

## Commercial Air Conditioners 2017/2018



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



#### Commercial Air Conditioner Division

##### Midea Group

Add.: Midea Headquarters Building, 6 Midea Avenue, Shunde, Foshan, Guangdong, China

Postal code: 528311

Tel: +86-757-26338346 Fax: +86-757-22390205

cac.midea.com global.midea.com

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



Midea CAC After-service Application



iOS Version



Android Version

Midea CAC News Application



iOS Version

# Midea CAC

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

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

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

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

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

MIDEA GROUP  
FORTUNE GLOBAL  
**FORTUNE**  
**500**



- 2016 » Acquired 80% stake in Clivet
- 2015 » JV with Carrier in China in chiller field, launched the unitary all DC inverter type Aqua Mini Chiller
- 2014 » Launched the Super series chillers and DC inverter fan coil units
- 2013 » Launched the Power Series with low ambient temperature cooling function
- 2012 » Formed Midea-Carrier JV.Company in India and HK
- 2010 » Built the 3rd manufacturing base in Hefei, Launched the Power Series with V shape condenser and tub-in-tube evaporator
- 2008 » Launched the Power Series with V shape condenser and plate type evaporator
- 2006 » Launched the first VSD centrifugal chiller
- 2004 » Acquired MGRE entered the chiller industry
- 2001 » Cooperated with Copeland to develop the digital scroll VRF system
- 2000 » Developed the first inverter VRF with Toshiba
- 1999 » Entered the CAC field

## Midea Company Introduction



## Midea CAC Introduction



## Introduction

Midea Aqua Mini Chillers and Air-cooled Scroll Chillers use 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. 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 DC Inverter Air-cooled Mini Chiller has unitary structure design and hydraulic module is built in the outdoor unit. They are silent and compact units, easy to install and maintain. These units are designed for residential applications or light commercial applications that require cold or hot water.

The Midea tropical air-cooled scroll chiller series has single unit capacities ranging from 30kW to 180kW. The modular design makes it possible to combine single units, giving air-cooled scroll chiller system capacities of up to 2000kW.

Midea fan coil units are divided to cassette type, duct type, wall-mounted type and floor-standing type according to their structure design and installation method. The air volume ranges from 150CFM to 2000CFM (255m<sup>3</sup>/h~3400m<sup>3</sup>/h). It is a highly versatile product suitable for hospitals, office buildings, hotels, airports and various other applications.

# Contents

▶ 09    **Aqua Mini Chiller**

▶ 17    **Tropical Air Cooled Scroll Chiller**

▶ 29    **Fan Coil Units**



## Reference Projects

### Sports »



**2015 Youth Olympic Games-Dinamp Arena**

Country:	Georgia
City:	Tbilisi
Outdoor Units:	Air-cooled modular chiller
Indoor Units	FCU & AHU
Total Capacity:	780kW



**2015 Youth Olympic Games-Volleyball Arena**

Country:	Georgia
City:	Tbilisi
Outdoor Units:	Air-cooled modular chiller
Indoor Units	FCU & AHU
Total Capacity:	400kW



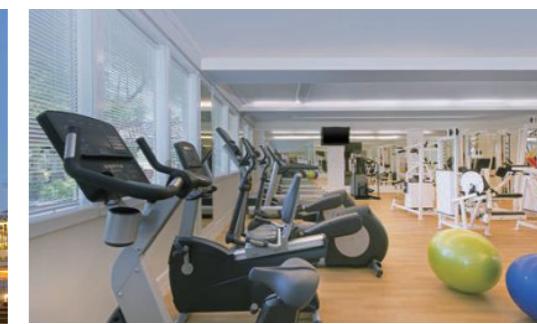
### Transportation »



**Jakarta International Airport**

Country:	Indonesia
City:	Jakarta
Outdoor Units:	Air-cooled screw chiller
Indoor Units	FCU & AHU
Total Capacity:	1,400kW

### Hotels & Resorts »



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

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

### Complex »

Grand Comfort is the largest material market in middle Asia, the total area is 55,000 square meters. Midea CAC provided 21 air-cooled power and super modular chillers for the project.

The total capacity is up to 5,780kW.



**Grand Comfort Material Market**

Country:	Kyrgyzstan
Outdoor Units:	Air-cooled modular chiller
Indoor Units	FCU & AHU
Total Capacity:	5,780kW
Completion Year:	2015



**Harvey Nichols Edinburgh**

Country: UK  
 City: Edinburgh  
 Outdoor Units: Air-cooled modular chiller  
 Indoor Units: FCU  
 Total Capacity: 255HP

**City Mall**

Country: Tanzania  
 City: Dar es Salaam  
 Outdoor Units: Air-cooled modular chiller  
 Indoor Units: FCU & AHU  
 Total Capacity: 1,560kW

**Industry ➤****Zetes Power Station**

Country: Turkey  
 City: Zonguldak  
 Outdoor Units: Precision A/C, VRF, Air-cooled modular chiller  
 Indoor Units: Duct & Cassette, AHU  
 Total Capacity: 500HP

**Education ➤****Komar University**

Country: Iraq  
 City: Sulaymaniyah  
 Outdoor Units: Air-cooled screw & scroll chiller  
 Indoor Units: FCU & AHU  
 Total Capacity: 2,350kW



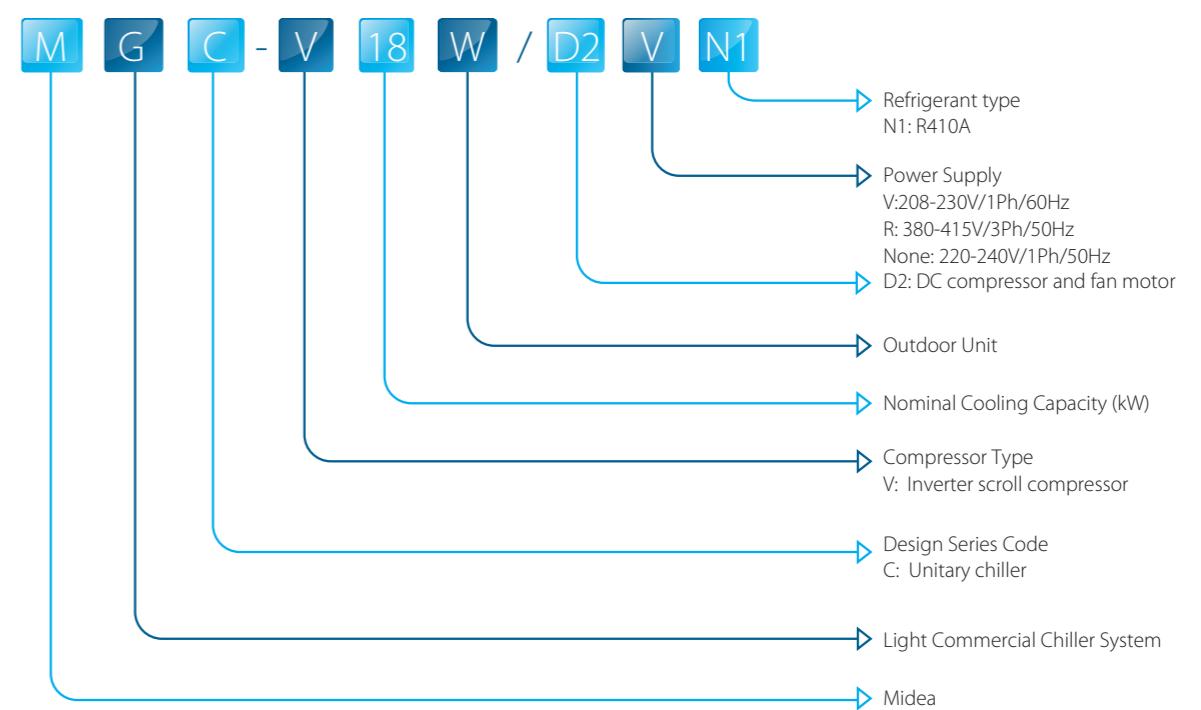
## Aqua Mini Chiller

Midea DC Inverter Air-cooled Mini Chiller has unitary structure design and hydraulic module is built in the outdoor unit. It is air-cooled water heat pump chiller so there is no need of cooling water tower at the condensing side.

It can freely combine with fan coil units and floor heating. These units are designed for residential applications or light commercial applications that require cold or hot water.

They are silent and compact units, easy to install and maintain. Their high energy efficiency and high reliability ensure low running cost. So they are widely applied in apartments, villas, small business office buildings as well as restaurants, etc.

## Nomenclature

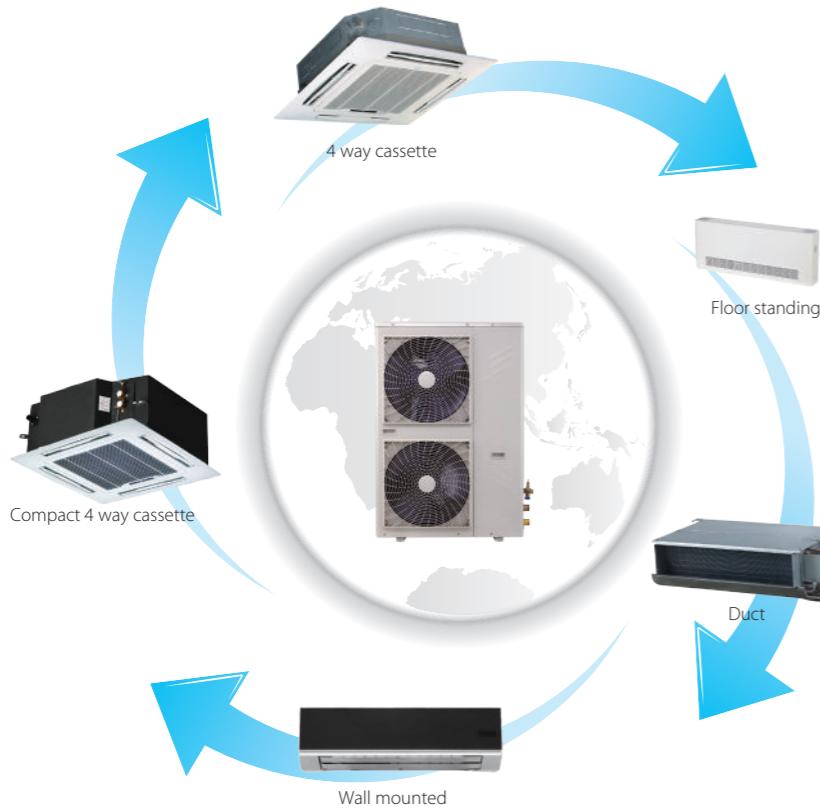


## Features

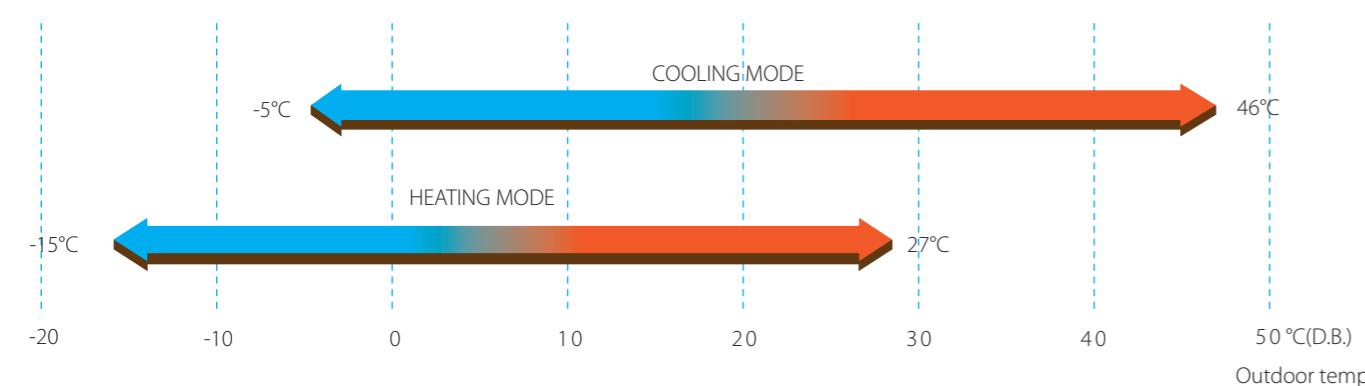
### Wide application range »

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

❖ Aqua Mini Chiller



- ❖ Wide operation temperature range

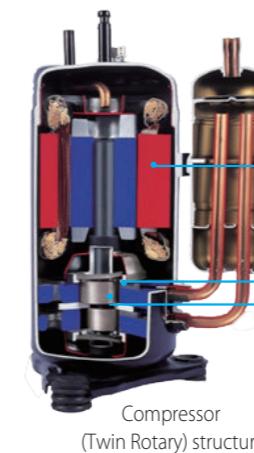


- ❖ Wide range of outlet water temperature  
The water outlet temperature is 4-55°C.

### High efficiency »

#### ❖ DC inverter compressor

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



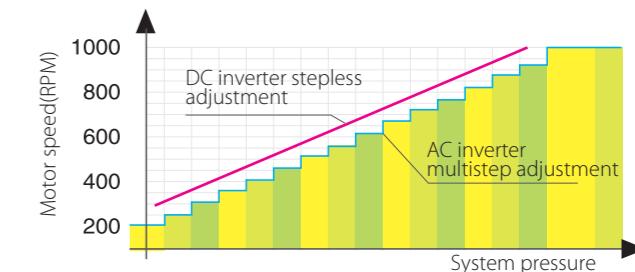
- High efficiency DC motor:
  - Creative motor core design
  - High density neodymium magnet
  - Concentrated type stator
  - Wider operating frequency range

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

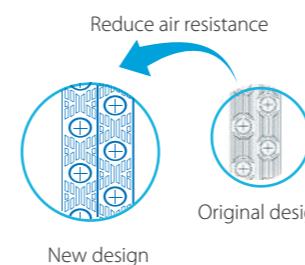
- Highly Stable Moving Parts:
  - Optimal material matching rollers and vanes
  - Optimize compressor drive technology
  - Highly robust bearings
  - Compact structure

#### ❖ DC fan motor

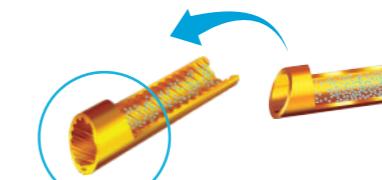
High efficiency DC fan motor saved power up to 50%.



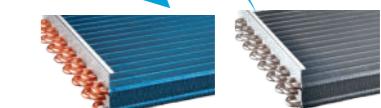
#### ❖ High performance heat exchanger



New design  
Original design



High efficiency inner-threaded pipe,  
enhance heat transfer.



Hydrophilic fins + inner-threaded pipes

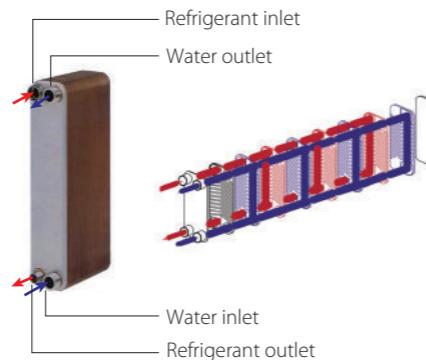
The new designed window fins enlarge the heat-exchanging area, decrease the air resistance, save more power and enhance heat exchange performance.

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

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

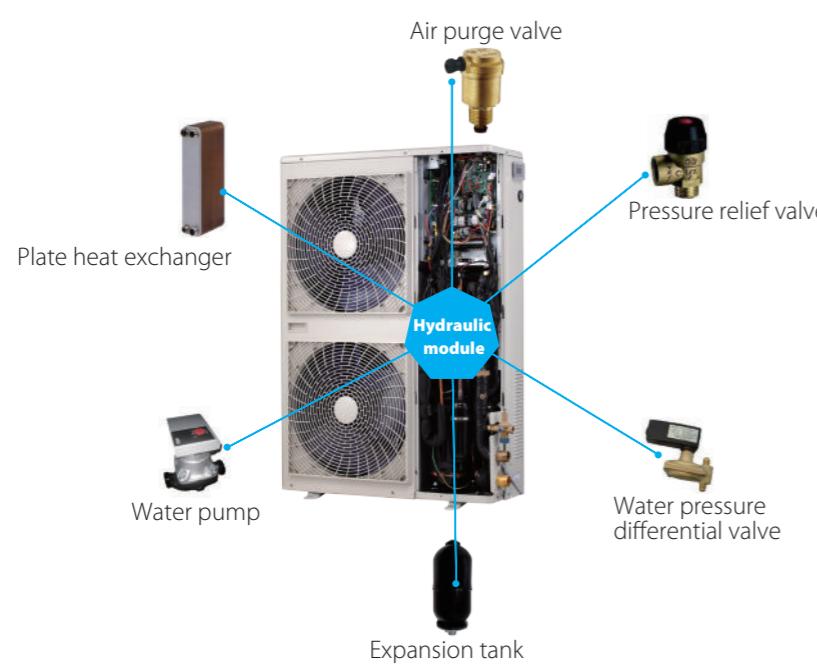
❖ Aqua Mini Chiller

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



## Easy installation »

- Compact structure design and leak-tight refrigerant circuit save you much installation labor.
- The chillers are equipped with a hydronic module integrated into the unit chassis, limiting the installation to straight-forward operations like connection of the power supply, the water supply and the air distribution FCUs.
- The units are equipped with axial fans so they can be installed directly outdoors.



## Easy control »

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



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



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

- Optional wired controller for easy operation.
- Touch key operation
- LCD displays operation parameters
- Multiple timers
- Real-time clock



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

## Specifications

Model		MGC-V10W/D2VN1	MGC-V18W/D2VN1
Power supply		V/Ph/Hz	208-230/1/60
Cooling <sup>1</sup>	Capacity	kBtu/h	36.0(10.0-37.0)
		kW	10.5(2.9-10.8)
Input	kW	3.11	5.60
EER		3.39	3.10
Heating <sup>2</sup>	Capacity	kBtu/h	38.0(11.0-41.0)
		kW	11.0(3.2-12.0)
Input	kW	3.14	5.78
COP		3.50	3.20
Max input current	A	8.9	9.6
Compressor	Type	Rotary	
Outdoor fan	Motor type	DC motor	
	Air flow	CFM(m <sup>3</sup> /h)	4,120(7,000) 4,120(7,000)
Air heat exchanger	Type	Fin-coil	
Water heat exchanger	Type	Plate	
	Water volume	L	0.7 1.06
Water flow	CFM(m <sup>3</sup> /h)	1.01(1.72)	1.72(2.92)
Water pressure drop	kPa	18	23
Water pump	Pump head	m	8 8
	Water volume	L/min	4 4
Expansion tank volume	L	3	3
Refrigerant	Type	R410A	
	Charged volume	lbs/kg	6.2/2.8 7.5/3.4
Throttle type		Electronic expansion valve	
Sound pressure level <sup>3</sup>		dB(A)	56 60
Unit net dimension (WxHxD)		inch	38-3/16x52-1/4x31-1/2
		mm	970x1,327x400
Packing dimension (WxHxD)		inch	42-19/32x57-21/64x17-1/8
		mm	1,082x1,456x435
Net/Gross weight		lbs	243/267 247/271
		kg	110/121 112/123
The Max and Min. water inlet pressure <sup>4</sup>		kPa	500/150
Pipe connections	Water inlet/outlet	inch	1-1/4"
Controller	Electronic controller (standard), wired controller (optional)		
Ambient temperature range	Cooling	°C	-5-46
	Heating	°C	-15-27
Water outlet temperature range	Cooling	°C	4-20
	Heating	°C	30-55

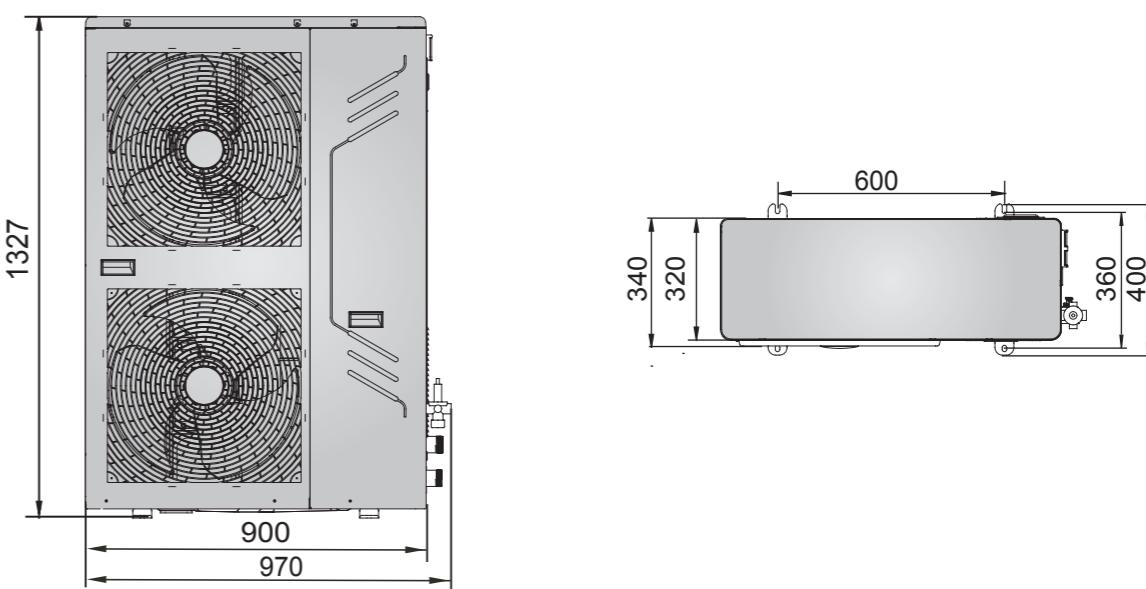
1. Cooling: Chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.

2. Heating: Warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.

3. At 1m in open field fan side (sound pressure).

4. The maximum and minimum operating pressure values refer to the activation of the pressure switches.

## Unit Dimensions (Unit: mm)

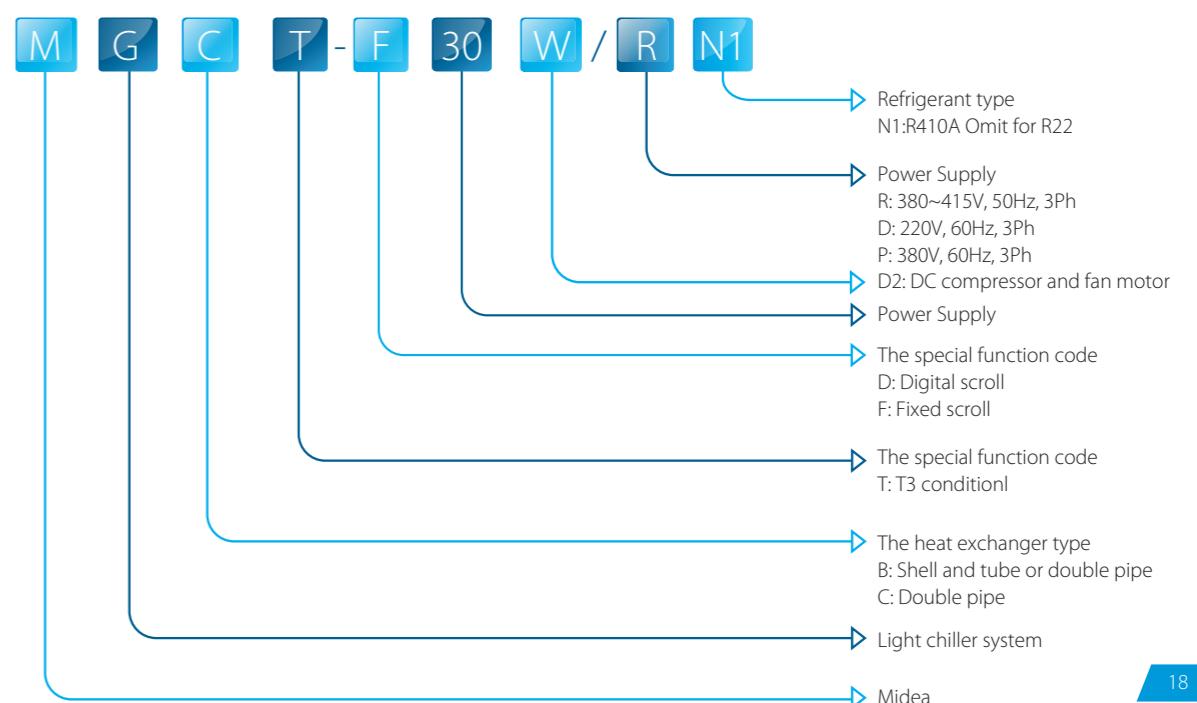




## Tropical Air Cooled Scroll Chiller

With single unit capacities ranging from 30kW to 180kW, Midea tropical air cooled scroll chillers bring high reliability cooling and heating to projects large and small. With an ambient temperature upper operating limit of 52°C in cooling mode, Midea Aqua Tempo Power tropical chillers are able to cope with the hottest of climates.

### Nomenclature



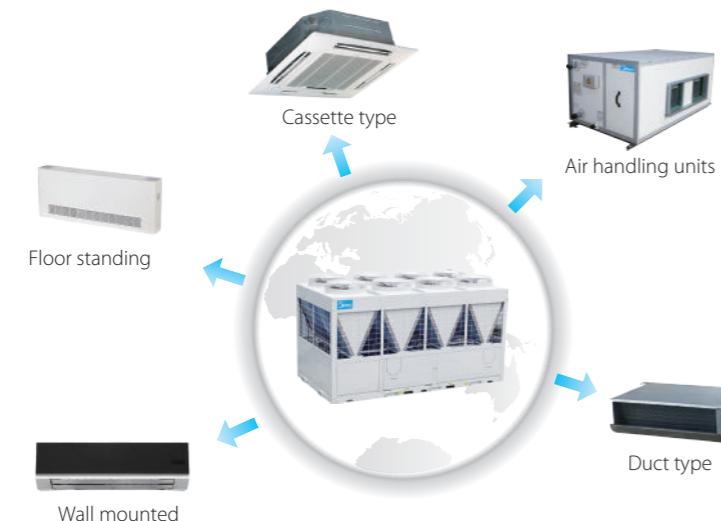
## Features

### Wide application range >>

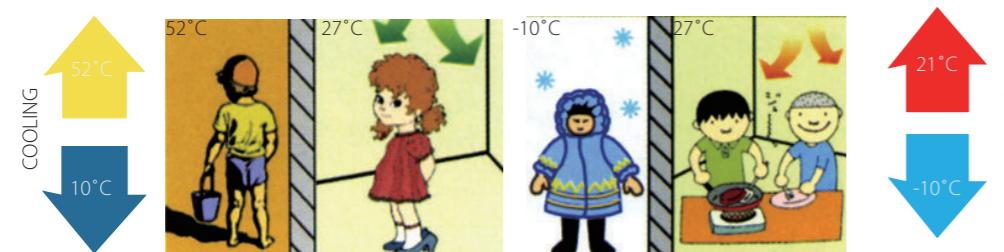
- Four basic models with cooling capacity ranging from 30kW to 180kW, combination model's maximum capacity ups to 1440kW.



- 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 ambient temperature operating range



The ambient temperature operating range is 10°C to 52°C in cooling mode and -10°C to 21°C in heating mode.

- Wide outlet water temperature range

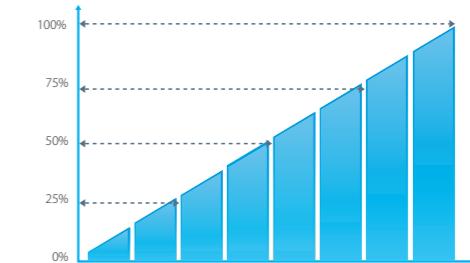
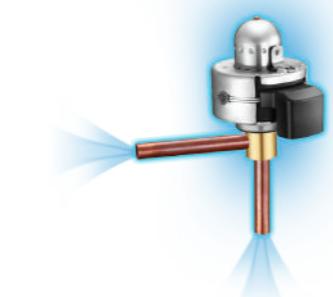
Water outlet temperature range is from 5°C to 17°C. in cooling mode and from 22°C to 50°C in heating mode.



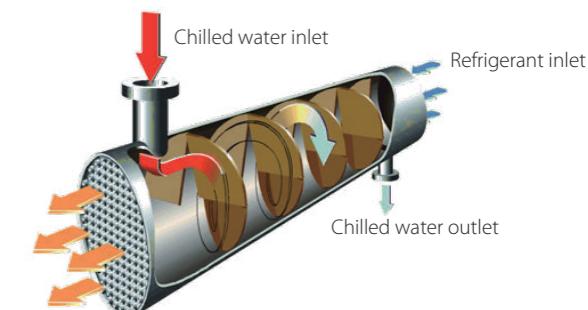
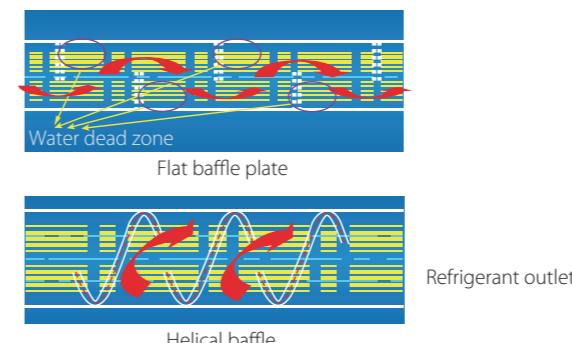
### Advanced technology >>

- EXV for more precisely flow control

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



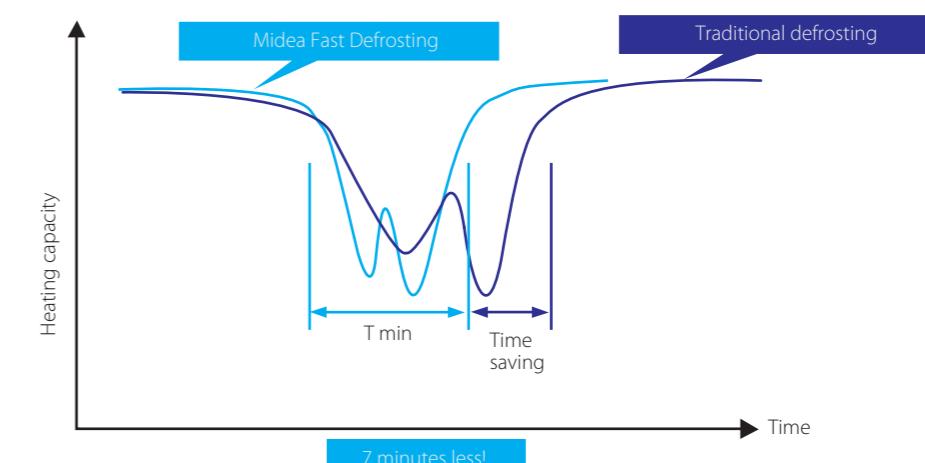
- Tube-in-tube & shell-tube heat exchanger



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.

- Intelligent defrosting technology

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



❖ 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.

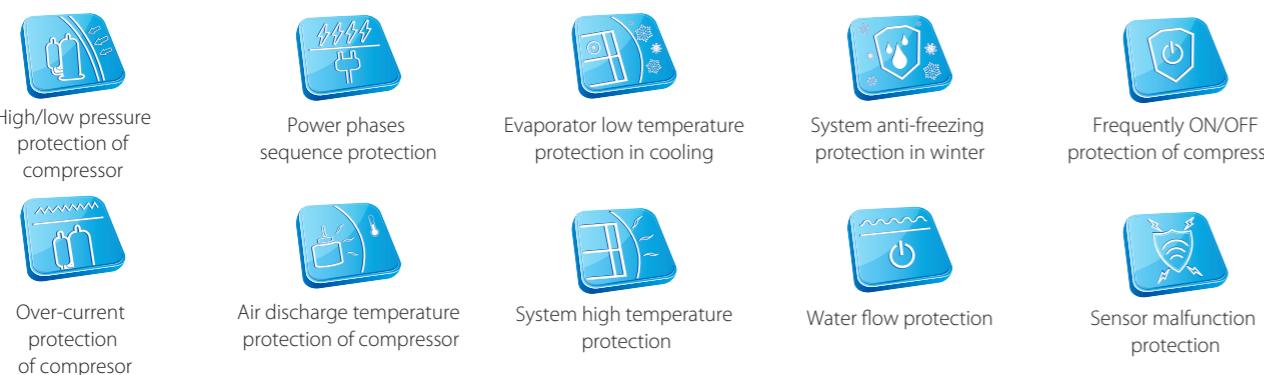
❖ Back-up functions

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



❖ Reliable protections

Multiple protections are adopted to ensure system stable running.



## 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

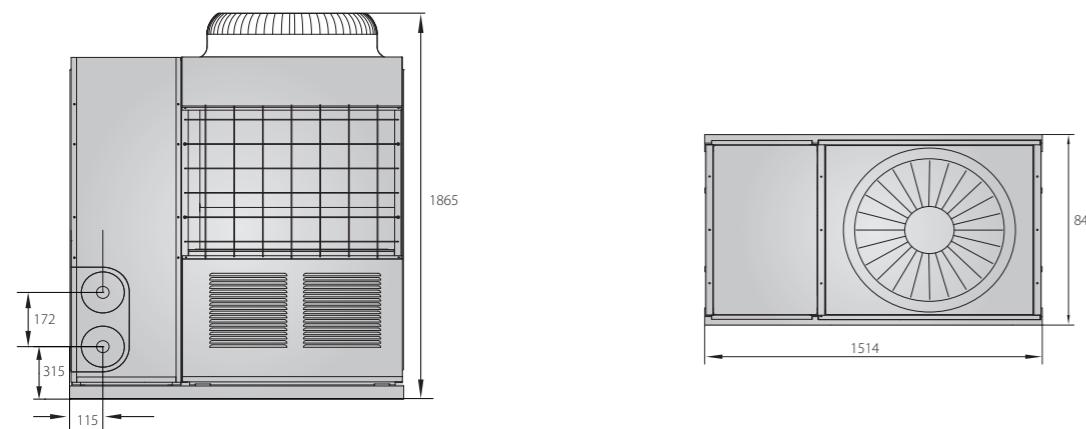
Model		MGBT-F30W/DN1	MGBT-F60W/DN1	MGBT-F120W/DN1	MGBT-F180W/DN1
Power supply	V/Ph/Hz	220/3/60	220/3/60	220/3/60	220/3/60
Cooling <sup>1</sup>	Capacity	kW	30	60	130
	Input	kW	10.0	19.5	39.0
	EER		3.00	3.08	3.08
Cooling <sup>2</sup>	Capacity	kW	25.8	51.6	103.2
	Input	kW	12.0	23.4	46.8
	EER		2.15	2.21	2.21
Heating <sup>3</sup>	Capacity	kW	32	65	130
	Input	kW	9.8	20.0	40.0
	COP		3.27	3.25	3.25
Max. running current	A	45.0	90.0	180.0	270.0
Compressor	Type	Fixed Scroll	Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quantity	Pieces	2	2	4
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	4
	Air flow	m³/h	12,000	24,000	48,000
Water side heat exchanger	Type	Double-pipe	Shell-tube	Shell-tube	Shell-tube
	Water pressure drop	kPa	60	12	25
	Volume	L	10	42	64
Refrigerant	Water flow volume	m³/h	5.2	10.3	20.6
	Type	R410A	R410A	R410A	R410A
	Charged volume	kg	7.0	14.0	28.0
Sound pressure level <sup>4</sup>	Throttle type	EXV	EXV	EXV	EXV
	dB(A)	65	67	70	74
	Unit net dimension(D×H×W)	mm	1,514×1,865×841	2,000×1,880×900	2,000×2,090×1,685
Packing dimension(D×H×W)	mm	1,590×2,065×995	2,106×2,090×998	2,090×2,240×1,755	2,980×2,260×2,135
	Net/ Gross weight	kg	380/420	580/650	1,180/1,270
Pipe connections	Water inlet/outlet	mm	DN40	DN100	DN65
Controller		Wired controller	Wired controller	Wired controller	Wired controller
Maximum combinations		16	16	8	5
Ambient temperature range	Cooling	°C	10~52	10~52	10~52
	Heating	°C	-10~21	-10~21	-10~21
Water outlet temperature range	Cooling	°C	5~17	5~17	5~17
	Heating	°C	45~50	45~50	45~50

Note: Specifications are based on the following conditions:

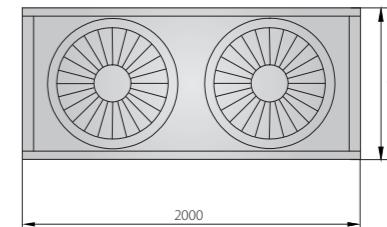
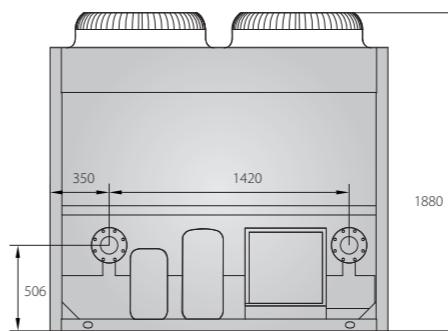
1. Cooling : chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 35°C DB.
2. chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 46°C DB.
3. Heating : warm water inlet/outlet: 40°C / 45°C, and outdoor ambient temp. 7°C DB/6°C WB.
4. 1m away in open field.

## Dimensions (Unit:mm)

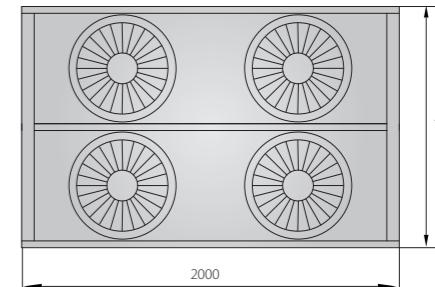
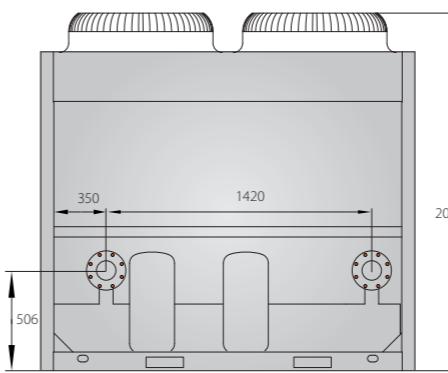
### 30kW module >>



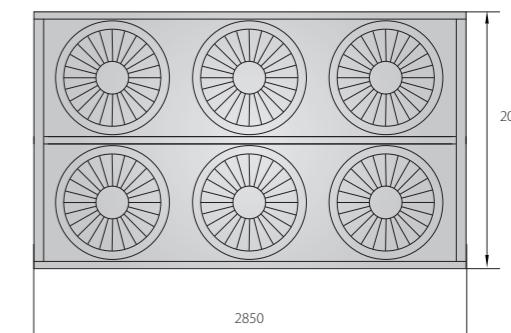
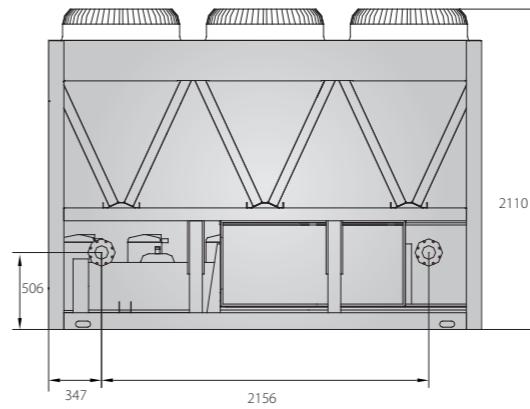
### 60kW module >>



### 120kW module >>



### 180kW module >>



# 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>
Max. connection PCBs	16	16
Compatible Gateway	Modbus & Lon Works	Lon Works

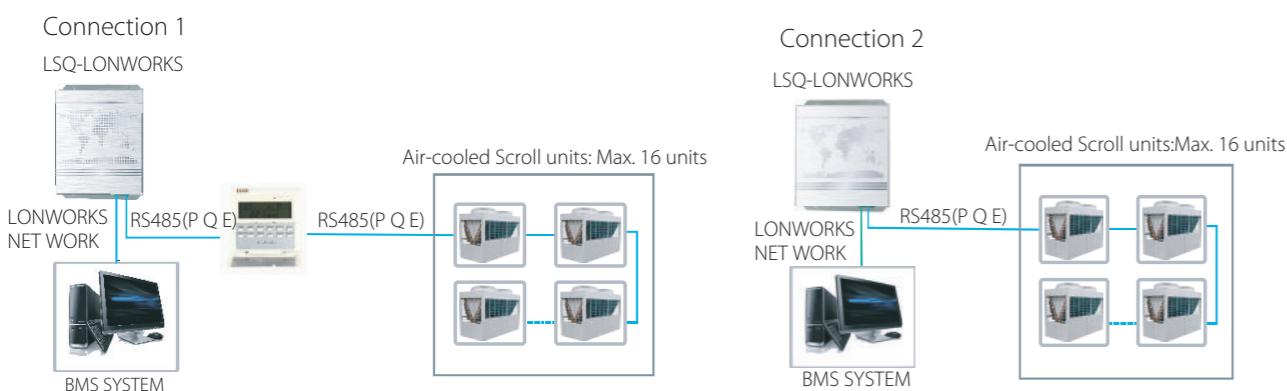
Modbus gateway can be customized by adding X, Y, E ports on wired controller KJRM-120D/BMK-E. It can connect Max. 16 wired controllers and each controller can control Max. 16 units.



## 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

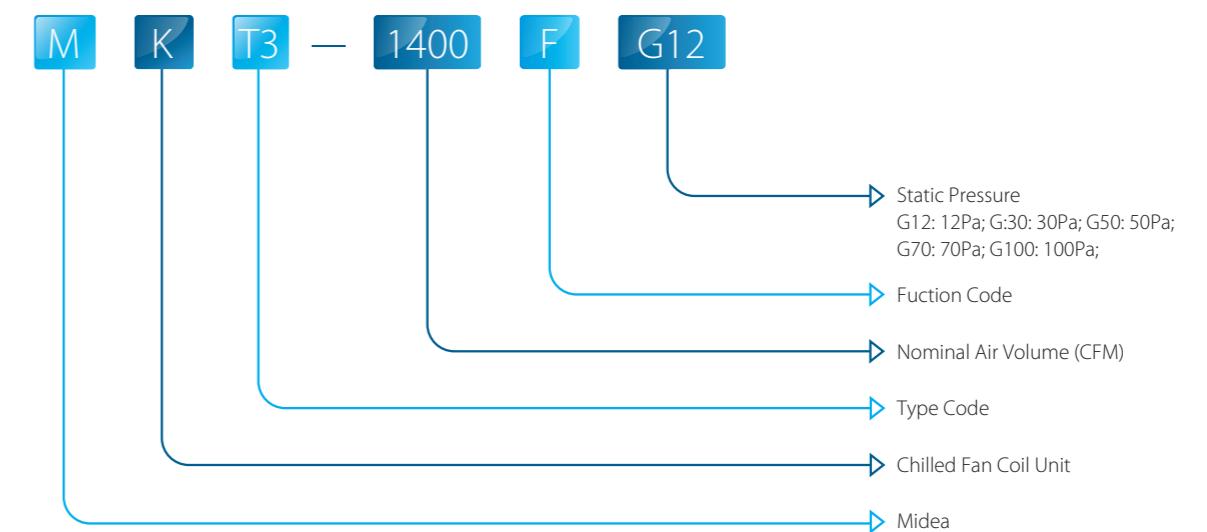
Description	Standard features	Options
Hermetic scroll compressor	●	
Compressor crankcase heaters	●	
Compressor circuit breakers	●	
Compressor overload protection	●	
Condenser fan-direct drive, axial type	●	
Condenser fan(Metal)	●	
Condenser fan guard	●	
Condenser motor circuit breakers		●
Aluminum fins 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		●
60kW hydraulic module		●
120kW hydraulic module		●



## Fan Coil Units

Midea Fan Coil Units have cassette type, duct type, wall-mounted type and floor-standing type. The air volume ranges from 150CFM to 2000CFM. 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
1-way cassette																							
4-way cassette																							
Compact 4-way cassette																							
Duct																							
Wall mounted																							

### 4-Pipe FCUs

Air volume (CFM)		100	200	250	300	400	450	500	600	750			800	850	900	950	1000	1200	1400	1500	1600	1800	2000
Compact 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



300/400CFM



600CFM

1-way Cassette



Compact 4-way Cassette



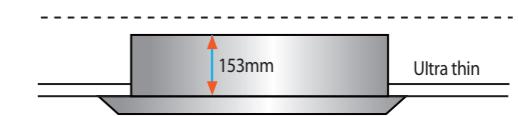
4-way Cassette



## 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.



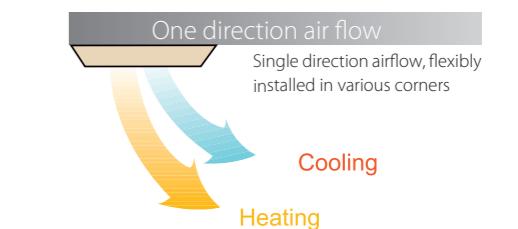
### High-lift Pump »

- ❖ 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	Non-AEH	MKC-300R-B	MKC-400R-B	MKC-600HRN4
With-AEH	MKC-300RA-B	MKC-400RA-B	/	
Power supply	V/Ph/Hz	208-230/1/60		
Air flow (H/M/L)	m³/h	510/450/400	630/560/500	1000/880/800
	CFM	300/270/240	370/330/300	590/520/470
Cooling	Capacity (H/M/L)	kW	3.04/2.79/2.56	3.79/3.58/3.38
	Water flow rate	L/h	520	650
	Water pressure drop	kPa	14	20
Heating	Capacity (H/M/L)	kW	5.13/4.69/4.04	6.41/5.86/5.11
	Water pressure drop	kPa	9	16
	Power input (H/M/L)	W	32/22/15	40/30/25
Auxiliary electric heater (AEH)	W	750	750	/
Sound pressure level (H/M/L)	dB(A)	36/34/32	37/35/34	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	1180x25x465
	Packing size (WxHxD)	mm	1232x107x517	1232x107x517
	Net weight	kg	3.5	3.5
	Gross weight	kg	5.2	5.2
Body	Net dimensions (WxHxD)	mm	1054x153x425	1054x153x425
	Packing size (WxHxD)	mm	1155x245x490	1155x245x490
	Net weight (non-AEH/with-AEH)	kg	12.8/13.1	12.8/13.1
	Gross weight (non-AEH/with-AEH)	kg	16.6/17.1	16.6/17.1
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 >>

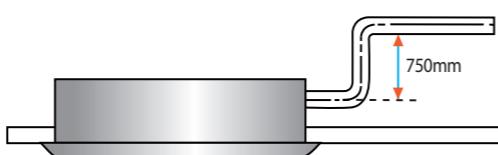
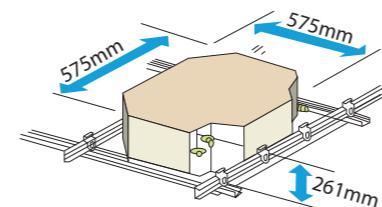
- ❖ Safe factory-installed electric heater is optional.
- ❖ Extended drainage pan is optional.
- ❖ Wireless controller is standard, and wired controller is optional.

### 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	Non-AEH	MKA-600R	MKA-750R	MKA-850R
	With-AEH	MKA-600RA	MKA-750RA	MKA-850RA
Power supply	V/Ph/Hz		208-230/1/60	
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)	kW	5.7/4.73/3.96	7.56/6.46/5.71
	Water flow rate	L/h	980	1204
	Water pressure drop	kPa	23.8	25.2
Heating	Capacity (H/M/L)	kW	9.66/7.72/6.27	11.55/9.24/7.51
	Water pressure drop	kPa	16.4	11.8
	Power input (H/M/L)	W	125/84/74	130/102/93
	Auxiliary electric heater (AEH)	W	2100	2100
	Sound pressure level (H/M/L)	dB(A)	45/41/36	46/42/37
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	840x230x840	840x230x840
	Packing size (WxHxD)	mm	900x260x900	900x330x900
	Net weight (non-AEH/with-AEH)	kg	25/27	25/27
	Gross weight (non-AEH/with-AEH)	kg	30/32	30/32
Pipe	Water inlet/outlet pipe	inch	RC3/4	
connections	Drain pipe	mm	ODΦ32	

Model	Non-AEH	MKA-950R	MKA-1200R	MKA-1500R
	With-AEH	MKA-950RA	MKA-1200RA	/
Power supply	V/Ph/Hz		208-230/1/60	
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)	kW	8.22/7.39/6.54	10.39/9.25/8.2
	Water flow rate	L/h	1414	1787
	Water pressure drop	kPa	31.2	44
Heating	Capacity (H/M/L)	kW	13.85/11.08/9	17.58/14.06/11.42
	Water pressure drop	kPa	14.8	34.7
	Power input (H/M/L)	W	155/131/106	190/127/109
	Auxiliary electric heater (AEH)	W	2850	2850
	Sound pressure level (H/M/L)	dB(A)	48/44/39	49/45/40
Fan motor	Type		Low noise 3-speed fan motor	
	Quantity		1	
Fan	Type		Centrifugal, forward-curved blades	
	Quantity		1	
Coil	Row		2	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	900x330x900	
	Net weight (non-AEH/with-AEH)	kg	30.5/33	30.5/33
	Gross weight (non-AEH/with-AEH)	kg	36.2/39	36
Pipe	Water inlet/outlet pipe	inch	RC3/4	
connections	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.

## 2-Pipe Compact 4-Way Cassette



Model		MKD-300	MKD-400	MKD-500
Power supply	V/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
Air flow (H/M/L)	m³/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
	Water flow rate	l/h	516	636
	Water pressure drop	kPa	14	15
Heating	Capacity (H/M/L)	kW	4/3.5/3.08	5.1/4.3/3.83
	Water pressure drop	kPa	12	13
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	208-230/1/60	208-230/1/60	208-230/1/60
Air flow (H/M/L)	m³/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
	Water flow rate	l/h	430	499
	Water pressure drop	kPa	22	16
Heating	Capacity (H/M/L)	kW	3.7/3.29/2.92	4.6/3.82/3.4
	Water flow rate	l/h	318	396
	Water pressure drop	kPa	17	23
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



### Various Selections »

- ❖ Versions for 2/4 pipe systems.
- ❖ 2, 3 or 4 rows coil for 2-pipe systems.
- ❖ Large range of available static pressure.
- ❖ Wired controller is optional.
- ❖ Four fan speeds are available: low, medium, high and one reserved for more choice.

### High Efficiency »

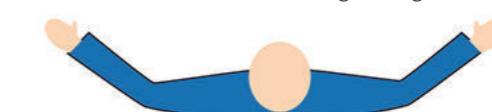
- ❖ Highly efficient heat exchange for complete contranantant flow.

### Flexible Installation »

- ❖ Left and right hand piping connections are optional, flexible installation.



Left hand   Front discharge   Right hand



### 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.



## 2-Row Duct



Model	Non-AEH	MKT2-200G12	MKT2-300G12	MKT2-400G12	MKT2-500G12	MKT2-600G12
	With-AEH	MKT2-200G30	MKT2-300G30	MKT2-400G30	MKT2-500G30	MKT2-600G30
Power supply	V/Ph/Hz			208-230/1/60		
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	2/1.74/1.52	2.7/2.31/2.03	3.6/3.11/2.66	4.4/3.74/3.25
	Water flow rate	l/h	344	464	619	757
	Water pressure drop	kPa	5	11	19	22
Heating	Capacity (H/M/L)	kW	3.2/2.75/2.37	4.3/3.74/3.23	5.4/4.64/4.05	6.8/5.78/5.07
	Water pressure drop	kPa	4.2	9.5	15.5	18.3
Power input	12Pa (H/M/L)	W	31/25/22	50/40/35	60/48/42	80/64/56
	30Pa (H/M/L)	W	45/36/32	60/48/42	67/54/47	89/71/62
Auxiliary electric heater (AEH)	W	550	650	1100	1100	1600
Sound pressure level	12Pa (H/M/L)	dB(A)	36/34/29	38/33/29	38/35/31	39/36/32
	30Pa (H/M/L)	dB(A)	41/37/31	41/37/32	42/39/33	45/41/34
Fan motor	Type		Low noise 3-speed fan motor			
	Quantity		1			
Fan	Type		Centrifugal, forward-curved blades			
	Quantity		1	2	2	2
Coil	Row		2			
	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 (non-AEH/with-AEH)	kg	13.9/15.4	16.5/18	19.2/20.7	19.2/20.7	22/24
Gross weight (non-AEH/with-AEH)	kg	16.2/17.7	19/20.5	21.6/23.1	21.6/23.1	25/27
Water inlet/outlet pipe	Inch		RC3/4			
Drain pipe	Inch		R3/4			

Model	Non-AEH	MKT2-800G12	MKT2-1000G12	MKT2-1200G12	MKT2-1400G12
	With-AEH	MKT2-800G30	MKT2-1000G30	MKT2-1200G30	MKT2-1400G30
Power supply	V/Ph/Hz		208-230/1/60		
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	7.5/6.33/5.68	8.9/7.61/6.41	10.8/9.13/7.93
	Water flow rate	l/h	1290	1531	1858
	Water pressure drop	kPa	14	22	39
Heating	Capacity (H/M/L)	kW	11/9.48/8.25	13.5/11.72/10.03	16.5/14.05/12.24
	Water pressure drop	kPa	12.5	19	32.6
Power input	12Pa (H/M/L)	W	140/112/98	172/138/120	205/164/144
	30Pa (H/M/L)	W	130/104/91	171/137/120	212/170/148
Auxiliary electric heater (AEH)	W	2200	2200	3200	3200
Sound pressure level	12Pa (H/M/L)	dB(A)	42/37/33	44/39/34	46/40/35
	30Pa (H/M/L)	dB(A)	46/41/36	47/43/37	48/44/38
Fan motor	Type		Low noise 3-speed fan motor		
	Quantity		2		
Fan	Type		Centrifugal, forward-curved blades		
	Quantity		4		
Coil	Row		2		
	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 (non-AEH/with-AEH)	kg	30.9/33.4	33.4/36.4	38.5/42	42.1/46.1
Gross weight (non-AEH/with-AEH)	kg	34.5/37	37/40	42/45.5	47.5/51.5
Water inlet/outlet pipe	Inch		RC3/4		
Drain pipe	Inch		R3/4		

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.

## 3-Row Duct



Model	Non-AEH	MKT3-200G12	MKT3-300G12	MKT3-400G12	MKT3-500G12	MKT3-600G12
	With-AEH	MKT3-200G30	MKT3-300G30	MKT3-400G30	MKT3-500G30	MKT3-600G30
Power supply	V/Ph/Hz		208-230/1/60			
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	2.2/1.9/1.68	3.1/2.7/2.3	4/3.4/2.95	4.6/3.96/3.45
	Water flow rate	l/h	378	533	688	791
	Water pressure drop	kPa	14	26	18	24
Heating	Capacity (H/M/L)	kW	3.5/3.08/2.59	5.3/4.61/3.98	6.8/5.85/5.1	7.9/6.95/6
	Water pressure drop	kPa	10.5	21.8	16.9	22.3
Power input	12Pa (H/M/L)	W	33/25/22	53/41/35	66/53/48	87/53/44
	30Pa (H/M/L)	W	49/37/33	64/49/42	75/61/54	93/56/47
Auxiliary electric heater (AEH)	W	550	650	1100	1100	1600
Sound pressure level	12Pa (H/M/L)	dB(A)	35/32/26	36/33/27	37/34/28	40/36/30
	30Pa (H/M/L)	dB(A)	41/37/31	42/38/32	43/39/33	44/40/34
Fan motor	Type		Low noise 3-speed fan motor			
	Quantity		1			
Fan	Type		Centrifugal, forward-curved blades			
	Quantity		1	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 (non-AEH/with-AEH)	kg	14.6/16.1	17/18.5	20.2/21.7	20.2/21.7	23/25
Gross weight (non-AEH/with-AEH)	kg	16.9/18.4	19.5/21	22.6/24.1	22.6/24.1	26/28
Water inlet/outlet pipe	Inch		RC3/4			
Drain pipe	Inch		R3/4			

Model	Non-AEH	MKT3-800G12	MKT3-1000G12	MKT3-1200G12	MKT3-1400G12
With-AEH	MKT3-800G30	MKT3-1000G30	MKT3-1200G30	MKT3-1400G30	






</

## 4-Row Duct



Model	MKT4-200G30	MKT4-300G30	MKT4-400G30	MKT4-500G30	MKT4-600G30	MKT4-800G30		
Power supply	V/Ph/Hz	208-230/1/60						
Air flow (H/M/L)	m3/h	340/255/170	510/385/255	680/510/340	850/640/425	1020/765/510	1360/1020/680	
	CFM	200/150/100	300/225/150	400/300/200	500/375/250	600/450/300	800/600/400	
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
	Water flow rate	l/h	430	568	757	826	1066	1514
	Water pressure drop	kPa	2.6	5	8.1	9.8	15.4	12.3
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
	Water pressure drop	kPa	2.2	4.2	6.9	8.1	12.7	10
Power input (H/M/L)	W	50/40/35	65/52/46	80/64/56	98/78/69	110/88/77	155/124/109	
Sound pressure level	dB(A)	37/33/27	38/34/28	38/35/29	40/35/30	41/36/31	42/37/32	
Fan motor	Type	Low noise 3-speed fan motor						
	Quantity	1	1	1	1	2		
Fan	Type	Centrifugal, forward-curved blades						
	Quantity	1	2	2	2	4		
Coil	Row	4						
	Max. working pressure	MPa	1.6					
	Diameter	mm	Φ9.52					
Net dimensions (WxHxD)	mm	741×241×522	841×241×522	941×241×522	941×241×522	1161×241×522	1461×241×522	
Packing size (WxHxD)	mm	790×260×550	890×260×550	990×260×550	990×260×550	1210×260×550	1510×260×550	
Net weight	kg	15.3	17.5	20.7	20.7	23.5	32.9	
Gross weight	kg	17.6	20	23.1	23.1	26.5	36.5	
Water inlet/outlet pipe	Inch	RC3/4						
Drain pipe	Inch	R3/4						

## A4 Type Duct



Model	MKT3-800G50-A4	MKT4-800G50-A4	MKT3-1000G50-A4	MKT4-1000G50-A4							
Power supply	V/Ph/Hz	208-230/1/60									
Air flow (H/M/L)	m3/h	1500/1412/1265	1400/1342/1200	1700/1664/1554	1650/1527/1405						
	CFM	882/831/745	824/790/706	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	50.1/48.4/45.8	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	1180×340×612									
Packing size (WxHxD)	mm	1310×380×693									
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	Inch	R3/4									

Model	MKT4-1000G30	MKT4-1200G30	MKT4-1400G30	MKT4-1500	MKT4-2000		
Power supply	V/Ph/Hz	208-230/1/60					
Air flow (H/M/L)	m3/h	1700/1275/850	2040/1530/1020	2380/1785/1190	2550/2100/1300	3400/2550/1700	
	CFM	1000/750/500	1200/900/600	1400/1050/700	1500/1240/760	2000/1500/1000	
Standard external static pressure	Pa	30					
Cooling	Capacity (H/M/L)	kW	9.5/8.18/7.06	11.8/9.82/8.74	13/11.23/9.83	13.5/11.5/10.1	18/15.3/13.5
	Water flow rate	l/h	1634	2030	2236	2322	3096
	Water pressure drop	kPa	18	21.2	24.7	11.5	26.2
Heating	Capacity (H/M/L)	kW	16.3/13.45/12.05	16.5/14.05/12.23	17/14.31/12.69	17.5/14.9/13.2	23.4/19.8/17.5
	Water pressure drop	kPa	15.4	17.6	20.8	10	24.3
Power input (H/M/L)	W	180/144/126	220/176/154	275/220/193	236/189/165	360/288/252	
Sound pressure level	dB(A)	44/39/33	45/40/34	47/42/36	48/44/39	50/46/41	
Fan motor	Type	Low noise 3-speed fan motor					
	Quantity	2	2	2	1	1	
Fan	Type	Centrifugal, forward-curved blades					
	Quantity	4	4	4	2	3	
Coil	Row	4					
	Max. working pressure	MPa	1.6				
	Diameter	mm	Φ9.52				
Net dimensions (WxHxD)	mm	1566×241×522	1856×241×522	2022×241×522	1369×342×612	1500×342×612	
Packing size (WxHxD)	mm	1615×260×550	1905×260×550	2070×260×550	1421×381×619	1552×381×619	
Net weight	kg	35.4	40.5	44.1	46	57	
Gross weight	kg	39.1	44	49.4	49.8	61	
Water inlet/outlet pipe	Inch	RC3/4					
Drain pipe	Inch	R3/4					

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.

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.

## 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	208-230/1/60				
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	741×241×522	841×241×522	941×241×522	941×241×522	1161×241×522
Packing size (WxHxD)		mm	790×260×550	890×260×550	990×260×550	990×260×550	1210×260×550
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		Inch	R3/4				

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	208-230/1/60				
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	1461×241×522	1566×241×522	1856×241×522	2022×241×522	
Packing size (WxHxD)		mm	1510×260×550	1615×260×550	1905×260×550	2070×260×550	
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		Inch	R3/4				

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**

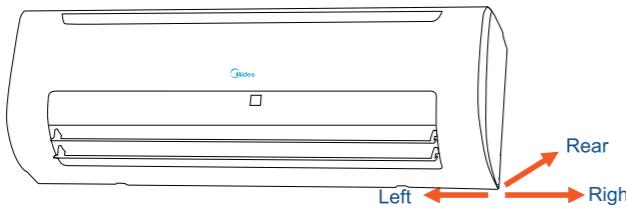


### Stylish Panel >>

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

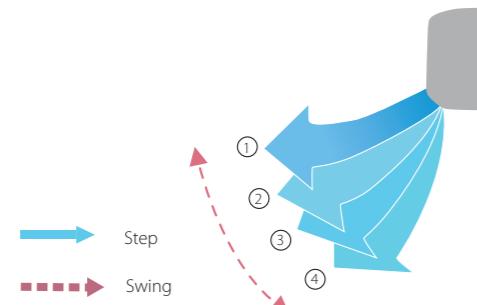
### Convenient Installation >>

- Multi-directional outlet pipe feature: left\right\rear, to meet the needs of different rooms.
- Built-in 3-Way Electromagnetic Valve



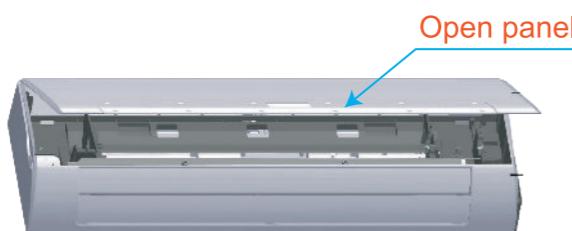
### Auto Swing Louver >>

- 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		208-230/1/60			
Air flow (H/M/L)	m³/h	425/360/320	510/430/380	680/580/510	850/720/640	
	CFM	250/210/190	300/250/220	400/340/300	500/420/380	
Cooling	Capacity (H/M/L)	kW	2.2/1.84/1.65	2.64/2.24/2.05	3.08/2.62/2.27	
	Water flow rate	l/h	378	454	530	
	Water pressure drop	kPa	12	18	22	
Heating	Capacity (H/M/L)	kW	3.02/2.6/2.23	3.69/3.25/2.77	4.34/3.86/3.25	
	Water pressure drop	kPa	10	16.4	20.8	
	Power input (H/M/L)	W	28/22/20	40/32/28	44/35/31	
	Sound pressure level	dB(A)	30/24/20	35/29/24	37/31/26	
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	$\Phi 7$			
	Net dimensions (WxHxD)	mm	915x290x210	915x290x210	915x290x210	1070x315x210
	Packing size (WxHxD)	mm	1020x385x300	1020x385x300	1020x385x300	1180x410x300
	Net weight	kg	12	12	12	15
	Gross weight	kg	16	16.7	17	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		208-230/1/60			
Air flow (H/M/L)	m³/h	425/390/350	510/470/390	680/550/460	850/745/620	
	CFM	250/230/205	300/275/230	400/325/270	500/440/365	
Cooling	Capacity (H/M/L)	kW	2.63/2.41/2.16	2.97/2.47/2.12	3.28/2.83/2.41	
	Water flow rate	l/h	452	511	564	
	Water pressure drop	kPa	29.4	35.6	43.5	
Heating	Capacity (H/M/L)	kW	3.36/3.1/2.79	3.91/3.26/2.77	4.37/3.73/3.17	
	Water pressure drop	kPa	27.3	32.9	40.8	
	Power input (H/M/L)	W	24/19/17	37/29/26	40/32/28	
	Sound pressure level	dB(A)	30/24/20	35/29/24	37/31/26	
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	$\Phi 7$			
	Net dimensions (WxHxD)	mm	915x290x230	915x290x230	915x290x230	1072x315x230
	Packing size (WxHxD)	mm	1020x390x315	1020x390x315	1020x390x315	1180x415x315
	Net weight	kg	13	13	13.3	15.8
	Gross weight	kg	16.3	16.3	16.7	19.4
	Water inlet/outlet pipe	Inch		G3/4		
	Drain pipe	mm		ODΦ20		

Notes:

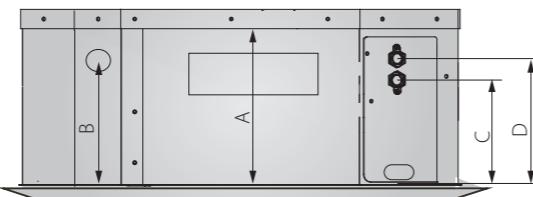
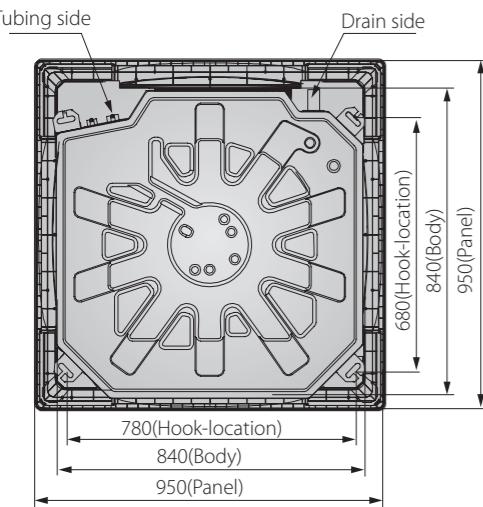
- H: High fan speed; M: Medium fan speed; L: Low fan speed.
- Cooling conditions: entering water 7°C, temperature rise 5°C, entering air temperature 27°C DB/19°C WB.
- Heating conditions: entering water 50°C, entering air temperature 20°C DB, the same water flow as the cooling conditions.
- Noise is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

# Dimensions

## 4-way cassette >>

### 2-pipe 4-way cassette

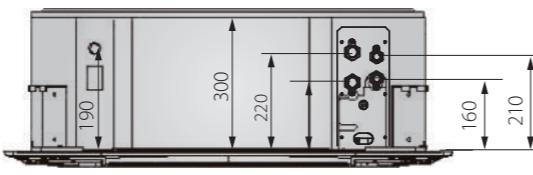
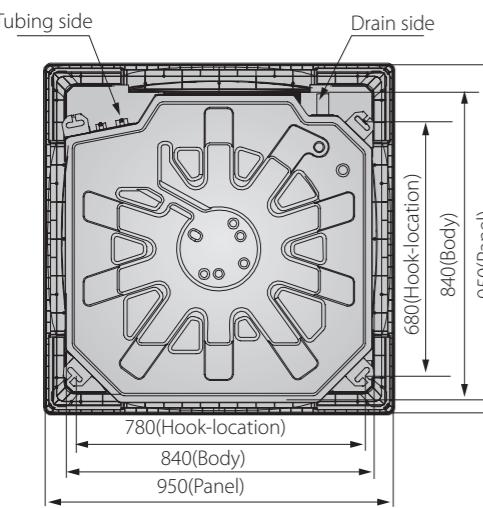
Dimensions (unit: mm)



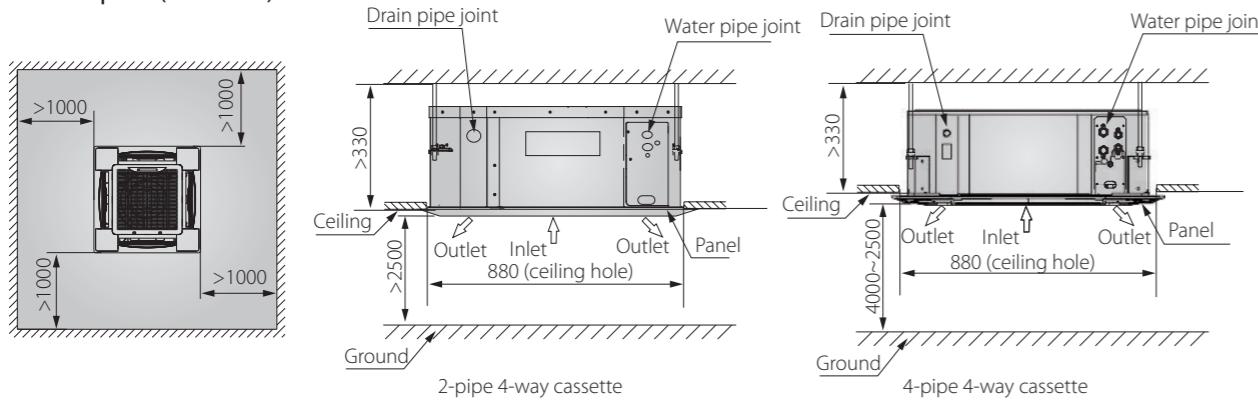
Model	Size	A	B	C	D
MKA-600R(A)		230	170	135	185
MKA-750R(A)					
MKA-950R(A)					
MKA-1200R(A)		300	190	145	195
MAK-1500R(A)					

### 4-Pipe 4-way cassette

Dimensions (unit: mm)



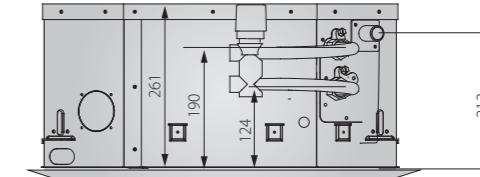
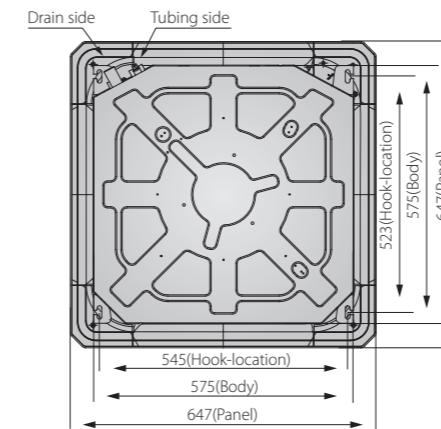
### Service Space (unit: mm)



## Compact 4-way cassette >>

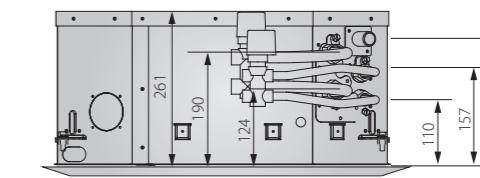
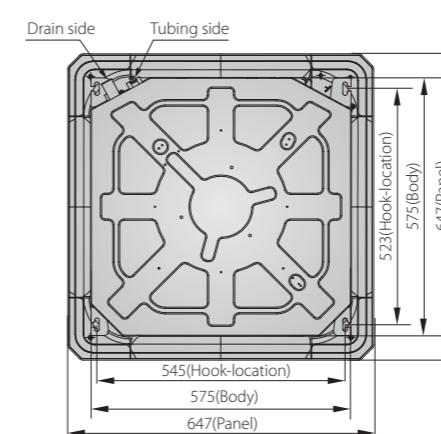
### 2-pipe compact 4-way cassette

Dimensions (unit: mm)

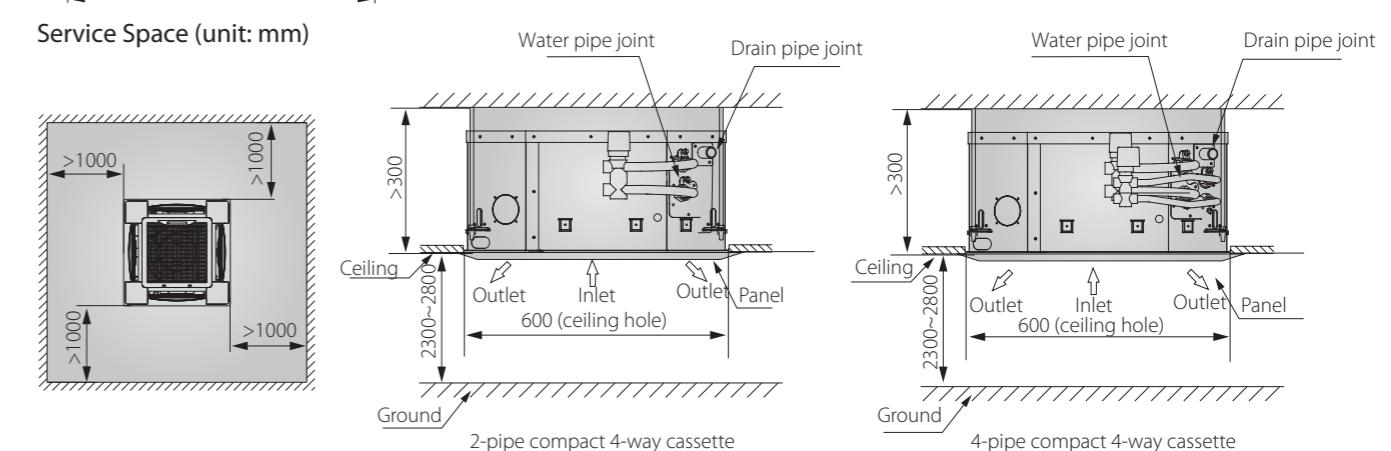


### 4-pipe compact 4-way cassette

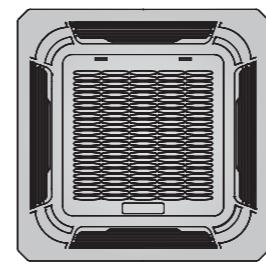
Dimensions (unit: mm)



### Service Space (unit: mm)



### Height of the front panel

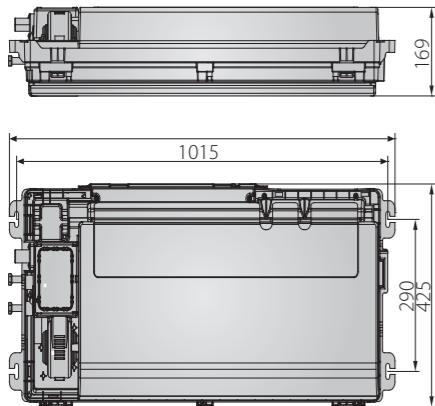


Type	H (mm)
4-way cassette	45
Compact 4-way cassette	50

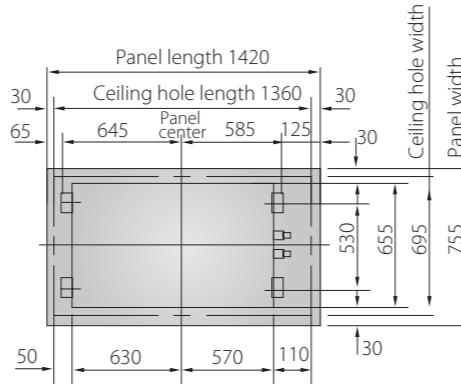
## 1-way cassette »

Dimensions (unit: mm)

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

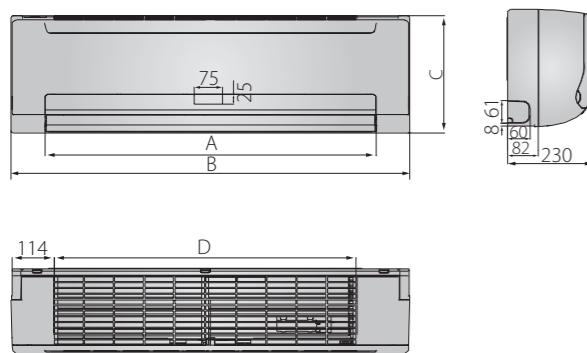


MKC-600HRN4



## Wall mounted - S panel »

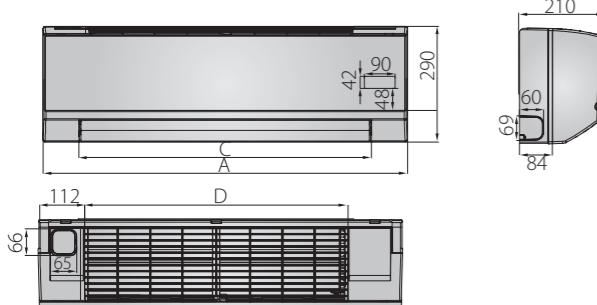
Dimensions (unit: mm)



Model Size	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 »

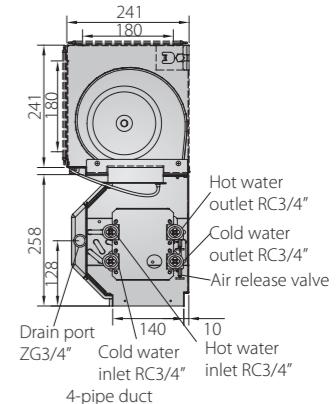
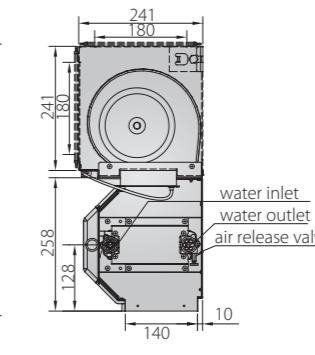
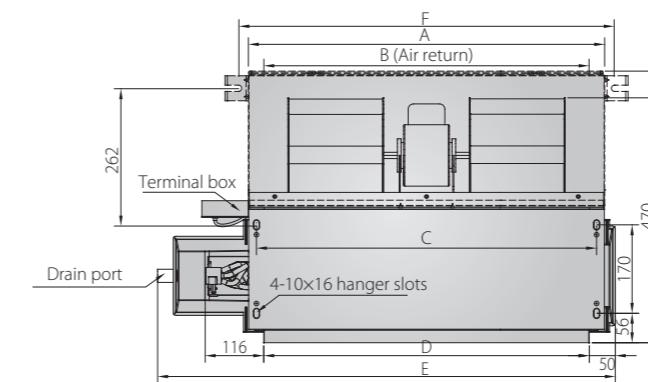
Dimensions (unit: mm)



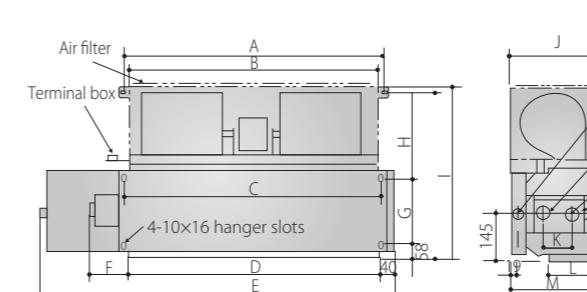
Model Size	MKG-250 MKG-300 MKG-400	MKG-500 MKG-600
A	915	1070
B	290	315
C	725	885
D	670	815

## 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



Size	Model	MKT3-800/1000G50-A4 MKT4-800/1000G50-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.

# 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) 1-way Cassette (standard)
R51/E			Compact 4-way cassette (standard) 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 °F or °C</li> </ul>	Floor standing / Ceiling & floor (optional)
KJR-29B		<ul style="list-style-type: none"> <li>❖ Receiving remote signal</li> <li>❖ Mode control</li> <li>❖ Fan speeds control</li> <li>❖ Temp. setting</li> </ul>	Cassette / Wall-mounted (optional)
KJR-12B		<ul style="list-style-type: none"> <li>❖ Swing function</li> <li>❖ Mode control</li> <li>❖ Fan speeds control</li> <li>❖ Temp. setting</li> </ul>	Cassette / wall-mounted (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>	
CCM09		<ul style="list-style-type: none"> <li>❖ Weekly schedule function</li> <li>❖ Basic functions are same as CCM03</li> </ul>	All FCUs (Compact 4-way cassette FCUs need adding NIM01 module, non-PCB FCUs need adding PC board control kit)
CCM30		<ul style="list-style-type: none"> <li>❖ Touch-style keys</li> <li>❖ Basic functions are same as CCM03</li> </ul>	

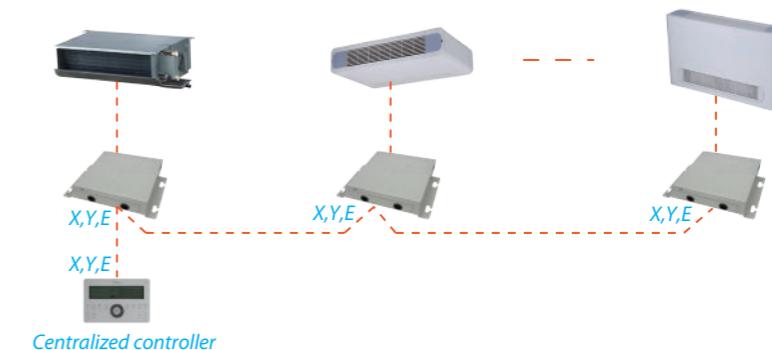
# Accessories

## PC Board Control Kit for FCU »

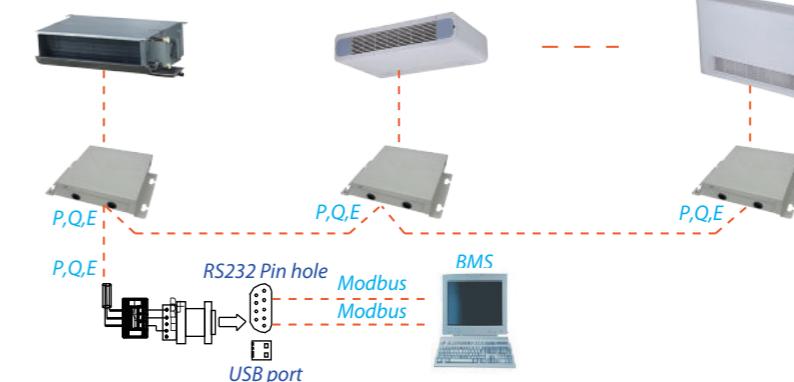
- ❖ Available for all non-PCB FCUs.
- ❖ Flexibility installation: can be attached to the unit, mounted on a wall or hung under a ceiling.
- ❖ External installation making maintenance more convenient.
- ❖ Functions: three fan speeds control, Water pump control, Long-distance ON/OFF control, ALARM function,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



### Centralized control



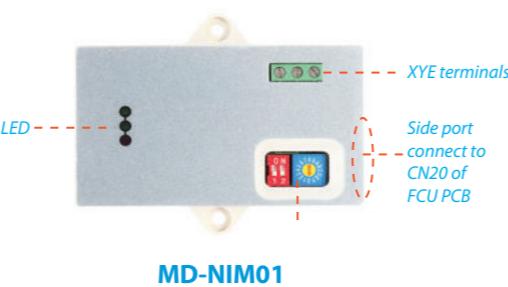
### BMS control function through Modbus protocol



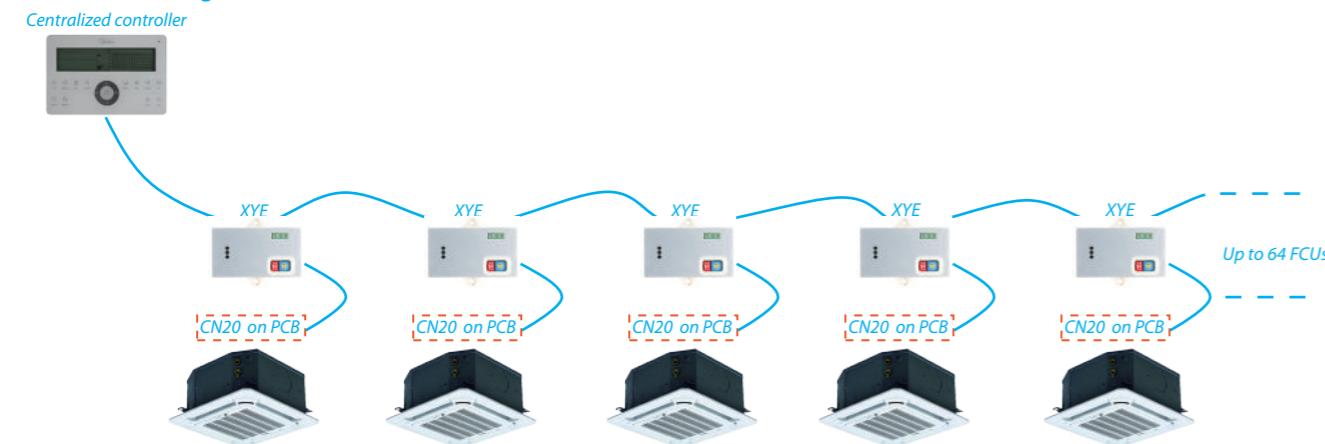
Model	CE-FCUKZ-03	CE-FCUKZ-04
Applicable appliance	2-pipe FCUs	4-pipe FCUs
Power supply	V-Ph-Hz	220~240-1-50/60
Operation range	Room temp. °C	17-30
	Inlet water temp. °C	3-75
Temp. controlling precision	°C	±1
Net dimension	WxHxD mm	296x66x212
Packing size	WxHxD mm	410x115x262
Net weight	kg	1.4
Gross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

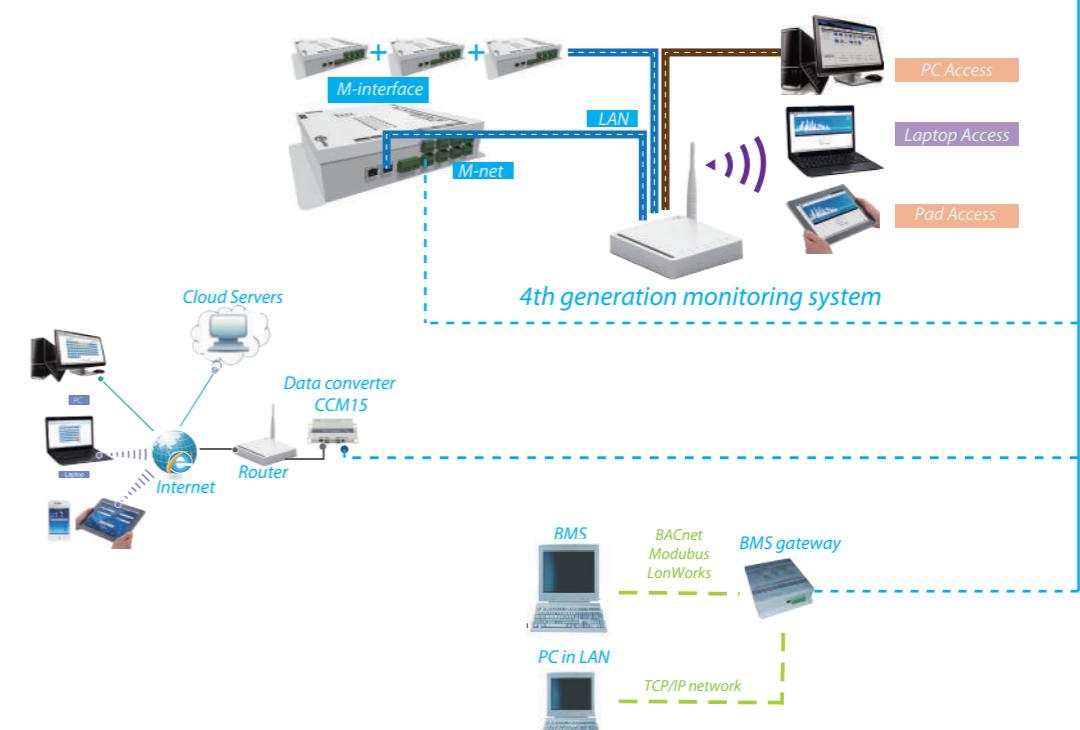
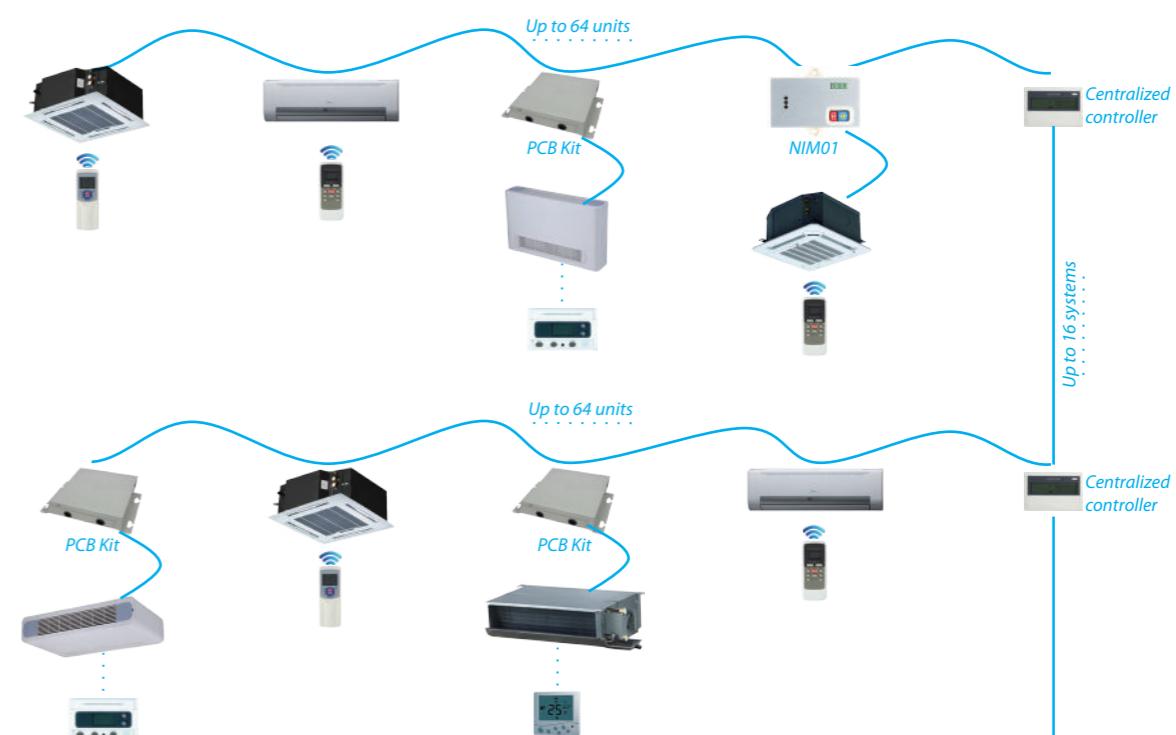
- ❖ Working Voltage: AC230±10%, 50/60Hz (24V can be customized).
- ❖ Power Consumption: 4W
- ❖ Nominal Pressure: 1.6MPa.
- ❖ Applied Medium: Cold or hot water, 50% glycol water liquor.
- ❖ Medium Temperature: 2 - 15°C (DDSTF-01), -20 - 1°C (DDSTF-04/05).
- ❖ Environment Temperature: -5 - 50°C (DDSTF-01), 0 - 50°C (DDSTF-04/05).

Valve 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)

Note:  
DDSTF-\*\* is the model of valve. The valve kit includes valve, actuator and connecting pipe. For different model of units, the models of valve kit are different.



## Application of Central Control & BMS Control



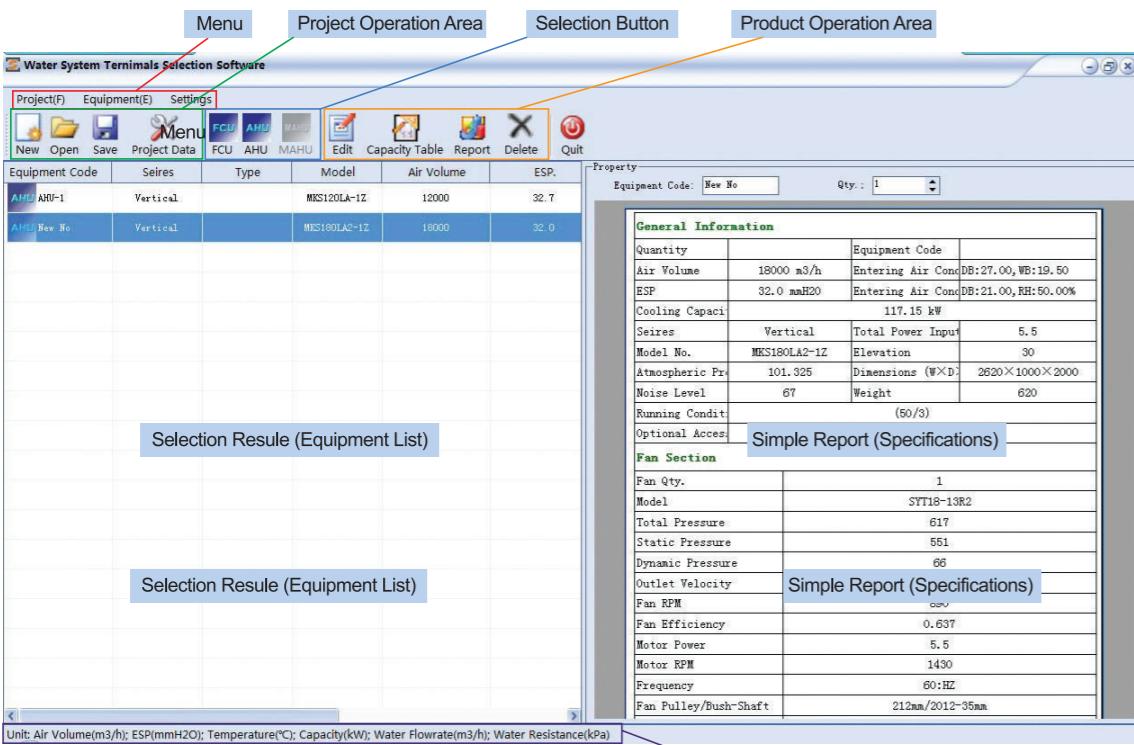
# Selection Software

## Features >>

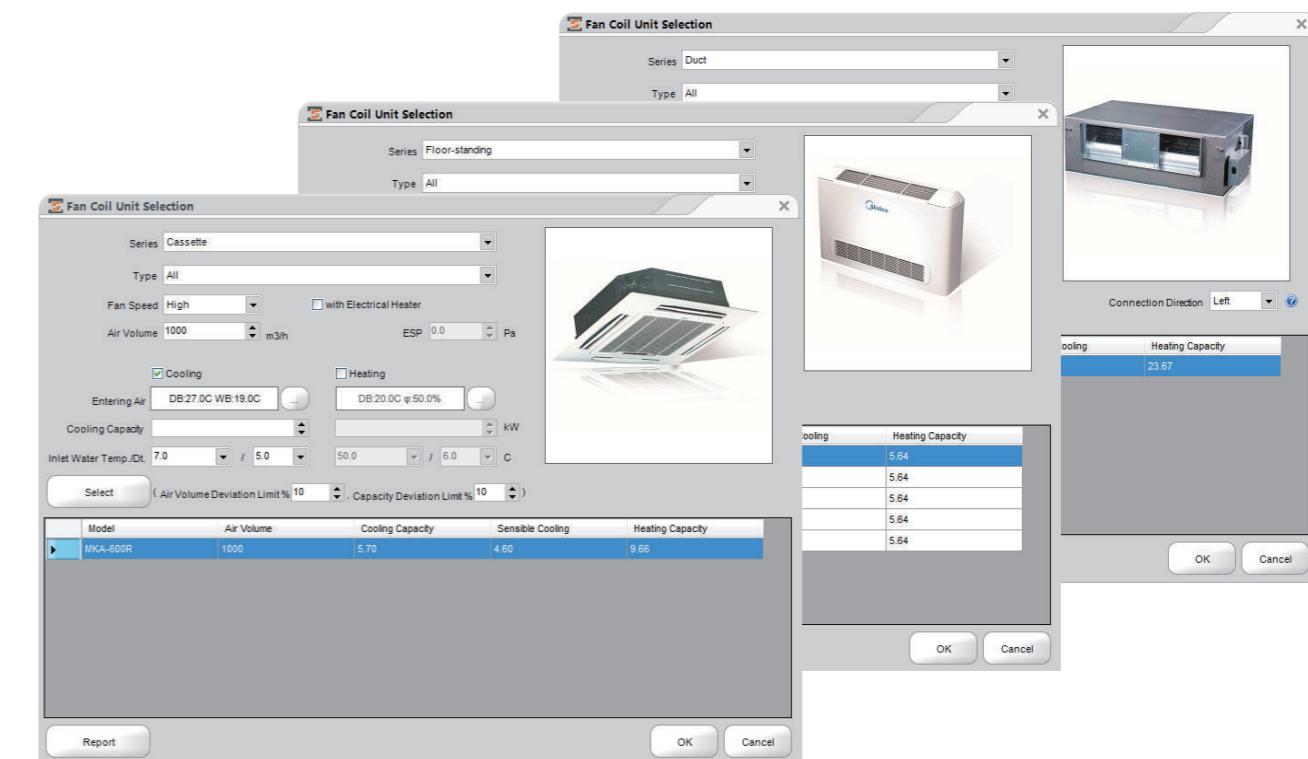


- ❖ Select by entering air and water conditions as well as fan speed.
- ❖ Easy to operate interface and visual display.
- ❖ Powerful project management function.

## Main Interface >>



## Selection Interface >>



## Report Data Interface >>

**Cooling Capacity Table**

Note: EWT=Entering Water Temperature, DT=Delta Temperature, FR=Flowrate, PD=Pressure Drop, TC=Total Cooling, SC=Sensible Cooling

EWT Water DT	MKA-600R										1000	
	1000					1000						
	TC	SC	Water FR	Water PC	TC	SC	Water FR	Water PC	TC	SC	Water FR	Water PC
5	3	5.6	4.5	1.68	72.97	6.48	4.68	1.06	87.85	7.12	4.85	2.04
5	4	5.6	4.39	1.21	37.63	6.23	4.57	1.34	45.74	6.88	4.74	1.48
5	5	5.28	4.24	0.91	21.47	5.91	4.43	1.02	26.39	6.56	4.61	1.13
6	3	5.43	4.31	1.56	63.02	6.06	4.49	1.74	76.99	6.71	4.67	1.92
6	4	5.14	4.19	1.1	32	5.77	4.37	1.24	39.55	6.43	4.55	4.75
6	5	4.85	4.06	0.84	18.33	5.49	4.25	0.95	22.91	6.15	4.44	1.06
7	3	4.99	4.12	1.43	53.64	5.62	4.31	1.61	66.56	6.27	4.49	1.79
7	4	4.68	3.99	1.01	26.88	5.32	4.18	1.14	33.78	5.98	4.37	1.28
7	5	4.38	3.86	0.75	15.23	5.03	4.06	0.87	19.48	5.71	4.26	0.98
8	3	4.53	3.93	1.3	44.94	5.17	4.12	1.48	56.87	5.83	4.31	1.67
8	4	4.22	3.8	0.91	22.19	4.87	4	1.05	28.52	5.54	4.19	1.19
8	5	3.91	3.67	0.67	12.39	4.57	3.88	0.78	16.25	5.26	4.08	0.9
9	3	4.07	3.74	1.17	36.99	4.73	3.94	1.35	47.93	5.4	4.13	1.54
9	4	3.78	3.62	0.81	18.16	4.42	3.81	0.95	23.77	5.08	4	1.08
9	5	3.55	3.53	0.61	10.27	4.17	3.71	0.71	13.53	4.81	3.9	0.82
10	3	3.85	3.57	1.05	29.96	4.26	3.75	1.22	39.1	4.89	3.93	1.4
10	4	3.42	3.42	0.73	14.84	4.01	3.65	0.86	19.52	4.62	3.82	0.99
10	5	3.12	3.12	0.54	8.04	3.69	3.53	0.63	10.67	4.28	3.69	0.73

Unit: Air Volume(m³/h); ESP(mmH2O); Temperature(°C); Capacity(kW); Water Flowrate(m³/h); Water Resistance(kPa)

1/1