller
Ambient temperature range	Cooling	°C	-10~46	-10~46	-10~46
	Heating	°C	-15~24	-15~24	-15~24
Water outlet temperature range	Cooling	°C	5~17	5~17	5~17
	Heating	°C	25~50	25~50	25~50

1. Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
2. Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
3. 1m away in open field.

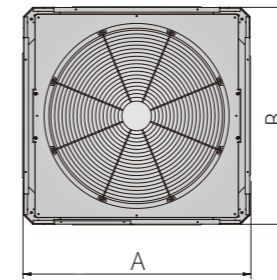
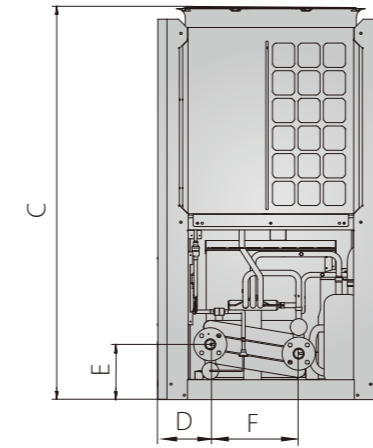
### SS-LA series

Model			MC-SS35/RN1L	MC-SS65/RN1L	MC-SS80/RN1L	MC-SS130/RN1L
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
Cooling <sup>1</sup>	Capacity	kW	35	65	80	130
	Input	kW	10.0	20.4	20.4	20.4
	EER		3.04	3.19	3.10	3.07
Heating <sup>2</sup>	Capacity	kW	37	69	85	138
	Input	kW	9.8	21.5	21.5	21.5
	COP		3.27	3.21	3.21	3.21
Max running current		A	27.0	54.5	65	109
Compressor	Type		Fixed Scroll	Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quantity	Pieces	1	1	2	2
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor	AC Motor
	Quality of fan motor	Pieces	1	2	2	2
	Air flow	m <sup>3</sup> /h	13,500	27,000	27,000	50,000
Water side heat exchanger	Type		Double-pipe	Shell-tube	Shell-tube	Shell-tube
	Water pressure drop	kPa	55	30	30	40
	Volume	L	10	35	47.5	60
Water flow volume	m <sup>3</sup> /h		6	11.2	13.8	22.4
Refrigerant	Type		R410A	R410A	R410A	R410A
	Charged volume	kg	5.4	11.5	13	21
	Throttle type		EXV	EXV	EXV	EXV
Sound pressure level <sup>3</sup>		dB(A)	65	67	67	68
Unit net dimension(DxHxW)		mm	1,020x1,770x980	2,000x1,770x960	2,000x1,770x960	2,200x2,060x1,120
Packing dimension(DxHxW)		mm	1,070x1,900x1,030	2,090x1,890x1,030	2,090x1,890x1,030	2,250x2,200x1,180
Net/Gross weight		kg	320/330	530/590	645/710	950/1,020
Pipe connections	Water inlet/outlet	mm	DN40	DN65	DN65	DN65
Controller			Wired controller	Wired controller	Wired controller	Wired controller
Ambient temperature range	Cooling	°C	-10~46	-10~46	-10~46	-10~46
	Heating	°C	-15~24	-15~24	-15~24	-15~24
Water outlet temperature range	Cooling	°C	0~17	0~17	0~17	0~17
	Heating	°C	25~50	25~50	25~50	25~50

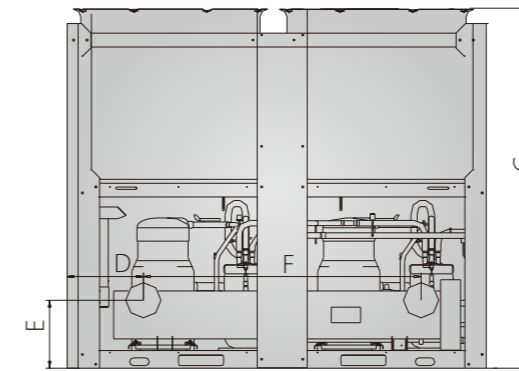
1. Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.  
 2. Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.  
 3. 1m away in open field.

### Dimensions (Unit:mm)

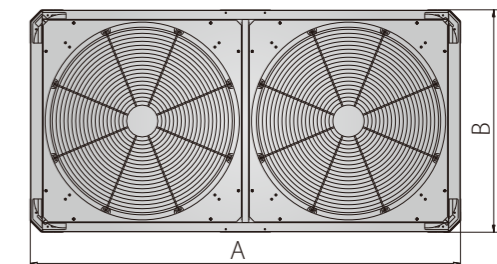
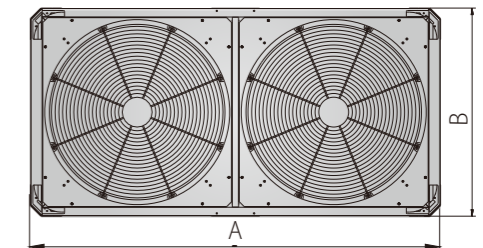
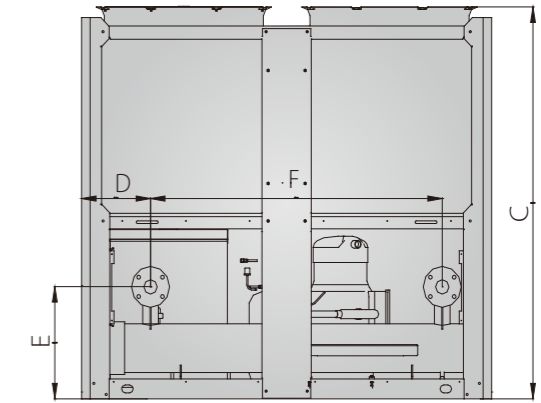
#### 25/35kW module >>



#### 130kW module >>



#### 65/80kW module >>



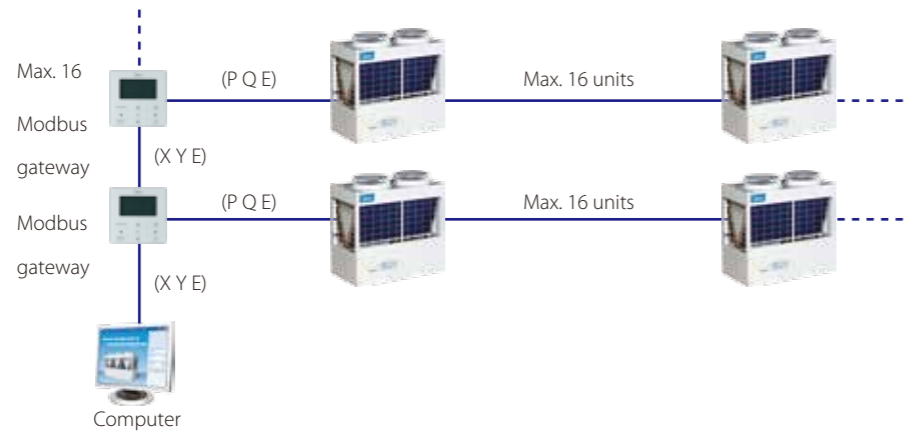
Model	A	B	C	D	E	F
MC-SP25(M)/RN1L MC-SP35(M)/RN1L MC-SS35/RN1L	1020	980	1770	237	250	400
MC-SP65(M)/RN1L MC-SS65/RN1L MC-SS80/RN1L	2000	960	1770	336	506	1420
MC-SS130/RN1L	2200	1120	2060	390	347	1420

## Control System

### Wired controller >>

Model	KJRM-120D/BMK-E(standard)	KJR-120A/MBTE(optional)
Appearance		
Main Functions	<ul style="list-style-type: none"> <li>❖ Parameter setting and display.</li> <li>❖ Real time clock control.</li> <li>❖ Manual reset.</li> <li>❖ Remote control icon display.</li> <li>❖ Hysteresis temperature setting.</li> <li>❖ Touch key operation</li> </ul>	<ul style="list-style-type: none"> <li>❖ Parameter setting and display.</li> <li>❖ Real time clock control.</li> <li>❖ Manual reset.</li> <li>❖ Remote control icon display.</li> <li>❖ Hysteresis temperature setting.</li> <li>❖ Weekly timing function.</li> </ul>
Applied Range	Aqua Tempo Power & Aqua Tempo Super	Aqua Tempo Power & Aqua Tempo Super
Max. connection PCBs	16	16
Compatible Gateway	Modbus & Lon Works	Lon Works

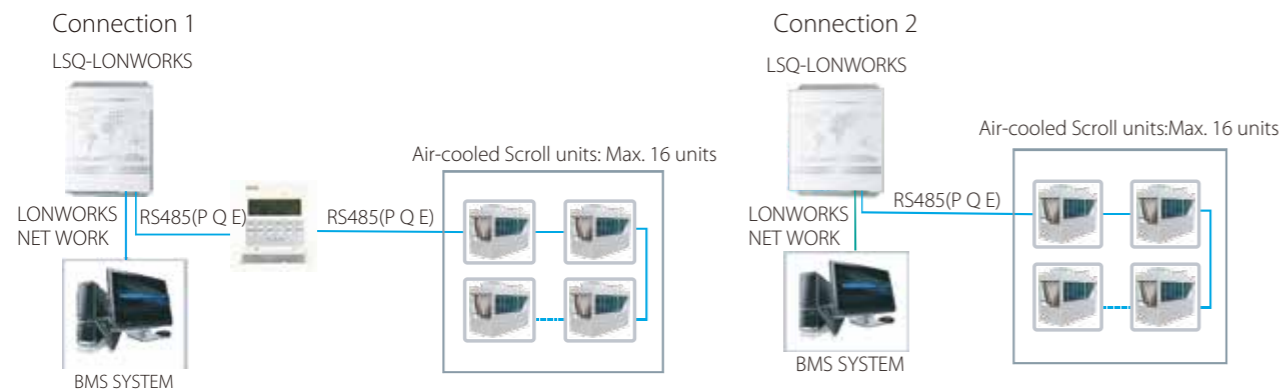
Modbus gateway can be customized by adding X, Y, E ports on wired controller KJRM-120D/BMK-E. It can connect Max. 16 wired controllers and each controller can control Max. 16 units.



### LonWorks gateway >>

LonWorks gateway controls the central A/C to facilitate the building management system (BMS). Main settings of LonWorks: operation Mode, outlet water temperature, hysteresis temperature and clear alarm.

There are two connection methods for LonWorks:



## Standard features/options

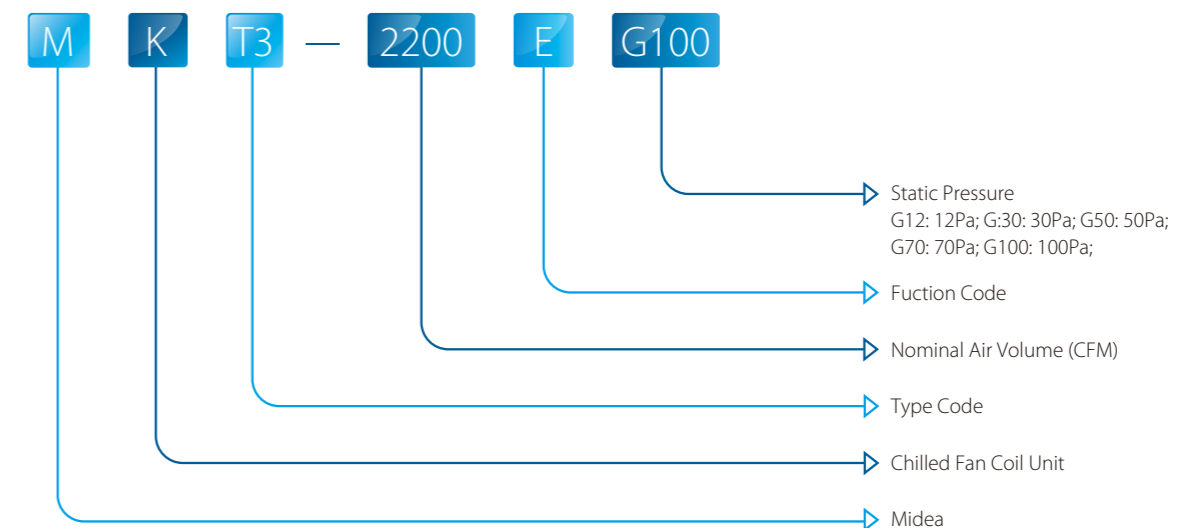
Description	Standard features	Options
Hermetic scroll compressor	●	
Compressor crankcase heaters	●	
Compressor circuit breakers	●	
Compressor overload protection	●	
Condenser fan-direct drive, axial type	●	
Condenser fan(Metal)	●	
Condenser fan guard	●	
Condenser motor circuit breakers		●
Aluminum fins condenser coils	●	
Low pressure switch	●	
High pressure switch	●	
Wired controller KJRM-120D/BMK-E	●	
Wired controller KJR-120A/MBTE		●
BMS gateway(Lonworks)		●
MODBUS gateway		●
Remote control input	●	
Alarm signal output	●	
Anti-freezing protection	●	
Over-load protection	●	
Power phases sequence protection	●	
Anti-corrosion fins		●
Water flow switch		●
Three phase power protector		●
65kW hydraulic module		●
130kW hydraulic module		●



## Fan Coil Units

Midea Fan Coil Units have ceiling exposed type, ceiling concealed type, wall-mounted type and floor-standing type. The air volume ranges from 150CFM to 2200CFM. It is a highly versatile product suitable for hospitals, office buildings, hotels, airports and various other applications.

### Nomenclature



# Product Lineup

## 2-Pipe FCUs

Air volume (CFM)		150	200	250	300	400	450	500	600	750	800	850	900	950	1000	1200	1400	1500	1600	1800	2000	2200	
1-way cassette					■				■														
4-way cassette									■			■		■		■		■					
Compact 4-way cassette					■				■														
Duct			■		■				■			■		■									
High static pressure Duct											■			■					■			■	
Wall mounted				■				■															
Ceiling & floor		■		■							■		■										
Floor standing		■		■							■		■										

## 4-Pipe FCUs

Air volume (CFM)		200	300	400	500	600	750	800	850	950	1000	1200	1400	1500
Compact 4-way cassette			■											
4-way cassette						■		■			■		■	
Duct		■					■				■			

Note:  
The standard power supply for all fan coil units is 220V-240V/50Hz; 208-230V/60Hz can be customized for all fan coil units.

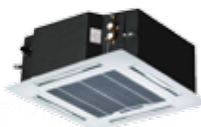
## Cassette Series



1-way Cassette



Compact 4-way Cassette



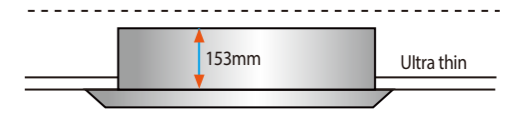
4-way Cassette



## 1-way Cassette

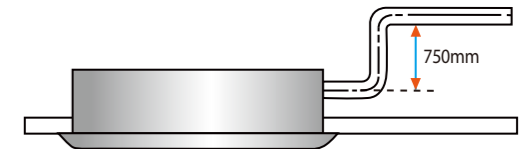
### Min. 153mm Thickness >>>

Compact design, ultra slim body with a minimum thickness of 153mm, especially suitable for narrow ceiling, such as in lobbies and small meeting rooms.



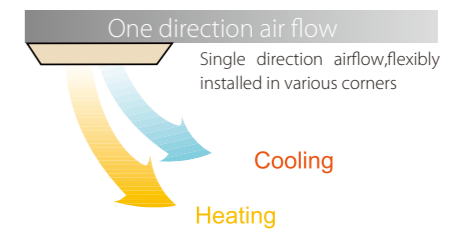
### High-lift Pump >>>

Standard built-in drain pump with 750mm pump head.



### One Direction Air Flow >>>

One direction air flow guarantees quick cooling, flexible installation positioning.



## Specifications

Model		MKC-300R-B / MKC-300RA-B	MKC-400R-B / MKC-400RA-B	MKC-600HRN
Power supply		V/Ph/Hz	220-240/1/50	
Air flow (H/M/L)		m³/h	510/450/400	1000/880/800
		CFM	300/270/240	590/520/470
Cooling	Capacity (H/M/L)	kW	3.04/2.79/2.56	5.709/4.85/4.36
	Water flow rate	l/h	520	982
	Water pressure drop	kPa	14	20.2
Heating	Capacity (H/M/L)	kW	5.13/4.69/4.04	9.6/8.36/7.48
	Water pressure drop	kPa	9	18.1
Power input (H/M/L)		W	32/22/15	125/88/65
Auxiliary electric heater (AEH)		W	750	/
Sound pressure level (H/M/L)		dB(A)	36/34/32	42/39/37
Fan motor	Type	Low noise 3-speed fan motor		
	Quantity	1		
Fan	Type	Centrifugal, forward-curved Blades		
	Quantity	1	1	4
Coil	Row	2	2	3
	Max. working pressure	MPa	1.6	
	Diameter	mm	Φ7	
Panel	Net dimensions (WxHxD)	mm	1180x25x465	1420x10x755
	Packing size (WxHxD)	mm	1232x107x517	1500x110x870
	Net weight	kg	3.5	9
	Gross weight	kg	5.2	12
Body	Net dimensions (WxHxD)	mm	1054x153x425	1200x198x655
	Packing size (WxHxD)	mm	1155x245x490	1380x265x720
	Net weight (non-AEH/with-AEH)	kg	12.8/13.1	32.6
	Gross weight (non-AEH/with-AEH)	kg	16.6/17.1	36.3
Pipe connections	Water inlet/outlet pipe	Inch	RC1/2	
	Drain pipe	mm	ODΦ25	

Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
3. Noise is tested in a semi-anechoic test room.

## 4-way Cassette

### Various Selections >>

- ❖ Versions for 2/4 pipe systems.
- ❖ Versions for compact/normal size.

### Stylish Panel with Large Airflow Outlet >>

- ❖ 4-way air supply panel is standard for 4-way cassette.
- ❖ 360° air supply panel is standard for compact 4-way cassette.

### Compact Design, Easy Installation >>

- ❖ For Compact Four-way Cassette: Extremely compact casing suits any room's decor and requires little space for installation on a low ceiling.
- ❖ Due to compact body and light weight, all models can be installed without a hoist.

### Various Accessories Selections >>

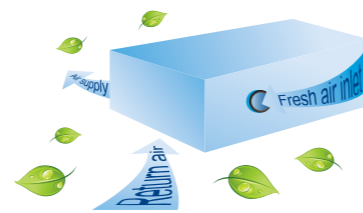
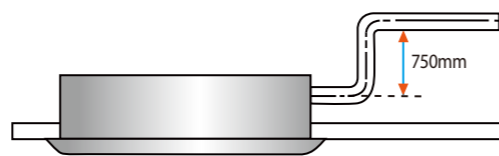
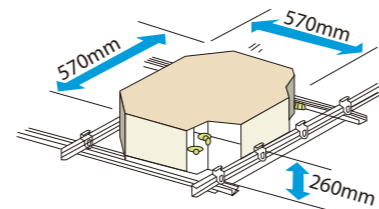
- ❖ Safe factory-installed electric heater is optional.
- ❖ Extended drainage pan for better ceiling protection is optional.

### High-lift Drain Pump >>

Standard built-in drain pump with 750mm pump head for normal size and 500mm for compact size.

### Fresh Air Intake >>

Fresh air can enter through the cassette unit so you can enjoy even fresher air in a room.



## 2-Pipe 4-Way Cassette



Model		MKA-600R / MKA-600RA	MKA-750R / MKA-750RA	MKA-850R / MKA-850RA
Power supply	V/Ph/Hz	220-240/1/50		
Air flow (H/M/L)	m³/h	1000/850/720	1250/1060/900	1400/1190/1010
	CFM	590/500/420	740/620/530	820/700/590
Cooling	Capacity (H/M/L)	5.7/4.73/3.96	7/5.62/4.72	7.27/6.46/5.71
	Water flow rate	l/h	980	1204
	Water pressure drop	kPa	23.8	25.2
Heating	Capacity (H/M/L)	9.66/7.72/6.27	11.55/9.24/7.51	12.42/9.93/8.07
	Water pressure drop	kPa	16.4	11.8
Power input (H/M/L)	W	125/84/74	130/102/93	150/124/106
Auxiliary electric heater (AEH)	W	2100	2100	2850
Sound pressure level (H/M/L)	dB(A)	45/41/36	46/42/37	47/43/38
Fan motor	Type	Low noise 3-speed fan motor		
	Quantity	1		
Fan	Type	Centrifugal, forward-curved blades		
	Quantity	1		
Coil	Row	2		
	Max. working pressure	MPa	1.6	
	Diameter	mm	Φ7	
Panel	Net dimensions (WxHxD)	950x45x950		
	Packing size (WxHxD)	1035x90x1035		
	Net weight	6		
	Gross weight	9		
Body	Net dimensions (WxHxD)	840x230x840	840x230x840	840x300x840
	Packing size (WxHxD)	900x260x900	900x260x900	900x330x900
	Net weight (non-AEH/with-AEH)	25/27	25/27	30.5/33
	Gross weight (non-AEH/with-AEH)	30/32	30/32	36.2/39
Pipe connections	Water inlet/outlet pipe	Inch RC3/4		
	Drain pipe	mm ODΦ32		

Model		MKA-950R / MKA-950RA	MKA-1200R / MKA-1200RA	MKA-1500R
Power supply	V/Ph/Hz	220-240/1/50		
Air flow (H/M/L)	m³/h	1600/1360/1150	2000/1700/1440	2550/2170/1840
	CFM	940/800/680	1180/1000/850	1500/1280/1080
Cooling	Capacity (H/M/L)	8.22/7.39/6.54	10.39/9.25/8.2	12.9/11.51/10.21
	Water flow rate	l/h	1414	1787
	Water pressure drop	kPa	31.2	44
Heating	Capacity (H/M/L)	13.85/11.08/9	17.58/14.06/11.42	17.6/14.08/11.44
	Water pressure drop	kPa	14.8	34.7
Power input (H/M/L)	W	155/131/106	190/127/109	190/136/109
Auxiliary electric heater (AEH)	W	2850	2850	/
Sound pressure level (H/M/L)	dB(A)	48/44/39	49/45/40	50/46/41
Fan motor	Type	Low noise 3-speed fan motor		
	Quantity	1		
Fan	Type	Centrifugal, forward-curved blades		
	Quantity	1		
Coil	Row	2	2	3
	Max. working pressure	MPa	1.6	
	Diameter	mm	Φ7	
Panel	Net dimensions (WxHxD)	950x45x950		
	Packing size (WxHxD)	1035x90x1035		
	Net weight	6		
	Gross weight	9		
Body	Net dimensions (WxHxD)	840x300x840		
	Packing size (WxHxD)	900x330x900		
	Net weight (non-AEH/with-AEH)	30.5/33	30.5/33	31.8
	Gross weight (non-AEH/with-AEH)	36.2/39	36.2/39	36
Pipe connections	Water inlet/outlet pipe	Inch RC3/4		
	Drain pipe	mm ODΦ32		

Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB. Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
3. Noise is tested in a semi-anechoic test room.

## 4-Pipe 4-Way Cassette



Model			MKA-600F	MKA-750F	MKA-850F
Power supply		V/Ph/Hz	220-240/1/50		
Air flow (H/M/L)		m <sup>3</sup> /h	1150/800/690	1460/1020/880	1480/1040/890
		CFM	680/470/410	860/600/510	870/610/520
Cooling	Capacity (H/M/L)	kW	5.1/4.08/3.76	5.93/4.41/3.94	6.17/5.13/4.59
	Water flow rate	l/h	877	1020	1061
	Water pressure drop	kPa	15	17	20
Heating	Capacity (H/M/L)	kW	6.67/5.87/5.07	7.87/6.85/5.9	8.06/6.93/6.05
	Water flow rate	l/h	574	677	693
	Water pressure drop	kPa	37	41	39
Power input (H/M/L)		W	170/120/85	188/135/90	198/140/100
Sound pressure level (H/M/L)		dB(A)	42/32/26	44/34/28	46/36/30
Fan motor	Type	Low noise 3-speed fan motor			
	Quantity	1			
Fan	Type	Centrifugal, forward-curved Blades			
	Quantity	1			
Coil	Row	2			
	Max. working pressure	MPa	1.6		
	Diameter	mm	Φ7		
Panel	Net dimensions (WxHxD)	mm	950x45x950		
	Packing size (WxHxD)	mm	1035x90x1035		
	Net weight	kg	6		
	Gross weight	kg	9		
Body	Net dimensions (WxHxD)	mm	840x300x840		
	Packing size (WxHxD)	mm	900x307x900		
	Net weight	kg	35		
	Gross weight	kg	41		
Pipe connections	Water inlet/outlet pipe	Inch	Cold water: RC3/4; Hot water: RC1/2		
	Drain pipe	mm	ODΦ32		

Model			MKA-950F	MKA-1200F	MKA-1500F
Power supply		V/Ph/Hz	220-240/1/50		
Air flow (H/M/L)		m <sup>3</sup> /h	1720/1200/1030	1860/1300/1110	2100/1470/1260
		CFM	1010/700/610	1090/760/650	1230/860/740
Cooling	Capacity (H/M/L)	kW	6.7/5.48/4.85	9.28/7.45/6.5	10.58/7.45/6.5
	Water flow rate	l/h	1152	1596	1820
	Water pressure drop	kPa	22	32	38
Heating	Capacity (H/M/L)	kW	8.67/7.63/6.59	11.65/10.49/8.85	12.62/11.36/9.47
	Water flow rate	l/h	746	1002	1085
	Water pressure drop	kPa	42	57	61
Power input (H/M/L)		W	205/145/105	197/135/103	234/165/115
Sound pressure level (H/M/L)		dB(A)	47/38/32	48/40/34	50/42/36
Fan motor	Type	Low noise 3-speed fan motor			
	Quantity	1			
Fan	Type	Centrifugal, forward-curved Blades			
	Quantity	1			
Coil	Row	2		3	3
	Max. working pressure	MPa	1.6		
	Diameter	mm	Φ7		
Panel	Net dimensions (WxHxD)	mm	950x45x950		
	Packing size (WxHxD)	mm	1035x90x1035		
	Net weight	kg	6		
	Gross weight	kg	9		
Body	Net dimensions (WxHxD)	mm	840x300x840		
	Packing size (WxHxD)	mm	900x307x900		
	Net weight	kg	35	38	38
	Gross weight	kg	41	44	44
Pipe connections	Water inlet/outlet pipe	Inch	Cold water: RC3/4; Hot water: RC1/2		
	Drain pipe	mm	ODΦ32		

Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 70°C, temperature drop 10°C DB, entering air temperature 20°C DB.
3. Noise is tested in a semi-anechoic test room.

## 2-Pipe Compact 4-Way Cassette



Model			MKD-300	MKD-400	MKD-500
Power supply		V/Ph/Hz	220-240/1/50		
Air flow (H/M/L)		m <sup>3</sup> /h	510/440/360	680/580/480	850/730/600
		CFM	300/260/210	400/340/280	500/430/350
Cooling	Capacity (H/M/L)	kW	3/2.58/2.16	3.7/3.18/2.66	4.5/3.6/3.06
	Water flow rate	l/h	516	636	774
	Water pressure drop	kPa	14	15	16
Heating	Capacity (H/M/L)	kW	4/3.5/3.08	5.1/4.3/3.83	6/4.76/4.07
	Water pressure drop	kPa	12	13	15
Power input (H/M/L)		W	50/40/30	70/50/40	95/53/42
Sound pressure level (H/M/L)		dB(A)	36/33/28	42/39/32	45/42/34
Fan motor	Type	Low noise 3-speed fan motor			
	Quantity	1			
Fan	Type	Centrifugal, forward-curved Blades			
	Quantity	1			
Coil	Row	2			
	Max. working pressure	MPa	1.6		
	Diameter	mm	Φ7		
Panel	Net dimensions (WxHxD)	mm	647x50x647		
	Packing size (WxHxD)	mm	715x123x715		
	Net weight	kg	2.5		
	Gross weight	kg	4.5		
Body	Net dimensions (WxHxD)	mm	575x261x575		
	Packing size (WxHxD)	mm	670x290x670		
	Net weight	kg	16.5		
	Gross weight	kg	20		
Pipe connections	Water inlet/outlet pipe	Inch	G3/4		
	Drain pipe	mm	ODΦ25		

## 4-Pipe Compact 4-Way Cassette

Model			MKD-300S	MKD-400S	MKD-500S
Power supply		V/Ph/Hz	220-240/1/50		
Air flow (H/M/L)		m <sup>3</sup> /h	510/440/360	680/580/480	850/730/600
		CFM	300/260/210	400/340/280	500/430/350
Cooling	Capacity (H/M/L)	kW	2.5/2.2/1.76	2.9/2.55/2.04	3.5/2.87/2.15
	Water flow rate	l/h	430	499	602
	Water pressure drop	kPa	22	16	24
Heating	Capacity (H/M/L)	kW	3.7/3.29/2.92	4.6/3.82/3.4	5.1/4.03/3.52
	Water flow rate	l/h	318	396	439
	Water pressure drop	kPa	17	23	27
Power input (H/M/L)		W	50/40/30	70/50/40	95/65/50
Sound pressure level (H/M/L)		dB(A)	36/33/28	42/39/32	45/42/34
Fan motor	Type	Low noise 3-speed fan motor			
	Quantity	1			
Fan	Type	Centrifugal, forward-curved Blades			
	Quantity	1			
Coil	Row	2			
	Max. working pressure	MPa	1.6		
	Diameter	mm	Φ7		
Panel	Net dimensions (WxHxD)	mm	647x50x647		
	Packing size (WxHxD)	mm	715x123x715		
	Net weight	kg	2.5		
	Gross weight	kg	4.5		
Body	Net dimensions (WxHxD)	mm	575x261x575		
	Packing size (WxHxD)	mm	655x290x655		
	Net weight	kg	16.5		
	Gross weight	kg	20		
Pipe connections	Water inlet/outlet pipe	Inch	Cold water: G3/4; Hot water: G1/2		
	Drain pipe	mm	ODΦ25		

Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: 2 pipe: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.  
Heating conditions: 4 pipe: entering water 70°C, temperature drop 10°C DB, entering air temperature 20°C DB.
3. Noise is tested in a semi-anechoic test room.



# Duct Series



Duct



High Static Pressure Duct



District Cooling Duct



## Duct

### Various Selections >>

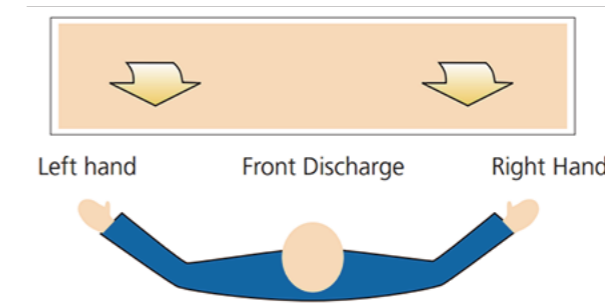
- ❖ Versions for 2/4 pipe systems.
- ❖ Versions for normal/high temperature different systems.
- ❖ 2, 3 or 4 row coils for 2-pipe systems
- ❖ Large range of available static pressure.

### High Efficiency >>

Highly efficient heat exchange for complete counterflow.

### Flexible Installation >>

Left or right hand piping connections, field convertible.



### Standard Return Air Plenum and Filter >>

Standard return air plenum and filter guarantees clean air supply and stable air flow rate.

### Fresh Air Intake >>

Fresh air can enter through the duct unit so you can enjoy even fresher air in a room.





## 4-Row Duct



Model		MKT4-200G30	MKT4-300G30	MKT4-400G30	MKT4-500G30	MKT4-600G30	MKT4-800G30	MKT4-1000G30	
Power supply	V/Ph/Hz	220-240/1/50							
Air flow (H/M/L)	m <sup>3</sup> /h	340/255/170	510/385/255	680/510/340	850/640/425	1020/765/510	1360/1020/680	1700/1275/850	
	CFM	200/150/100	300/225/150	400/300/200	500/375/250	600/450/300	800/600/400	1000/750/500	
Standard external static pressure	Pa	30							
Cooling	Capacity (H/M/L)	kW	2.5/2.16/1.87	3.3/2.85/2.47	4.4/3.72/3.22	4.8/4.18/3.64	6.2/5.38/4.65	8.8/7.43/6.57	9.5/8.18/7.06
	Water flow rate	l/h	430	568	757	826	1066	1514	1634
	Water pressure drop	kPa	2.6	5	8.1	9.8	15.4	12.3	18
Heating	Capacity (H/M/L)	kW	4.1/3.51/3.03	5.8/5.05/4.35	7.1/6.11/5.33	8.5/7.04/6.28	10.5/9.03/7.77	14.5/12.38/10.88	16.3/13.45/12.05
	Water pressure drop	kPa	2.2	4.2	6.9	8.1	12.7	10	15.4
Power input (H/M/L)	W	50/40/35	65/52/46	80/64/56	98/78/69	110/88/77	155/124/109	180/144/126	
Sound pressure level	dB(A)	37/33/27	38/34/28	38/35/29	40/35/30	41/36/31	42/37/32	44/39/33	
Fan motor	Type	Low noise 3-speed fan motor							
	Quantity	1	1	1	1	1	2	2	
Fan	Type	Centrifugal, forward-curved Blades							
	Quantity	1	2	2	2	2	4	4	
Coil	Row	4							
	Max. working pressure	MPa	1.6						
	Diameter	mm	Φ9.52						
Net dimensions (WxHxD)	mm	741x241x522	841x241x522	941x241x522	941x241x522	1161x241x522	1461x241x522	1566x241x522	
Packing size (WxHxD)	mm	790x260x550	890x260x550	990x260x550	990x260x550	1210x260x550	1510x260x550	1615x260x550	
Net weight	kg	15.3	17.5	20.7	20.7	23.5	32.9	35.4	
Gross weight	kg	17.6	20	23.1	23.1	26.5	36.5	39.1	
Water inlet/outlet pipe	Inch	RC3/4							
Drain pipe	mm	ODΦ24							

## A4 Type Duct



Model		MKT3-800G50-A4	MKT4-800G50-A4	MKT3-1000G50-A4	MKT4-1000G50-A4	
Power supply	V/Ph/Hz	220-240/1/50				
Air flow (H/M/L)	m <sup>3</sup> /h	1500/1412/1265	1400/1342/1200	1700/1664/1554	1650/1527/1405	
	CFM	890/831/745	856/790/706	1000/980/915	970/900/827	
Standard external static pressure	Pa	50				
Cooling	Capacity (H/M/L)	kW	6.97/6.66/6.28	7.92/7.56/7.09	7.77/7.58/7.33	8.15/7.93/7.54
	Water flow rate	l/h	1198	1363	1336	1402
	Water pressure drop	kPa	19.0	13.5	24.5	21.4
Heating	Capacity (H/M/L)	kW	9.57/9.09/8.43	10.42/9.89/9.12	10.61/10.25/9.82	11.25/10.72/10.06
	Water pressure drop	kPa	16.9	39.7	21.1	23.3
Power input (H/M/L)	W	151/130/111	144/124/105	174/147/130	176/146/128	
Sound pressure level	dB(A)	49.7/47.8/45.6	48.4/47.9/46.6	50.1/48/45.8	49.5/48.1/47.3	
Fan motor	Type	Low noise 3-speed fan motor				
	Quantity	1				
Fan	Type	Centrifugal, forward-curved Blades				
	Quantity	2				
Coil	Row	3	4	3	4	
	Max. working pressure	MPa	1.6			
	Diameter	mm	Φ9.52			
Net dimensions (WxHxD)	mm	1180x340x612				
Packing size (WxHxD)	mm	1310x380x693				
Net weight	kg	38.3	39.3	39.8	40.8	
Gross weight	kg	47.2	47	48.6	49.6	
Water inlet/outlet pipe	Inch	RC3/4				
Drain pipe	mm	ODΦ24				

Model		MKT4-1200G30	MKT4-1400G30	MKT4-1500	MKT4-1500G50	MKT4-2000	MKT4-2000G50	
Power supply	V/Ph/Hz	220-240/1/50						
Air flow (H/M/L)	m <sup>3</sup> /h	2040/1530/1020	2380/1785/1190	2550/2100/1300	2550/2100/1300	3400/2550/1700	3400/2550/1700	
	CFM	1200/900/600	1400/1050/700	1500/1240/760	1500/1240/760	2000/1500/1000	2000/1500/1000	
Standard external static pressure	Pa	30	30	30	50	30	50	
Cooling	Capacity (H/M/L)	kW	11.8/9.82/8.74	13/11.23/9.83	13.5/11.5/10.1	13.5/11.5/10.1	18/15.3/13.5	18/15.3/13.5
	Water flow rate	l/h	2030	2236	2322	2322	3096	3096
	Water pressure drop	kPa	21.2	24.7	11.5	11.5	26.2	26.2
Heating	Capacity (H/M/L)	kW	16.5/14.05/12.23	17/14.31/12.69	17.5/14.9/13.2	17.5/14.9/13.2	23.4/19.8/17.5	23.4/19.8/17.5
	Water pressure drop	kPa	17.6	20.8	10	10	24.3	24.3
Power input (H/M/L)	W	220/176/154	275/220/193	236/189/165	474/379/332	360/288/252	665/532/466	
Sound pressure level	dB(A)	45/40/34	47/42/36	48/44/39	51/47/42	50/46/41	53/49/44	
Fan motor	Type	Low noise 3-speed fan motor						
	Quantity	2	2	1	1	1	1	
Fan	Type	Centrifugal, forward-curved Blades						
	Quantity	4	4	2	2	3	3	
Coil	Row	4						
	Max. working pressure	MPa	1.6					
	Diameter	mm	Φ9.52					
Net dimensions (WxHxD)	mm	1856x241x522	2022x241x522	1369x342x612	1369x342x612	1500x342x612	1500x342x612	
Packing size (WxHxD)	mm	1905x260x550	2070x260x550	1421x381x619	1421x381x619	1552x381x619	1552x381x619	
Net weight	kg	40.5	44.1	46	46	57	53.7	
Gross weight	kg	44	49.4	49.8	50	61	58.6	
Water inlet/outlet pipe	Inch	RC3/4						
Drain pipe	mm	ODΦ24						

## Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. The data are test under standard external static pressure.
3. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
4. Noise is tested in a semi-anechoic test room.

Model		MKT4-1200G50-A4	MKT4-1400G50-A4	MKT4-1600G50-A4	MKT4-1800G50-A4	MKT4-2000G50-A4	
Power supply	V/Ph/Hz	220-240/1/50					
Air flow (H/M/L)	m <sup>3</sup> /h	2040/1851/1666	2420/1851/1666	2430/1917/1742	3380/2239/1878	3670/2544/2199	
	CFM	1206/1090/981	1427/1090/981	1431/1128/1025	1990/1318/1105	2160/1497/1294	
Standard external static pressure	Pa	50					
Cooling	Capacity (H/M/L)	kW	10.8/10.17/9.55	12.14/10.17/9.55	12.19/10.54/9.87	16.16/12.35/11.01	17.34/13.75/12.44
	Water flow rate	l/h	1890	2089	2096	2779	2983
	Water pressure drop	kPa	27.8	32.5	33.4	58.3	61.5
Heating	Capacity (H/M/L)	kW	14.3/13.23/12.22	16.08/13.23/12.22	16.55/13.83/12.9	21.7/15.79/13.91	23.4/17.92/16.08
	Water pressure drop	kPa	24.8	29.2	30.0	52.3	52.9
Power input (H/M/L)	W	320/284/250	392/284/250	482/338/296	538/358/308	583/387/334	
Sound pressure level	dB(A)	50.9/50/48.5	51.7/50/49.5	52.9/50.7/50	53.6/51.1/50.2	54.4/52.7/51.6	
Fan motor	Type	Low noise 3-speed fan motor					
	Quantity	1					
Fan	Type	Centrifugal, forward-curved Blades					
	Quantity	2	2	2	3	3	
Coil	Row	4					
	Max. working pressure	MPa	1.6				
	Diameter	mm	Φ9.52				
Net dimensions (WxHxD)	mm	1369x340x612	1369x340x612	1369x340x612	1500x340x612	1500x340x612	
Packing size (WxHxD)	mm	1490x380x693	1490x380x693	1490x380x693	1620x380x693	1620x380x693	
Net weight	kg	46.3	46.3	46.3	54.8	54.8	
Gross weight	kg	56.4	56.4	56.4	64.6	64.6	
Water inlet/outlet pipe	Inch	RC3/4					
Drain pipe	mm	ODΦ24					

## Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. The data are test under standard external static pressure.
3. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
4. Noise is tested in a semi-anechoic test room.

## High Static Pressure Duct



Model		MKT3H-800G70	MKT3H-1000G70	MKT3H-1200G70	MKT3H-1400G70
Power supply	V/Ph/Hz	220-240/1/50			
Air flow (H/M/L)	m <sup>3</sup> /h	1360/1220/1090	1700/1530/1380	2040/1880/1610	2380/2120/1860
	CFM	800/720/640	1000/900/810	1200/1105/950	1400/1250/1095
Standard external static pressure	Pa	70			
Cooling	Capacity (H/M/L)	6.6/6.37/6.12		8.8/8.19/7.57	
	Water flow rate	1135		1514	
	Water pressure drop	8		24	
Heating	Capacity (H/M/L)	9.7/8.54/7.18		13.2/11.48/9.9	
	Water pressure drop	8.4		25	
Power input (H/M/L)	W	320/300/285	350/320/300	350/320/290	350/300/285
Auxiliary electric heater (AEH)	W	5000	5000	5000	5000
Sound pressure level	dB(A)	49/42/35	50/43/36	51/44/37	52/45/38
Fan motor	Type	Low noise 3-speed fan motor			
	Quantity	1			
Fan	Type	Centrifugal, forward-curved Blades			
	Quantity	1			
Coil	Row	2	3	3	4
	Max. working pressure	MPa 1.6			
	Diameter	mm $\Phi$ 9.52			
Net dimensions (WxHxD)	mm	946x400x816			
Packing size (WxHxD)	mm	1015x480x857			
Net weight (non-AEH/with-AEH)	kg	50/53	52/55	52/55	54/57
Gross weight (non-AEH/with-AEH)	kg	55/58	57/60	57/60	59/62
Water inlet/outlet pipe	Inch	RC3/4			
Drain pipe	mm	OD $\Phi$ 32			

Model		MKT3H-1600G100	MKT3H-1800G100	MKT3H-2200G100
Power supply	V/Ph/Hz	220-240/1/50		
Air flow (H/M/L)	m <sup>3</sup> /h	2720/2450/2170	3060/2750/2450	3740/3360/2990
	CFM	1600/1440/1280	1800/1620/1440	2200/1980/1760
Standard external static pressure	Pa	100		
Cooling	Capacity (H/M/L)	14.1/13.03/11.87		15.8/14.6/13.46
	Water flow rate	2425		2718
	Water pressure drop	52		90
Heating	Capacity (H/M/L)	21.2/18.23/15.69		23.8/20.94/17.85
	Water pressure drop	51		85
Power input (H/M/L)	W	550/520/500	800/680/620	950/860/760
Auxiliary electric heater (AEH)	W	9500	9500	9500
Sound pressure level	dB(A)	54/47/40	60/53/46	61/54/47
Fan motor	Type	Low noise 3-speed fan motor		
	Quantity	1		
Fan	Type	Centrifugal, forward-curved Blades		
	Quantity	2		
Coil	Row	3		
	Max. working pressure	MPa 1.6		
	Diameter	mm $\Phi$ 9.52		
Net dimensions (WxHxD)	mm	1290x400x809		
Packing size (WxHxD)	mm	1368x460x877		
Net weight (non-AEH/with-AEH)	kg	76/82		
Gross weight (non-AEH/with-AEH)	kg	83/89		
Water inlet/outlet pipe	Inch	RC3/4		
Drain pipe	mm	OD $\Phi$ 32		

## Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. The data are test under standard external static pressure.
3. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
4. Noise is tested in a semi-anechoic test room.

## District Cooling Duct



Model		MKS4-200G30	MKS4-300G30	MKS4-400G30	MKS4-500G30	MKS4-600G30	MKS4-800G50-A4
Power supply	V/Ph/Hz	220-240/1/50					
Air flow (H/M/L)	m <sup>3</sup> /h	430/380/340	600/540/480	700/630/520	900/810/720	1160/1040/930	1400/1342/1200
	CFM	253/224/200	353/318/282	412/370/305	530/476/424	682/612/547	824/789/705
Standard external static pressure	Pa	30	30	30	30	30	50
Cooling	Capacity (H/M/L)	2.05/1.742/1.55		2.61/2.21/1.98		4.03/3.42/3.06	
	Water flow rate	196		249		385	
	Water pressure drop	10		10		21	
Power input (H/M/L)	W	47/38/33	65/52/46	78/62/55	92/74/64	116/93/81	144/115/101
Sound pressure level	dB(A)	38/33/27	39/34/28	39/35/29	41/35/30	42/36/31	48/47/46
Fan motor	Type	Low noise 3-speed fan motor					
	Quantity	1					
Fan	Type	Centrifugal, forward-curved Blades					
	Quantity	1	2	2	2	2	2
Coil	Row	4					
	Max. working pressure	MPa 1.6					
	Diameter	mm $\Phi$ 9.52					
Net dimensions (WxHxD)	mm	741x241x522	841x241x522	941x241x522	941x241x522	1161x241x522	1180x340x612
Packing size (WxHxD)	mm	790x260x550	890x260x550	990x260x550	990x260x550	1210x260x550	1310x380x693
Net weight	kg	15.3	17.5	20.7	20.7	23.5	39.3
Gross weight	kg	17.6	20	23.1	23.1	26.5	47
Water inlet/outlet pipe	Inch	RC3/4					
Drain pipe	mm	OD $\Phi$ 24					

Model		MKS4-1000G50-A4	MKS4-1200G50-A4	MKS4-1400G50-A4	MKS4-1600G50-A4	MKS4-1800G50-A4	MKS4-2000G50-A4
Power supply	V/Ph/Hz	220-240/1/50					
Air flow (H/M/L)	m <sup>3</sup> /h	1650/1527/1405	2040/1851/1666	2420/1850/1657	2580/2320/2060	3380/2239/1878	3660/2544/2199
	CFM	970/898/826	1200/1089/980	1424/1088/975	1518/1365/1212	1988/1317/1105	2153/1496/1295
Standard external static pressure	Pa	50	50	50	50	50	50
Cooling	Capacity (H/M/L)	7.57/6.43/5.75		10.11/8.59/7.68		11.5/9.7/8.74	
	Water flow rate	723		966		1099	
	Water pressure drop	16.3		21		25.3	
Power input (H/M/L)	W	176/141/123	320/256/224	392/314/274	482/386/337	538/430/376	583/466/408
Sound pressure level	dB(A)	49/48/47	51/50/48	52/50/49	53/51/50	54/51/50	54/52/51
Fan motor	Type	Low noise 3-speed fan motor					
	Quantity	1					
Fan	Type	Centrifugal, forward-curved Blades					
	Quantity	2	2	2	2	3	3
Coil	Row	4					
	Max. working pressure	MPa 1.6					
	Diameter	mm $\Phi$ 9.52					
Net dimensions (WxHxD)	mm	1180x340x612	1369x340x612	1369x340x612	1369x340x612	1500x340x612	1500x340x612
Packing size (WxHxD)	mm	1310x380x693	1490x380x693	1490x380x693	1490x380x693	1620x380x693	1620x380x693
Net weight	kg	40.8	46.3	46.3	46.3	54.8	54.8
Gross weight	kg	49.6	56.4	56.4	56.4	64.6	64.6
Water inlet/outlet pipe	Inch	RC3/4					
Drain pipe	mm	OD $\Phi$ 24					

## Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. The data are test under standard external static pressure.
3. Cooling conditions: entering water 5.5°C, temperature rise 9°C, entering air temperature 27°C DB/19°C WB.
4. Noise is tested in a semi-anechoic test room.

## 4-Pipe Duct



Model		MKT3-200FG12 MKT3-200FG30	MKT3-300FG12 MKT3-300FG30	MKT3-400FG12 MKT3-400FG30	MKT3-500FG12 MKT3-500FG30	MKT3-600FG12 MKT3-600FG30	
Power supply	V/Ph/Hz	220-240/1/50					
Air flow (H/M/L)	m3/h	340/255/170	510/385/255	680/510/340	850/640/425	1020/765/510	
	CFM	200/150/100	300/225/150	400/300/200	500/375/250	600/450/300	
Standard external static pressure	Pa	G12 models: 12; G30 models: 30					
Cooling	Capacity (H/M/L)	kW	2/1.76/1.52	2.7/2.35/2.13	3.6/3.15/2.76	4.3/3.74/3.32	5/4.32/3.84
	Water flow rate	l/h	344	464	619	740	860
	Water pressure drop	kPa	7.6	14.4	8.2	9.5	17.2
Heating	Capacity (H/M/L)	kW	3/2.64/2.22	4/3.48/3	5.2/4.47/3.9	5.7/5.02/4.33	7.2/6.19/5.33
	Water flow rate	l/h	258	344	447	490	619
	Water pressure drop	kPa	6.8	12.5	23.5	24.0	40.7
Power input	12Pa (H/M/L)	W	33/26/23	53/38/31	66/48/42	87/54/44	100/67/56
	30Pa (H/M/L)	W	49/39/34	64/50/42	75/55/48	96/58/48	114/76/64
Sound pressure level	12Pa (H/M/L)	dB(A)	35/32/26	36/33/27	37/34/28	40/36/30	42/38/32
	30Pa (H/M/L)	dB(A)	41/37/31	42/38/32	43/39/33	44/40/34	45/41/35
Fan motor	Type	Low noise 3-speed fan motor					
	Quantity	1					
Fan	Type	Centrifugal, forward-curved Blades					
	Quantity	1	2	2	2	2	
Coil	Row	3					
	Max. working pressure	MPa	1.6				
	Diameter	mm	Φ9.52				
Net dimensions (WxHxD)	mm	741x241x522	841x241x522	941x241x522	941x241x522	1161x241x522	
Packing size (WxHxD)	mm	790x260x550	890x260x550	990x260x550	990x260x550	1210x260x550	
Net weight	kg	15.1	17.5	20.7	20.7	23.5	
Gross weight	kg	17.4	20	23.1	23.1	26.5	
Water inlet/outlet pipe	Inch	RC3/4					
Drain pipe	mm	ODΦ24					

## Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. The data are test under standard external static pressure.
3. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 70°C, temperature drop 10°C DB, entering air temperature 20°C DB.
4. Noise is tested in a semi-anechoic test room.

## 4-Pipe Duct



Model		MKT3-800FG12 MKT3-800FG30	MKT3-1000FG12 MKT3-1000FG30	MKT3-1200FG12 MKT3-1200FG30	MKT3-1400FG12 MKT3-1400FG30	
Power supply	V/Ph/Hz	220-240/1/50				
Air flow (H/M/L)	m3/h	1360/1020/680	1700/1275/850	2040/1530/1020	2380/1785/1190	
	CFM	800/600/400	1000/750/500	1200/900/600	1400/1050/700	
Standard external static pressure	Pa	G12 models: 12; G30 models: 30				
Cooling	Capacity (H/M/L)	kW	6.8/5.78/5.11	7.8/6.74/5.88	10.2/8.89/7.85	11.5/9.9/8.86
	Water flow rate	l/h	1170	1342	1754	1978
	Water pressure drop	kPa	18.8	30.0	40.3	51.9
Heating	Capacity (H/M/L)	kW	9.6/8.45/7.2	10.8/9.61/8.1	13.5/12.15/10.26	15.5/13.48/11.78
	Water flow rate	l/h	826	929	1161	1333
	Water pressure drop	kPa	20.7	34.7	28.6	55.2
Power input	12Pa (H/M/L)	W	145/130/111	180/104/88	210/140/123	222/201/182
	30Pa (H/M/L)	W	154/132/113	193/114/97	230/157/131	278/262/228
Sound pressure level	12Pa (H/M/L)	dB(A)	43/39/33	45/41/35	46/42/36	48/44/38
	30Pa (H/M/L)	dB(A)	46/42/36	47/43/37	48/44/38	49/45/39
Fan motor	Type	Low noise 3-speed fan motor				
	Quantity	2				
Fan	Type	Centrifugal, forward-curved Blades				
	Quantity	4				
Coil	Row	3				
	Max. working pressure	MPa	1.6			
	Diameter	mm	Φ9.52			
Net dimensions (WxHxD)	mm	1461x241x522	1566x241x522	1856x241x522	2022x241x522	
Packing size (WxHxD)	mm	1510x260x550	1615x260x550	1905x260x550	2070x260x550	
Net weight	kg	32.4	34.9	40	43.6	
Gross weight	kg	36	38.6	43.5	48.9	
Water inlet/outlet pipe	Inch	RC3/4				
Drain pipe	mm	ODΦ24				

## Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. The data are test under standard external static pressure.
3. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 70°C, temperature drop 10°C DB, entering air temperature 20°C DB.
4. Noise is tested in a semi-anechoic test room.

## Wall Mounted

**C Type Panel**



**S Type Panel**

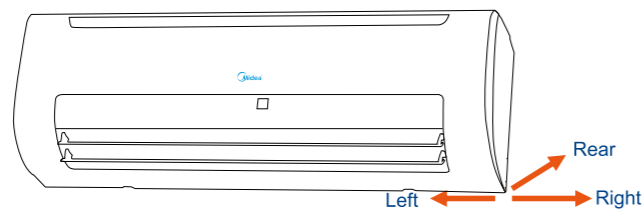


### Stylish Panel >>

Stylish front panel blends easily within any interior décor, ideal for use in shops, restaurants or offices with no or narrow false ceilings.

### Convenient Installation >>

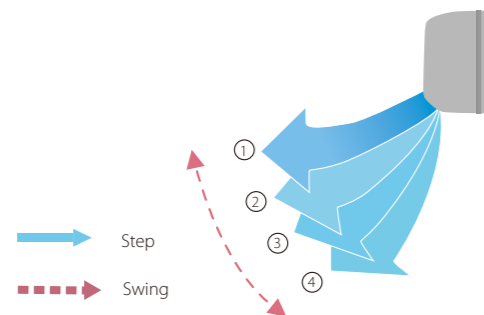
Multi-directional outlet pipe feature: left\right\rear, to meet the needs of different rooms.



### Built-in 3-Way Electromagnetic Valve >>

### Auto Swing Louver >>

The Auto Swing Louver function ensures that the air direction corresponds to the mode selected.



### Easy Maintenance >>

Removable front panel making maintenance convenient.



## Wall Mounted (C Panel)



Model		MKG-250	MKG-300	MKG-400	MKG-500	MKG-600	
Power supply	V/Ph/Hz	220-240/1/50					
Air flow (H/M/L)	m <sup>3</sup> /h	425/360/320	510/430/380	680/580/510	850/720/640	1020/870/770	
	CFM	250/210/190	300/250/220	400/340/300	500/420/380	600/510/450	
Cooling	Capacity (H/M/L)	kW	2.2/1.84/1.65	2.64/2.24/2.05	3.08/2.62/2.27	4.07/3.73/3.24	4.45/4.18/3.74
	Water flow rate	l/h	378	454	530	700	765
	Water pressure drop	kPa	12	18	22	26	29
Heating	Capacity (H/M/L)	kW	3.02/2.6/2.23	3.69/3.25/2.77	4.34/3.86/3.25	5.69/5.12/4.32	6.3/5.67/4.73
	Water pressure drop	kPa	10	16.4	20.8	25.1	27.9
Power input (H/M/L)	W	28/22/20	40/32/28	44/35/31	50/40/35	60/48/42	
Sound pressure level	dB(A)	30/24/20	35/29/24	37/31/26	39/33/28	40/34/29	
Fan motor	Type	Low noise 3-speed fan motor					
	Quantity	1					
Fan	Type	Tangential fan					
	Quantity	1					
Coil	Row	2					
	Max. working pressure	MPa	1.6				
	Diameter	mm	Φ7				
Net dimensions (WxHxD)	mm	915x290x210	915x290x210	915x290x210	1070x315x210	1070x315x210	
Packing size (WxHxD)	mm	1020x385x300	1020x385x300	1020x385x300	1180x410x300	1180x410x300	
Net weight	kg	12	12	12	15	15	
Gross weight	kg	16	16.7	16.7	19	19	
Water inlet/outlet pipe	Inch	G3/4					
Drain pipe	mm	ODΦ20					



## Wall Mounted (S Panel)

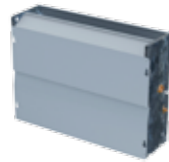
Model		MKG-250-B	MKG-300-B	MKG-400-B	MKG-500-B	MKG-600-B	
Power supply	V/Ph/Hz	220-240/1/50					
Air flow (H/M/L)	m <sup>3</sup> /h	425/390/350	510/470/390	680/550/460	850/745/620	1020/915/780	
	CFM	250/230/205	300/275/230	400/325/270	500/440/365	600/540/460	
Cooling	Capacity (H/M/L)	kW	2.63/2.41/2.16	2.97/2.47/2.12	3.28/2.83/2.41	4.25/3.85/3.32	5/4.47/3.97
	Water flow rate	l/h	452	511	564	731	860
	Water pressure drop	kPa	29.4	35.6	43.5	31.8	42.5
Heating	Capacity (H/M/L)	kW	3.36/3.1/2.79	3.91/3.26/2.77	4.37/3.73/3.17	5.81/5.17/4.43	6.7/6/5.28
	Water pressure drop	kPa	27.3	32.9	40.8	30.2	39.7
Power input (H/M/L)	W	24/19/17	37/29/26	40/32/28	50/40/35	66/53/46	
Sound pressure level	dB(A)	30/24/20	35/29/24	37/31/26	39/33/28	40/34/29	
Fan motor	Type	Low noise 3-speed fan motor					
	Quantity	1					
Fan	Type	Tangential fan					
	Quantity	1					
Coil	Row	2					
	Max. working pressure	MPa	1.6				
	Diameter	mm	Φ7				
Net dimensions (WxHxD)	mm	915x290x230	915x290x230	915x290x230	1072x315x230	1072x315x230	
Packing size (WxHxD)	mm	1020x390x315	1020x390x315	1020x390x315	1180x415x315	1180x415x315	
Net weight	kg	13	13	13.3	15.8	15.8	
Gross weight	kg	16.3	16.3	16.7	19.4	19.4	
Water inlet/outlet pipe	Inch	G3/4					
Drain pipe	mm	ODΦ20					

Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
3. Noise is tested in a semi-anechoic test room.

# Floor Standing / Ceiling & Floor

**Concealed Type**  
**F3/H3 Series**



**Exposed Type**  
**(air return from side)**  
**F4/H4 Series**



**Exposed Type**  
**(air return from bottom)**  
**F5/H5 Series**



## Flexible Installation >>

- ❖ Cabinet and concealed versions meet various installation requirements.
- ❖ Horizontal or vertical installation.
- ❖ Optional built-in 3-way electromagnetic valve.



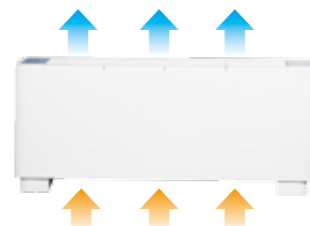
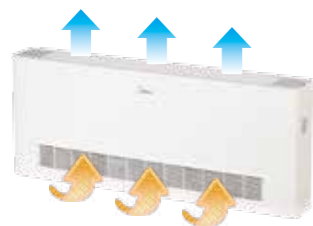
Floor installation



Ceiling installation

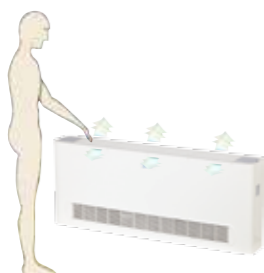
## Flexible Air Return Type >>

Air return can be from the unit side or bottom.



## Movable Louver >>

Adjustable louver for wide angle of air flow.



## Floor Standing

Model		MKF3-150 MKF4-150 MKF5-150	MKF3-250 MKF4-250 MKF5-250	MKF3-300 MKF4-300 MKF5-300	MKF3-400 MKF4-400 MKF5-400
Power supply	V/Ph/Hz	220-240/1/50			
Air flow (H/M/L)	m³/h	255/215/190	425/360/320	510/430/380	680/580/510
	CFM	150/125/110	250/210/190	300/250/220	400/340/300
Cooling	Capacity (H/M/L)	kW 1.15/0.93/0.89	1.87/1.74/1.59	2.53/2.25/1.88	3.27/2.84/2.54
	Water flow rate	l/h 198	322	435	562
	Water pressure drop	kPa 18.3	10.1	14.2	26.3
Heating	Capacity (H/M/L)	kW 2.54/2.24/1.88	4.17/3.36/3.13	5.64/4.85/4.23	7.22/6.35/5.49
	Water pressure drop	kPa 16	8.8	13.7	24
Power input (H/M/L)	W	27/22/19	29/23/20	40/32/28	46/37/32
Sound pressure level	F3 (H/M/L)	dB(A) 30/27/24	33/30/28	35/32/30	37/34/32
	F4 (H/M/L)	dB(A) 32/29/26	35/32/30	37/34/32	39/36/34
	F5 (H/M/L)	dB(A) 30/27/24	33/30/28	35/32/30	37/34/32
Fan motor	Type	Low noise 3-speed fan motor			
	Quantity	1			
Fan	Type	Centrifugal, forward-curved Blades			
	Quantity	1	1	2	2
Coil	Row	3	3	2	2
	Max. working pressure	MPa 1.6			
	Diameter	mm Ø9.52			
Body (F3 series)	Net dimensions (WxHxD)	mm 550x545x212	550x545x212	750x545x212	750x545x212
	Packing size (WxHxD)	mm 639x639x305	639x639x305	839x639x305	839x639x305
	Net weight	kg 17	17	20	20
	Gross weight	kg 19	19	23.5	23.5
Body (F4/F5 series)	Net dimensions (WxHxD)	mm 800x592x225	800x592x225	1000x592x225	1000x592x225
	Packing size (WxHxD)	mm 889x683x312	889x683x312	1089x683x312	1089x683x312
	Net weight	kg 22.5/22.5	22.5/22.5	26/26	26/26
	Gross weight	kg 26.5/26.5	26.5/26.5	31/31	31/31
Water inlet/outlet pipe	Inch	G3/4			
Drain pipe	mm	ODØ16			

Model		MKF3-450 MKF4-450 MKF5-450	MKF3-500 MKF4-500 MKF5-500	MKF3-600 MKF4-600 MKF5-600	MKF3-800 MKF4-800 MKF5-800	MKF3-900 MKF4-900 MKF5-900
Power supply	V/Ph/Hz	220-240/1/50				
Air flow (H/M/L)	m³/h	765/650/570	850/720/640	1020/870/765	1360/1160/1020	1530/1300/1150
	CFM	450/380/335	500/420/375	600/510/450	800/680/600	900/760/675
Cooling	Capacity (H/M/L)	kW 3.97/3.58/3.15	4.85/4.41/3.72	5.64/5.02/4.46	6.52/5.75/4.36	7.85/7.19/6.55
	Water flow rate	l/h 683	834	970	1121	1350
	Water pressure drop	kPa 23.1	20	11.4	21	24.3
Heating	Capacity (H/M/L)	kW 8.85/7.61/6.55	10.28/9.05/7.71	12.24/10.89/9.18	15.35/13.82/11.67	18.2/16.38/13.65
	Water pressure drop	kPa 22	17.4	10	20.2	21.5
Power input (H/M/L)	W	39/31/27	49/39/34	63/50/44	88/70/62	137/109/96
Sound pressure level	F3 (H/M/L)	dB(A) 39/36/34	41/38/36	42/39/37	44/41/38	46/43/40
	F4 (H/M/L)	dB(A) 41/38/36	43/40/38	44/41/39	46/43/40	48/45/42
	F5 (H/M/L)	dB(A) 39/36/34	41/38/36	42/39/37	44/41/38	46/43/40
Fan motor	Type	Low noise 3-speed fan motor				
	Quantity	1				
Fan	Type	Centrifugal, forward-curved Blades				
	Quantity	2	2	3	3	3
Coil	Row	3	3	2	2	2
	Max. working pressure	MPa 1.6				
	Diameter	mm Ø9.52				
Body (F3 series)	Net dimensions (WxHxD)	mm 950x545x212	950x545x212	1250x545x212	1250x545x212	1250x545x212
	Packing size (WxHxD)	mm 1039x639x305	1039x639x305	1339x639x305	1339x639x305	1339x639x305
	Net weight	kg 25	25	32	32	32
	Gross weight	kg 29	29	36	36	36
Body (F4/F5 series)	Net dimensions (WxHxD)	mm 1200x592x225	1200x592x225	1500x592x225	1500x592x225	1500x592x225
	Packing size (WxHxD)	mm 1289x683x312	1289x683x312	1589x683x312	1589x683x312	1589x683x312
	Net weight	kg 32.5/32.5	32.5/35	39/36.6	39/39	39/39
	Gross weight	kg 38/38	38/40	45/42.6	45/45	45/45
Water inlet/outlet pipe	Inch	G3/4				
Drain pipe	mm	ODØ16				

Notes:

1. H: High fan speed; M: Medium fan speed; L: Low fan speed.
2. Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.  
Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
3. Noise is tested in a semi-anechoic test room.

## Ceiling & Floor

Model	MKH3-150 MKH4-150 MKH5-150	MKH3-250 MKH4-250 MKH5-250	MKH3-300 MKH4-300 MKH5-300	MKH3-400 MKH4-400 MKH5-400	
Power supply	V/Ph/Hz 220-240/1/50				
Air flow (H/M/L)	m <sup>3</sup> /h	255/215/190	425/360/320	510/430/380	680/580/510
	CFM	150/125/110	250/210/190	300/250/220	400/340/300
Cooling	Capacity (H/M/L)	kW 1.15/0.93/0.89	1.87/1.74/1.59	2.53/2.25/1.88	3.27/2.84/2.54
	Water flow rate	l/h 198	322	435	562
	Water pressure drop	kPa 18.3	10.1	14.2	26.3
Heating	Capacity (H/M/L)	kW 1.52/1.22/1.14	2.53/2.28/2.1	3.49/2.97/2.44	4.58/3.89/3.44
	Water pressure drop	kPa 16	8.8	13.7	24
Power input (H/M/L)	W	27/22/19	29/23/20	40/32/28	46/37/32
Sound pressure level	H3 (H/M/L)	dB(A) 30/27/24	33/30/28	35/32/30	37/34/32
	H4 (H/M/L)	dB(A) 32/29/26	35/32/30	37/34/32	39/36/34
	H5 (H/M/L)	dB(A) 30/27/24	33/30/28	35/32/30	37/34/32
Fan motor	Type	Low noise 3-speed fan motor			
	Quantity	1			
Fan	Type	Centrifugal, forward-curved Blades			
	Quantity	1			
Coil	Row	1	3	2	2
	Max. working pressure	MPa 1.6			
	Diameter	mm $\Phi$ 9.52			
Body (H3 series)	Net dimensions (WxHxD)	mm 550x545x212	550x545x212	750x545x212	750x545x212
	Packing size (WxHxD)	mm 639x639x305	639x639x305	839x639x305	839x639x305
	Net weight	kg 17	17	20	20
	Gross weight	kg 19	19	23.5	23.5
Body (H4/H5 series)	Net dimensions (WxHxD)	mm 800x592x225	800x592x225	1000x592x225	1000x592x225
	Packing size (WxHxD)	mm 889x683x312	889x683x312	1089x683x312	1089x683x312
	Net weight	kg 22.5/22.5	22.5/22.5	26/26	26/26
	Gross weight	kg 26.5/26.5	27/26.5	31/31	31/31
Water inlet/outlet pipe	Inch	G3/4			
Drain pipe	mm	OD $\Phi$ 16			

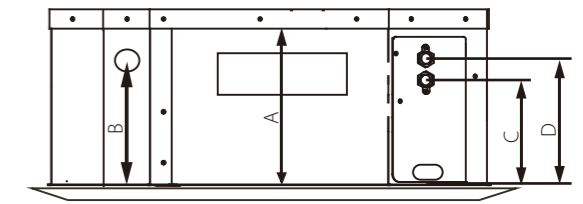
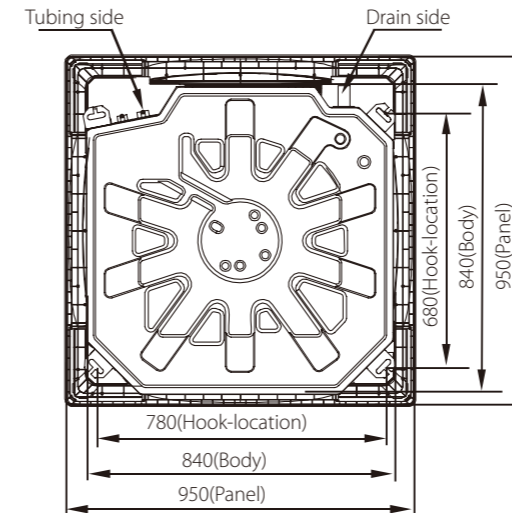
Model	MKH3-450 MKH4-450 MKH5-450	MKH3-500 MKH4-500 MKH5-500	MKH3-600 MKH4-600 MKH5-600	MKH3-800 MKH4-800 MKH5-800	MKH3-900 MKH4-900 MKH5-900	
Power supply	V/Ph/Hz 220-240/1/50					
Air flow (H/M/L)	m <sup>3</sup> /h	765/650/570	850/720/640	1020/870/765	1360/1160/1020	1530/1300/1150
	CFM	450/380/335	500/420/375	600/510/450	800/680/600	900/760/675
Cooling	Capacity (H/M/L)	kW 3.97/3.58/3.15	4.85/4.41/3.72	5.64/5.02/4.46	6.52/5.75/4.36	7.85/7.19/6.55
	Water flow rate	l/h 683	834	970	1121	1350
	Water pressure drop	kPa 23.1	20	11.4	21	24.3
Heating	Capacity (H/M/L)	kW 5.64/4.79/4.23	6.98/6.28/5.23	8.23/6.58/5.59	9.58/8.14/6.32	11.69/10.52/9.35
	Water pressure drop	kPa 22	17.4	10	20.2	21.5
Power input (H/M/L)	W	39/31/27	49/39/34	63/50/44	88/70/62	137/109/96
Sound pressure level	H3 (H/M/L)	dB(A) 39/36/34	41/38/36	42/39/37	44/41/38	46/43/40
	H4 (H/M/L)	dB(A) 41/38/36	43/40/38	44/41/39	46/43/40	48/45/42
	H5 (H/M/L)	dB(A) 39/36/34	41/38/36	42/39/37	44/41/38	46/43/40
Fan motor	Type	Low noise 3-speed fan motor				
	Quantity	1				
Fan	Type	Centrifugal, forward-curved Blades				
	Quantity	1				
Coil	Row	2	2	3	3	3
	Max. working pressure	MPa 1.6				
	Diameter	mm $\Phi$ 9.52				
Body (H3 series)	Net dimensions (WxHxD)	mm 950x545x212	950x545x212	1250x545x212	1250x545x212	1250x545x212
	Packing size (WxHxD)	mm 1039x639x305	1039x639x305	1339x639x305	1339x639x305	1339x639x305
	Net weight	kg 25	25	32	32	32
	Gross weight	kg 29	29	36	36	36
Body (H4/H5 series)	Net dimensions (WxHxD)	mm 1200x592x225	1200x592x225	1500x592x225	1500x592x225	1500x592x225
	Packing size (WxHxD)	mm 1289x683x312	1289x683x312	1589x683x312	1589x683x312	1589x683x312
	Net weight	kg 32.5/32.5	32.5/32.5	39/39	39/39	39/39
	Gross weight	kg 38/38	38/38	45/45	45/45	45/45
Water inlet/outlet pipe	Inch	G3/4				
Drain pipe	mm	OD $\Phi$ 16				

- Notes:
- H: High fan speed; M: Medium fan speed; L: Low fan speed.
  - Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.
  - Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
  - Noise is tested in a semi-anechoic test room.

## Dimensions

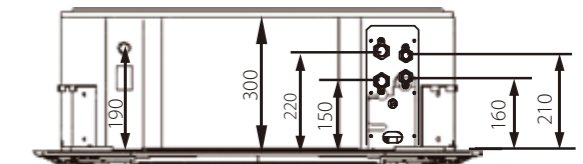
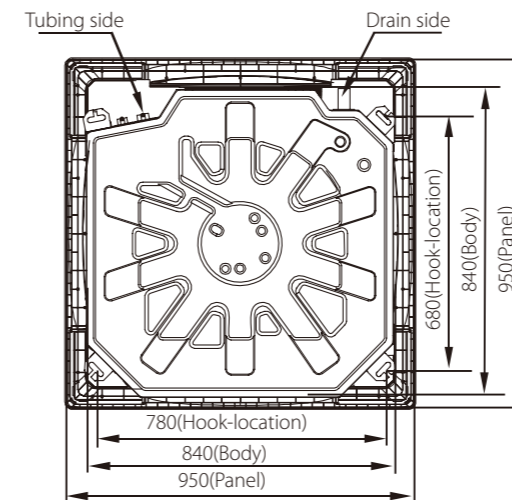
### 4-way cassette >>

2-pipe 4-way cassette  
Dimensions (unit:mm)

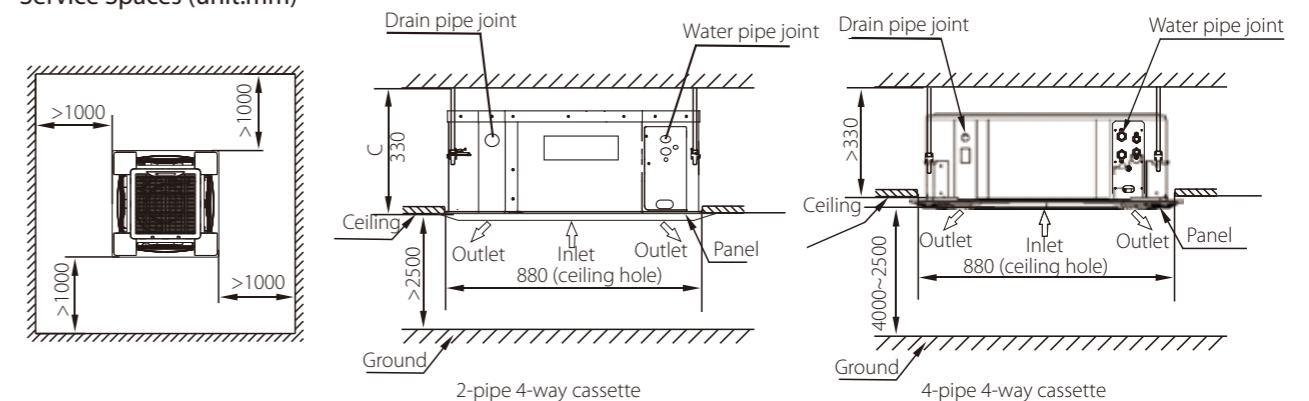


Model	Size	A	B	C	D
MKA-600R(A)		230	170	135	185
MKA-750R(A)					
MKA-950R(A)					
MKA-1200R(A)		300	190	145	195
MAK-1500R(A)					

4-Pipe 4-way cassette  
Dimensions (unit:mm)



Service Spaces (unit:mm)



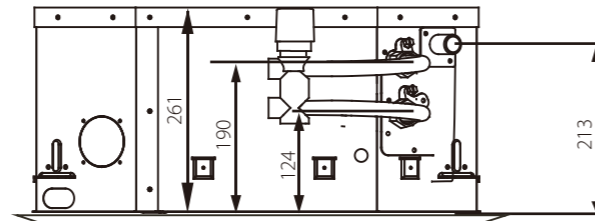
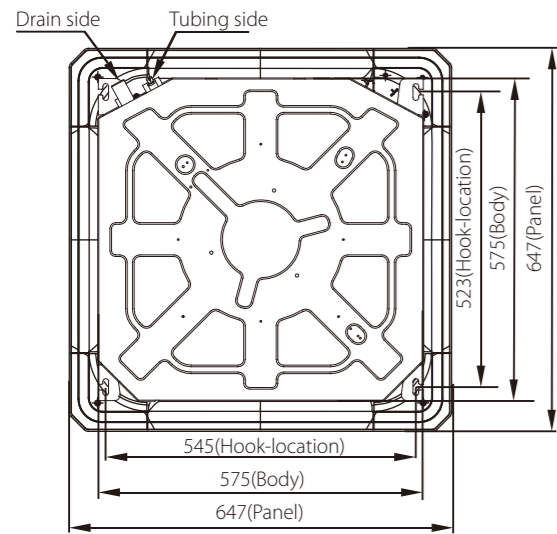
2-pipe 4-way cassette

4-pipe 4-way cassette

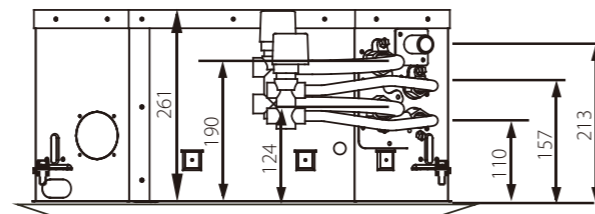
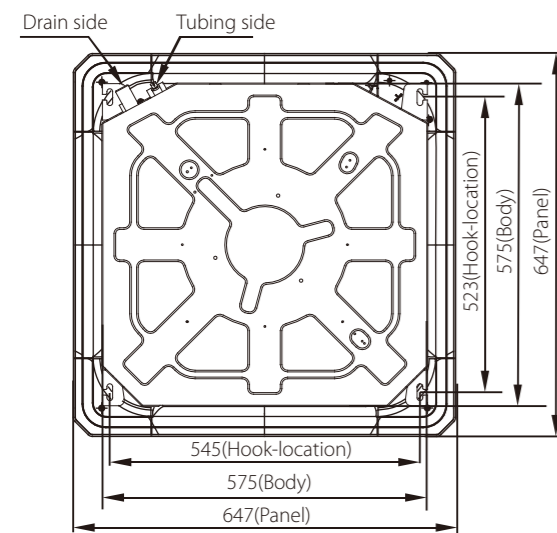


## Compact 4-way cassette >>

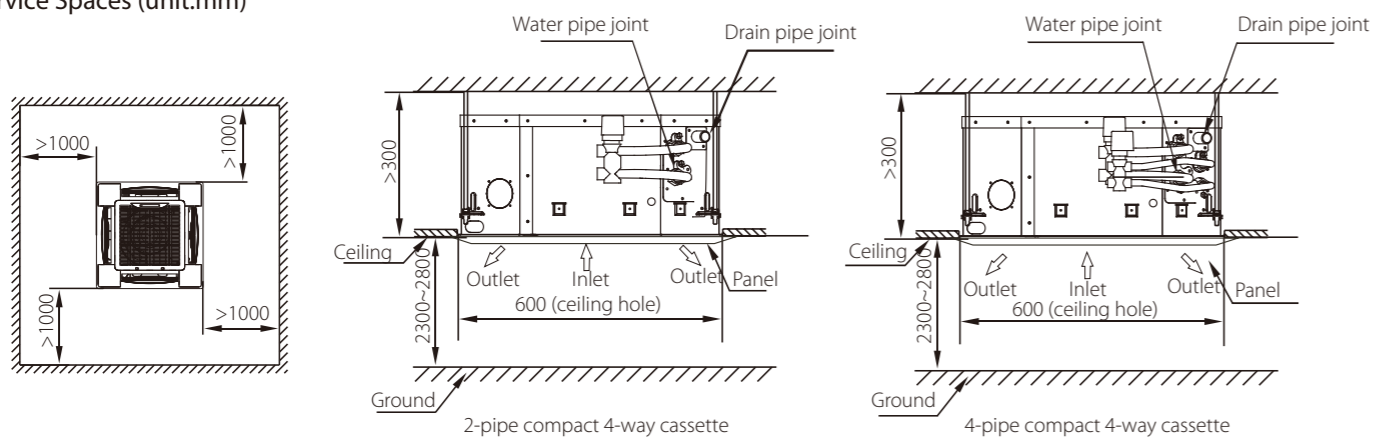
2-pipe compact 4-way cassette  
Dimensions (unit:mm)



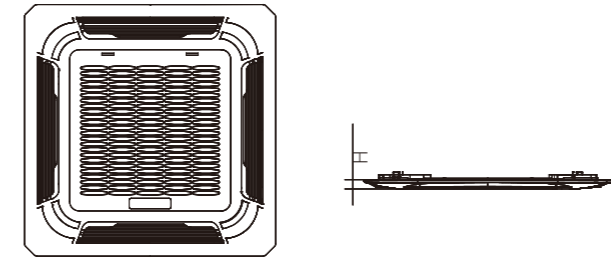
4-pipe compact 4-way cassette  
Dimensions (unit:mm)



Service Spaces (unit:mm)



Height of the front panel

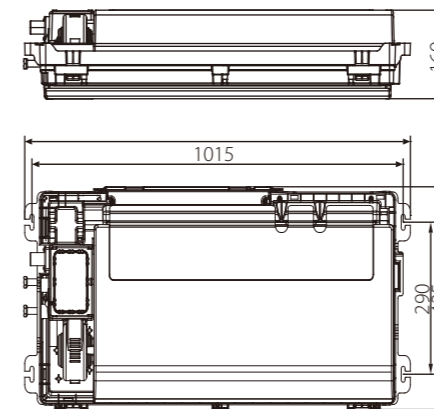


Type	H (mm)
4-way cassette	45
Compact 4-way cassette	50

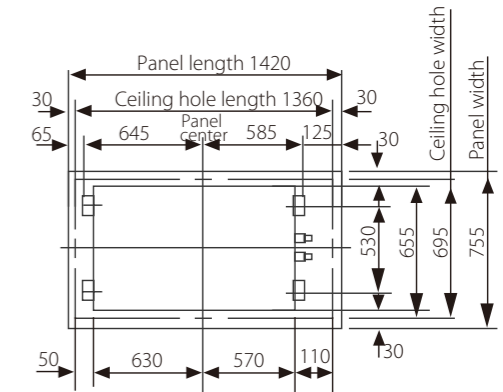
## 1-way cassette >>

Dimensions (unit:mm)

MKC-300R(A)-B MKC-400R(A)-B

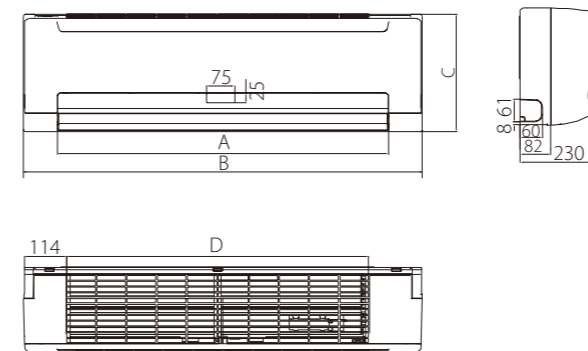


MKC-600HRN4



## Wall mounted - S panel >>

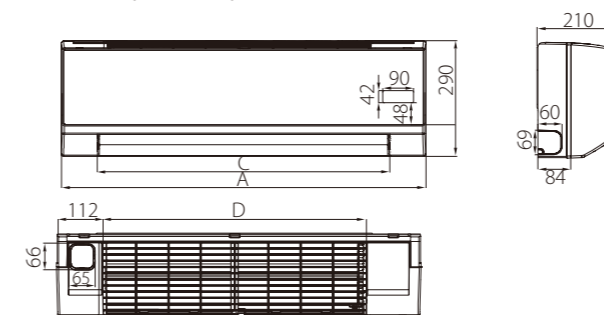
Dimensions (unit:mm)



Size	Model	MKG-250-B MKG-300-B MKG-400-B	MKG-500-B MKG-600-B
A		732	892
B		915	1072
C		290	315
D		663	813

## Wall mounted - C panel >>

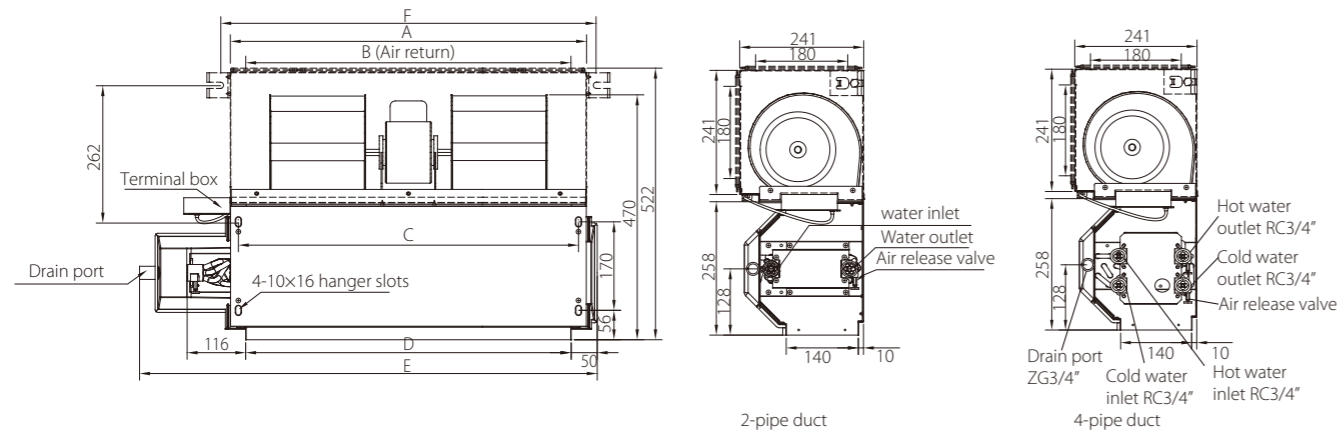
Dimensions (unit:mm)



Size	Model	MKG-250 MKG-300 MKG-400	MKG-500 MKG-600
A		915	1070
B		290	315
C		725	885
D		670	815

## Duct >>

Dimensions (unit:mm)

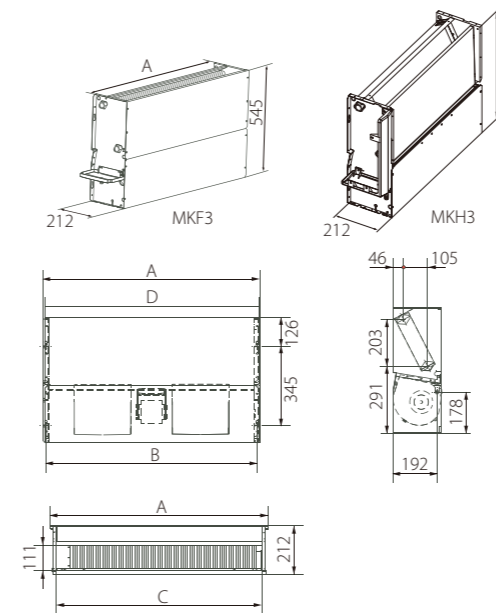


Size	A	B	C	D	E	F
200CFM	545	485	513	485	741	583
300CFM	645	585	613	585	841	683
400CFM	745	685	713	685	941	783
500CFM	745	685	713	685	941	783
600CFM	965	905	933	905	1161	1003
800CFM	1265	1205	1233	1205	1461	1303
1000CFM	1370	1310	1338	1310	1566	1408
1200CFM	1660	1600	1628	1600	1856	1698
1400CFM	1826	1766	1794	1766	2022	1864

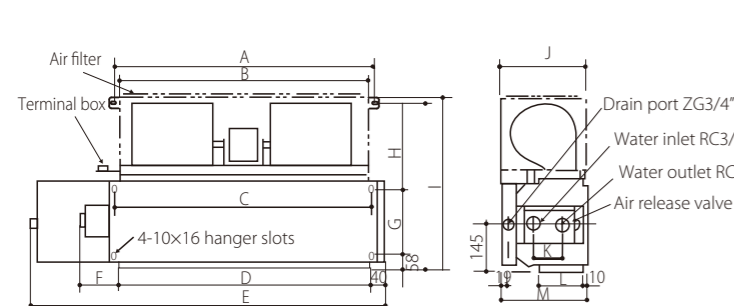
## Floor standing / Ceiling & Floor >>

Dimensions (unit:mm)

Concealed type



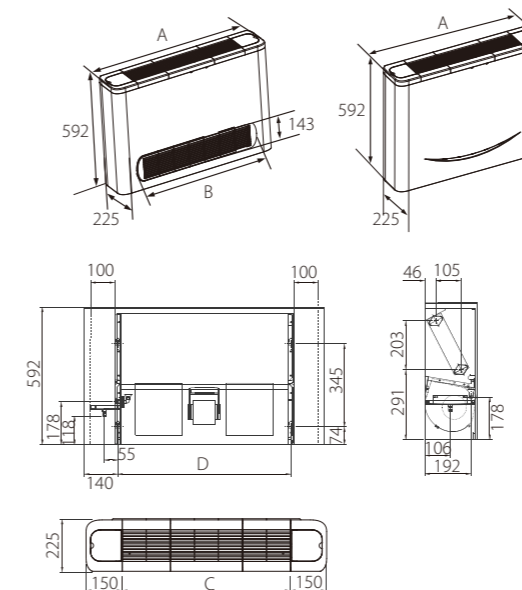
Model	MKF(H)3-150/250	MKF(H)3-300/400	MKF(H)3-450/500	MKF(H)3-600~900
A(mm)	550	750	950	1250
B(mm)	526	726	926	1226
C(mm)	500	700	900	1200
D(mm)	532	732	932	1232



Model	MKT3-800/1000G50-A4	MKT4-1200/1400/1500/1600G50-A4	MKT4-1800/2000G50-A4
A	960	1085	1277
B	900	1135	1327
C	910	1112	1308
D	885	1085	1277
E	1180	1369	1500
F	150	160	160
G	195	195	195
H	335	335	335
I	612	612	612
J	342	342	342
K	231	231	231
L	230	230	230
M	340	340	340

Notes:  
This figure is for reference only, actual product may differ.  
The dotted line in the figure is the dimension for air return plenum.  
Units with air return plenum is standard, units without air return plenum can be customized.

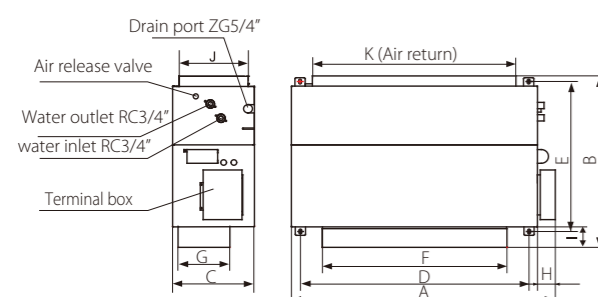
Exposed type



Model	MKF(H)4-150/250	MKF(H)4-300/400	MKF(H)4-450/500	MKF(H)4-600~900
A(mm)	800	1000	1200	1500
B(mm)	584	784	984	1284
C(mm)	500	700	900	1200
D(mm)	526	726	926	1226

## High static pressure duct >>

Dimensions (unit:mm)



Model	MKT3H-800G70	MKT3H-800EG70	MKT3H-1600G100	MKT3H-1600EG100
A	946	946	1290	1290
B	816	876	809	874
C	400	400	400	400
D	778	778	1118	1118
E	767	767	765	765
F	306	306	900	900
G	219	219	249	249
H	88	88	88	88
I	37	97	39	104
J	338	338	320	320
K	512	512	995	995

# Control Devices

## Wireless Remote Controllers

Model	Appearance	Function Descriptions	Applicable FCUs
R05/BGE		<ul style="list-style-type: none"> <li>LCD display screen</li> <li>Mode control</li> <li>Fan speeds control</li> <li>Time setting / Temp. setting / Swing setting</li> </ul>	4-way Cassette (standard)
R51/E			Compact 4-way cassette and Wall mounted (standard)

## Wired Controllers

Model	Appearance	Function Descriptions	Applicable FCUs
KJRP-86A1-E		<ul style="list-style-type: none"> <li>LCD display screen</li> <li>Mode control</li> <li>Fan speeds control</li> <li>Timer setting / Temp. setting</li> </ul>	Duct without electric heater (optional)
KJR-18B/E		<ul style="list-style-type: none"> <li>Mechanical thermostat</li> <li>Mode control</li> <li>Fan speeds control</li> <li>Temp. setting</li> </ul>	Duct without electric heater (optional)
KJR-21B/D		<ul style="list-style-type: none"> <li>LCD display screen</li> <li>Mode control / Fan speeds control</li> <li>Electric heater control</li> <li>Temp. setting</li> </ul>	Duct with electric heater (optional)
KJR-15B/E		<ul style="list-style-type: none"> <li>LCD display screen</li> <li>Mode control</li> <li>Fan speeds control</li> <li>Temperature display in oF or oC</li> </ul>	Floor standing / Ceiling & floor (optional)

## Centralized Controllers

Model	Appearance	Function Descriptions	Applicable FCUs
CCM03		<ul style="list-style-type: none"> <li>Large LCD display screen</li> <li>Max. of 64 FCUs can be controlled by a CCM03</li> <li>Mode control / fan speed control</li> <li>Time setting / temp. setting / swing setting</li> </ul>	All FCUs (cassette FCUs need adding NIM01 module)
CCM09		<ul style="list-style-type: none"> <li>Weekly schedule function</li> <li>Basic functions are same as CCM03</li> </ul>	
CCM30		<ul style="list-style-type: none"> <li>Touch-style keys</li> <li>Basic functions are same as CCM03</li> </ul>	

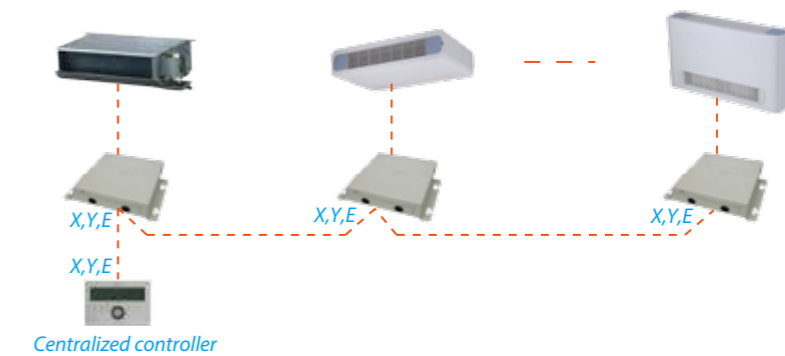
# Accessories

## PC Board Control Kit for FCU >>

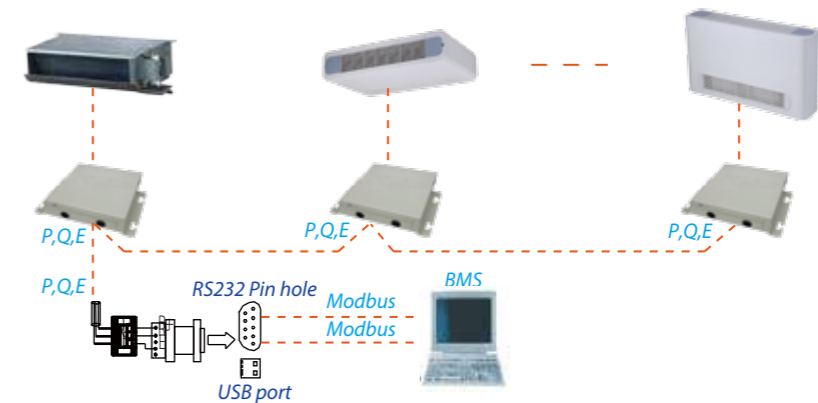


- Available for all non-PCB FCUs.
- Flexible installation, it can be attached to the unit, mounted on a wall or hung under a ceiling.
- External installation making maintenance more convenient.
- Three fan speeds control/ Water pump control/ Long-distance ON/OFF control/ ALARM function/ Electric heater control.
- Operating status can be displayed by wired controller lamp indicator.
- Centralized control function.
- BMS control function through Modbus protocol.

### Centralized control



### BMS control function through Modbus protocol



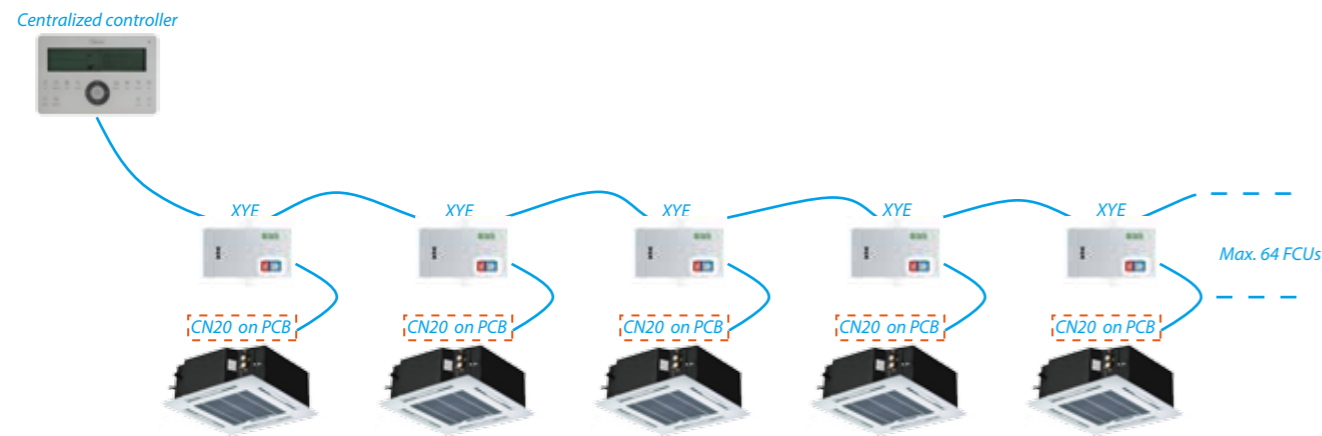
Model	CE-FCUKZ-03		CE-FCUKZ-04
Applicable appliance	2-pipe FCUs		4-pipe FCUs
Power supply	V-Ph-Hz		220~240-1-50/60
Operation range	Room temp.	°C	17-30
	Inlet water temp.	°C	3-75
Temp. controlling precision	°C		±1
Net dimension	WxHxD	mm	296x66x212
Packing size	WxHxD	mm	410x115x262
Net weight			1.4
Gross weight			2.5

## Network Module >>

- ❖ Achieve centralized control through XYE connection
- ❖ Only available for FCU Cassette Series
- ❖ Address setting should be same as connecting FCU
- ❖ There LEDs display: operation indicator lamp, communication indicator lamp and malfunction indicator lamp



### Centralized wiring



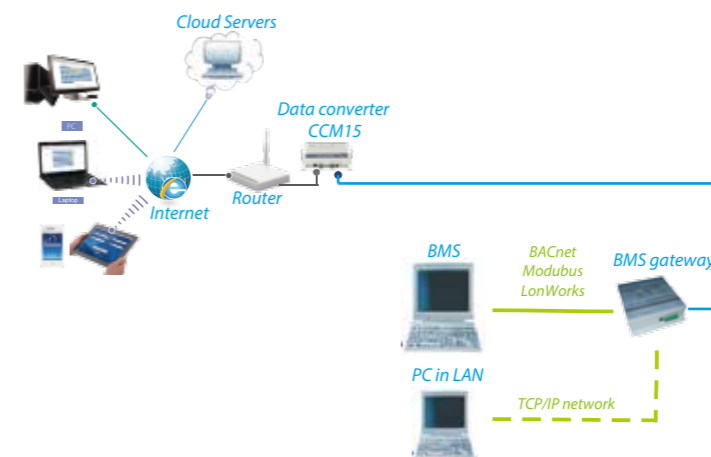
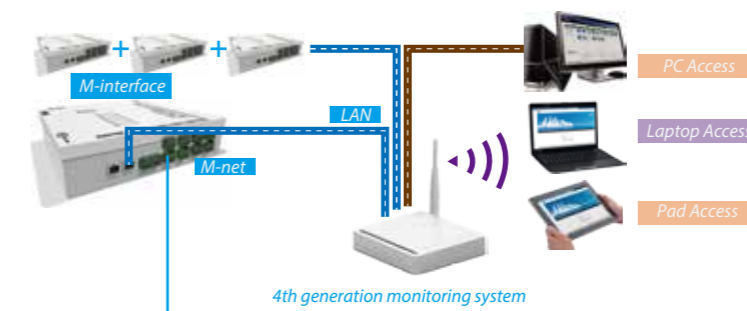
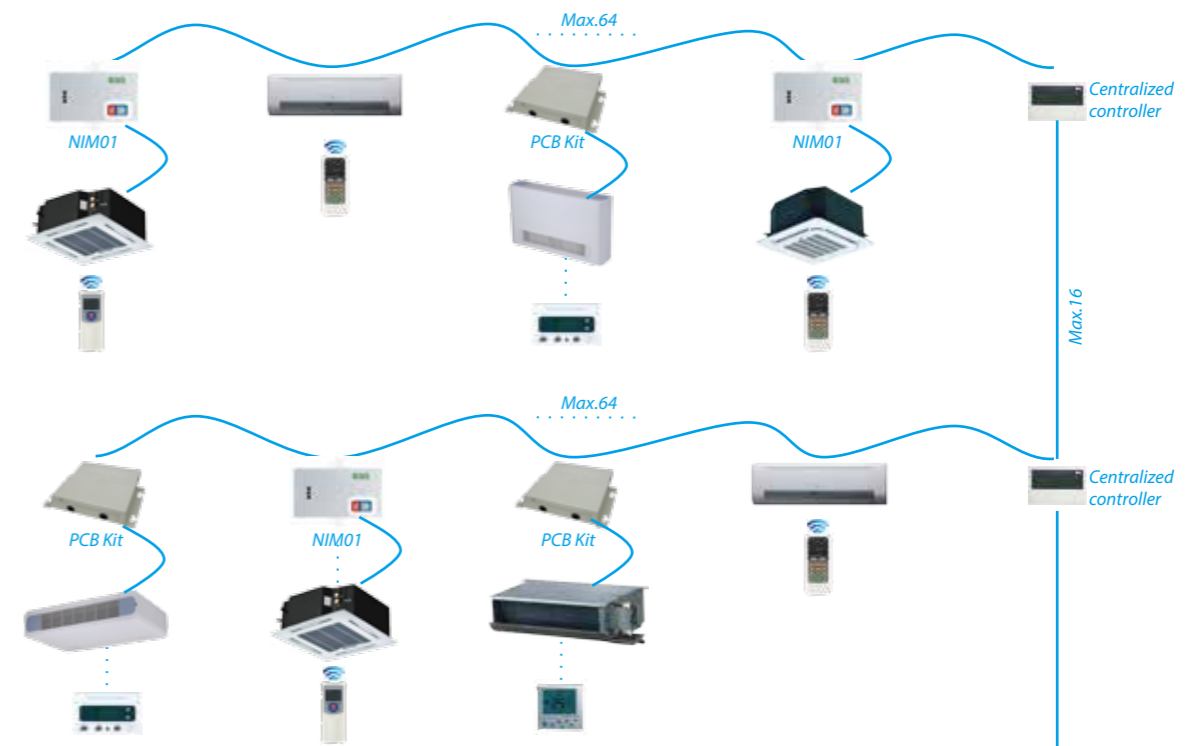
## Valve Kit >>

- ❖ Working Voltage: AC230±10%, 50/60Hz(24V can be customized).
- ❖ Power Consumption: 4W
- ❖ Nominal Pressure: 1.6MPa.
- ❖ Applied Medium: Cold or hot water, 50% glycol water liquor.
- ❖ Medium Temperature: 2-15°C(DDSTR-01), -20-10°C(DDSTF-04/05).
- ❖ Environment Temperature: -5-50°C(DDSTR-01), 0-50°C(DDSTF-04/05).



Model	DN(mm)	Inner Screw Thread	Applicable Appliance
DDSTF-01	20	3/4"	2-pipe cassette/duct/floor standing, 4-pipe duct
DDSTF-04	15	1/2"	4-pipe cassette (for hot water)
DDSTF-05	20	3/4"	2-pipe ceiling & floor, 4-pipe cassette (for cold water)

# Application of Central Control & BMS Control



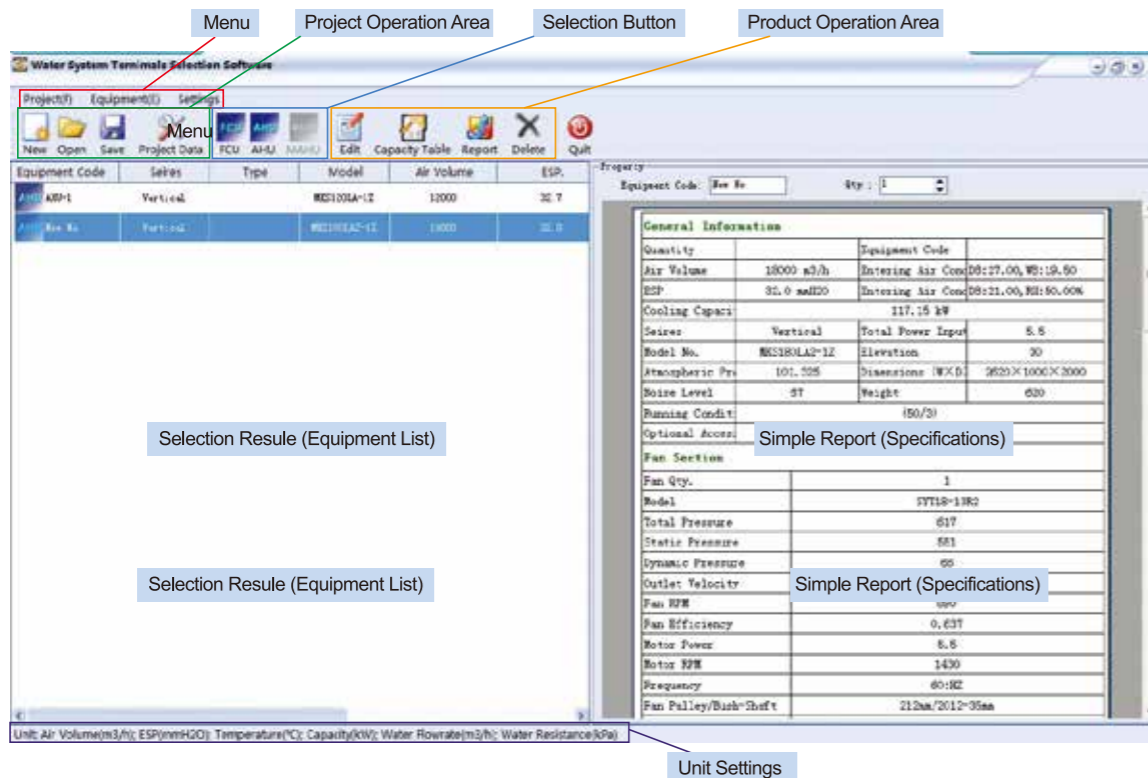
# Selection Software

## Features >>

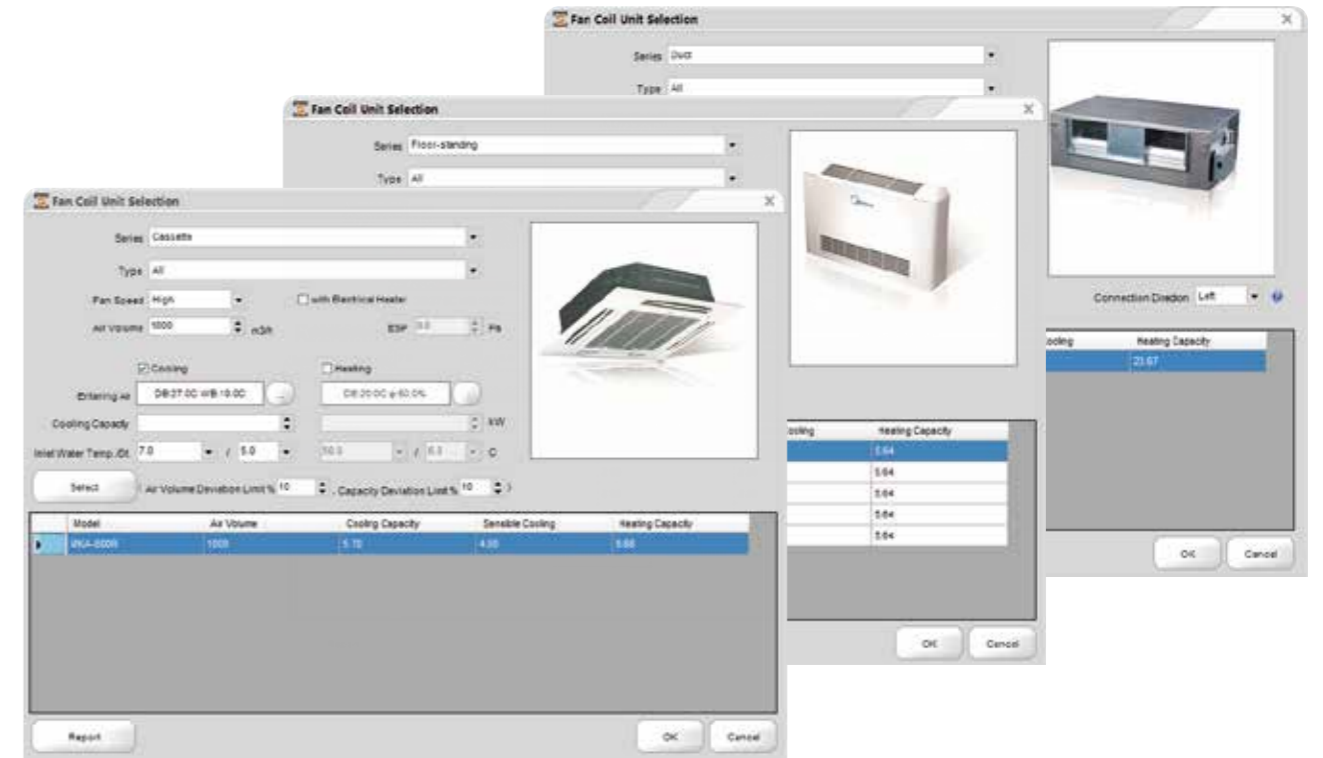


- ❖ Select by entering air and water conditions as well as fan speed.
- ❖ Easy to operate interface and visual display.
- ❖ Powerful project management function.

## Main Interface >>



## Selection Interface >>



## Report Data Interface >>

DWT		Rear DT		Cooling Capacity Table																	
MKA-500R																					
1000																					
				DB 24.0 WB 17.0			DB 25.0 WB 18.0			DB 26.0 WB 19.0			DB 27.0 WB 19.5			DB 28.0 WB 21.0					
				TC	SC	Water Flow	TC	SC	Water Flow	TC	SC	Water Flow	TC	SC	Water Flow	TC	SC	Water Flow			
5	3	5.85	4.5	1.68	72.67	6.43	4.68	1.85	87.85	7.12	4.85	2.34	103.22	7.3	5.05	2.09	108.57	7.96	4.97	2.28	128.96
5	4	5.8	4.30	1.21	37.63	6.33	4.67	1.34	46.74	6.88	4.74	1.48	54.08	7.02	4.93	1.51	56.45	7.84	4.84	1.64	66.95
5	5	5.28	4.24	0.91	21.47	5.91	4.43	1.02	26.39	6.56	4.61	1.13	31.47	6.72	4.8	1.16	33.08	7.35	4.72	1.26	39.6
5	3	5.43	4.31	1.56	63.02	6.06	4.49	1.74	76.99	6.71	4.67	1.92	91.43	6.89	4.87	1.97	96.71	7.55	4.81	2.16	116.24
5	4	5.14	4.19	1.1	32	5.77	4.37	1.24	39.55	6.43	4.55	1.38	47.35	6.62	4.76	1.42	50.17	7.25	4.68	1.56	60.22
5	5	4.85	4.06	0.84	18.33	5.49	4.25	0.95	22.91	5.15	4.44	1.05	27.64	5.3	4.63	1.09	29.03	6.96	4.57	1.2	35.55
7	3	4.99	4.12	1.43	53.64	5.52	4.31	1.61	66.56	6.27	4.49	1.79	79.9	6.44	4.69	1.84	84.44	7.11	4.63	2.03	102.97
7	4	4.68	3.99	1.01	26.88	5.32	4.18	1.14	33.78	5.98	4.37	1.28	43.93	6.18	4.58	1.33	43.68	6.83	4.52	1.47	53.47
7	5	4.38	3.86	0.75	15.23	5.03	4.06	0.87	19.48	5.71	4.25	0.98	23.85	5.86	4.45	1.01	25.19	6.5	4.29	1.12	31
8	3	4.53	3.93	1.3	44.94	5.17	4.12	1.48	50.87	5.83	4.31	1.57	59.17	6	4.51	1.72	73.42	6.58	4.46	1.91	90.97
8	4	4.22	3.8	0.91	22.19	4.87	4	1.05	28.52	5.54	4.19	1.19	35.08	5.74	4.4	1.24	37.71	6.36	4.34	1.37	46.38
8	5	3.91	3.67	0.67	12.39	4.57	3.88	0.78	16.25	5.26	4.08	0.9	22.24	5.45	4.29	0.94	21.79	6.09	4.23	1.05	27.2
9	3	4.07	3.74	1.17	36.99	4.73	3.94	1.36	47.93	5.4	4.13	1.54	63.24	5.69	4.34	1.6	63.5	6.34	4.29	1.79	79.3
9	4	3.78	3.62	0.81	18.16	4.42	3.81	0.95	23.77	5.08	4	1.09	29.57	5.27	4.22	1.13	31.82	5.82	4.17	1.27	40.14
9	5	3.55	3.53	0.61	10.27	4.17	3.71	0.71	13.53	4.81	3.9	0.82	16.9	4.99	4.11	0.86	18.26	5.53	4.06	0.97	23.26
10	3	3.65	3.57	1.05	29.95	4.25	3.75	1.22	39.1	4.89	3.93	1.4	48.62	5.12	4.16	1.47	53.5	5.5	4.12	1.66	68.62
10	4	3.42	3.42	0.73	14.84	4.01	3.65	0.86	19.52	4.62	3.82	0.99	24.37	4.81	4.04	1.04	26.52	5.46	4	1.17	34.25
10	5	3.12	3.12	0.54	8.04	3.59	3.53	0.63	10.87	4.28	3.69	0.73	13.41	4.5	3.92	0.78	14.85	5.18	3.9	0.89	19.67