



COMMERCIAL AIR CONDITIONERS

## R410A Full DC Inverter Mini VRF Series 50Hz







Factory

Testing room

Customer training

Reference project



# Midea CAC (MCAC)

As a key subsidiary of Midea Group, the Midea Central Air Conditioner (MCAC) business unit has emerged as a leading supplier of commercial solutions. Since 1999 MCAC has contributed to the R&D and innovation of technologically-based commercial solutions. Cooperation with leading global enterprises coupled with independent R&D has enabled MCAC to implement thousands of commercial air-conditioning projects worldwide.

At present, MCAC is one of the globally leading product suppliers, underpinned by a mature marketing, sales, and project design framework.

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

MCAC Shunde: 38 product lines focusing on VRF (DC inverters and digital scroll products), 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.



2014 Launched the All DC Inverter V5X globally

2013 Launched the super high efficiency centrifugal chiller with full falling film technology

2011 Launched the DC Inverter V4 Plus globally

2010 Built the 3<sup>rd</sup> manufacturing base in Hefei

2007 Won the first Midea centrifugal chiller project oversea

2006 Launched the first VSD centrifugal chiller

2004 Acquired MGRE entered the chiller industry

2001 Partnered with Copeland to develop the digital scroll VRF system



2000 Developed the first inverter VRF With Toshiba


1999 Entered the CAC field





## Full DC Inverter Mini VRF

Capacity Range	kW	7.2(1.5~8)	9.0(2~10)	12.3	14	15.5	17.5
Appearance							

Capacity Range	kW	22	22.4	26
Appearance				



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# Full DC Inverter Mini VRF

Full DC Inverter Mini VRF with DC inverter compressor and DC fan motor delivers a highly efficient solution for small commercial buildings. Four to twelve rooms require only one outdoor unit, and individual control is enabled in each room.



**NEW**  
Fashion  
Design

 R-410A

DC Inverter



# Features

## Wide Application Range

### Wide range of outdoor units

The outdoor units' capacity range from 7.2kW to 26kW which is ideal for small offices, villas, apartment and shops, making it perfect for commercial and residential application.

7.2kW(1.5~8kW), 9.0kW(2~10kW)



12.3kW, 14kW, 15.5kW, 17.5kW



20kW, 22.4kW, 26kW

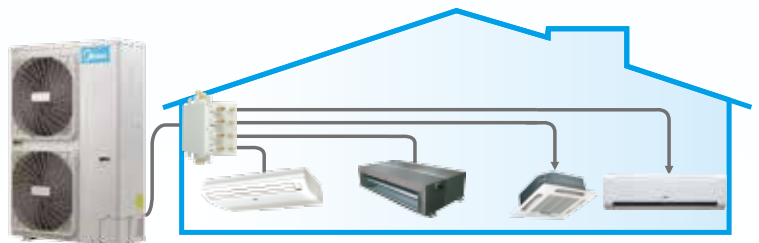


### Flexible indoor units connection

Mini VRF with intelligent control gives you independent zoning control with maximum flexibility.

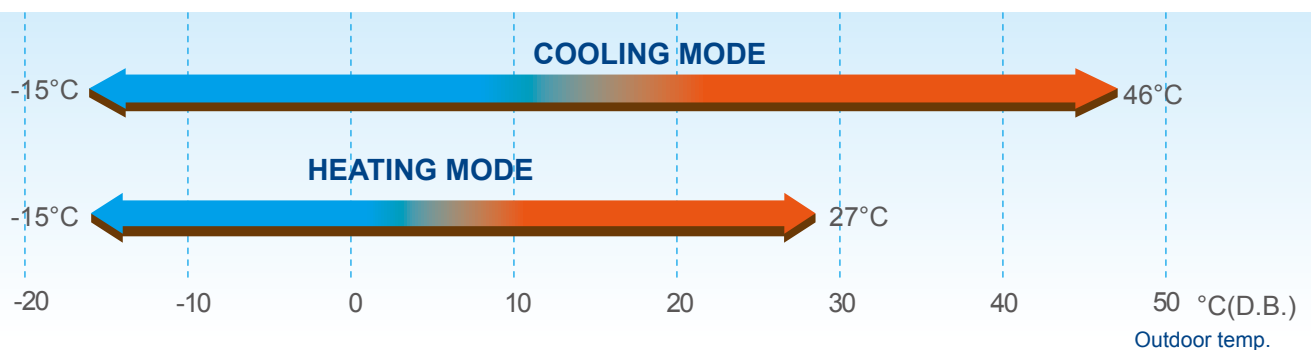
A single outdoor unit supports up to nine indoor units, freeing up considerable space outside. Use your backyard more wisely with much more space available created by less number of outdoor units.

- ▲ Max. 12 indoor units for a 26.0kW outdoor unit installation
- ▲ Max. 11 indoor units for a 22.4kW outdoor unit installation
- ▲ Max. 10 indoor units for a 20.0kW outdoor unit installation
- ▲ Max. 9 indoor units for a 17.5kW outdoor unit installation
- ▲ Max. 7 indoor units for a 15.5kW outdoor unit installation
- ▲ Max. 6 indoor units for a 14kW outdoor unit installation
- ▲ Max. 6 indoor units for a 12.3kW outdoor unit installation
- ▲ Max. 5 indoor units for a 9kW outdoor unit installation
- ▲ Max. 4 indoor units for a 7.2kW outdoor unit installation



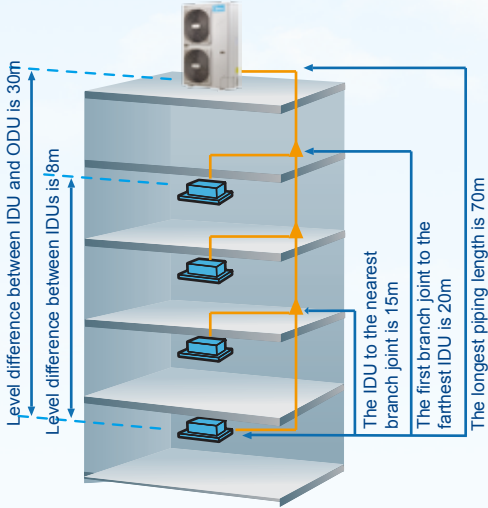
### Wide operation temperature range

Mini VRF system operates stably at extreme temperature range from minus -15°C to 46°C.



## Flexible piping design

The Mini VRF provides a total piping length possibility of 120m, a maximum height difference between outdoor and indoor units of 30m. The height difference between indoor units can be up to 8m. These generous allowances facilitate an extensive array of system designs.

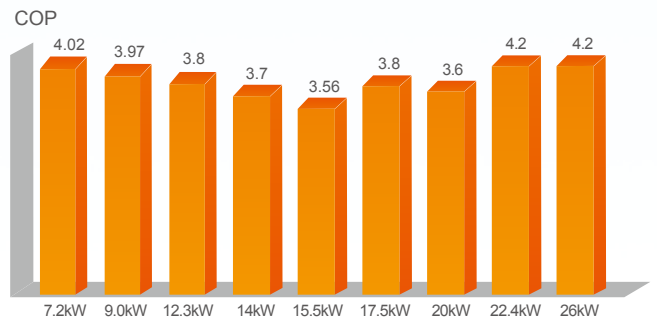
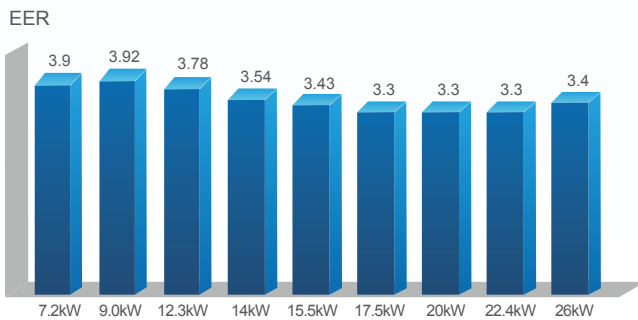


		Permitted value(m)	7.2/9kW	12.3/14/15.5/17.5kW	20/22.4/26kW
Piping length	Total piping length (Actual)		100	100	120
	Longest piping (L)	Actual length	45	60	60
		Equivalent length	50	70	70
Level difference	Equivalent piping length (from the farthest IDU to the first indoor branch joint)		20	20	20
	Level difference between IDU-ODU	Outdoor unit up	30	30	30
		Outdoor unit down	20	20	20
	Level difference between IDU-IDU		8	8	8

- 1 Total pipe length is equal to all the liquid pipe or all the gas pipe length.
- 2 When the total equivalent pipe length of liquid side plus gas side is more than 90m, it needs to meet the specific conditions according to the installation part of the technical manual.

## High Efficiency

### High COP and EER values



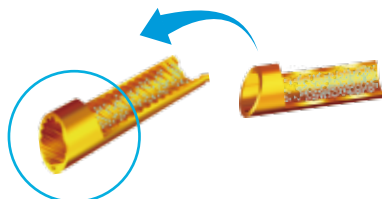
## High performance heat exchanger

Reduce air resistance

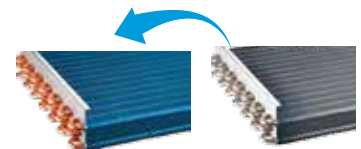


New design

Original design



High efficiency inner-threaded pipe, enhance heat transfer.



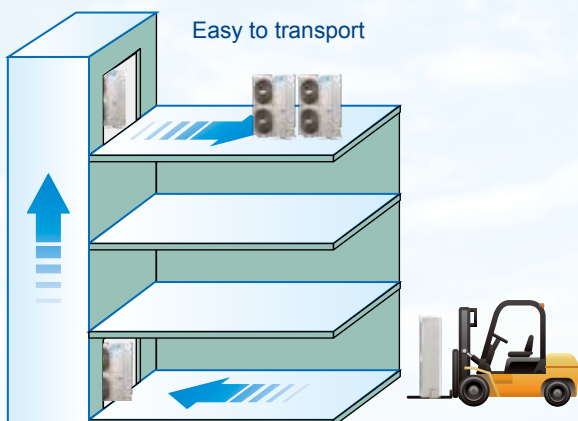
Hydrophilic fins + inner-threaded pipes

- 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.



## Easier Installation and Service

### Easy installation



Easy installation: No special area is required for outdoor units.

Easy transportation: All outdoor units can be transported by elevator, which greatly simplifies installation and reduces time and labor.

The Mini VRF system's indoor and outdoor units are almost as easy to install as residential air conditioning systems, making them ideal for small offices and shops.

### Space saving design

The Mini VRF units are slimmer and more compact, resulting in significant savings in installation space. In some large residential and light commercial areas, such as villas, restaurants, usually it need more than one indoor unit, which in turn requires multiple outdoor units. Midea's Mini VRF system solves this problem, and retains buildings' original aesthetics.



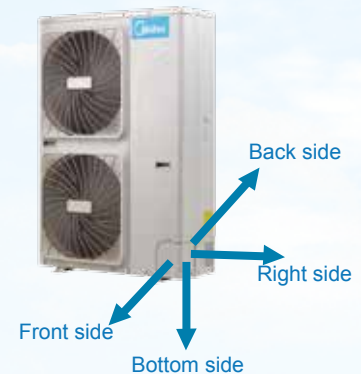
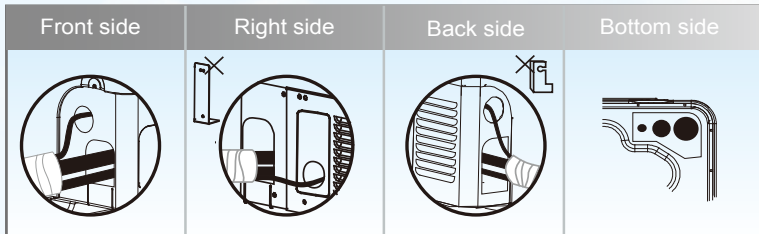
### Auto addressing

Addresses of indoor units can be set automatically by outdoor units. Wireless controller can inquire and modify every indoor units address.



## More convenience in installation

A four-direction space is available for connecting pipes and wiring in various installation sites.



## More convenient piping connector - branch box

Easier and safer installation thanks to a branch box that simplifies piping work and the adoption of screw connection.

Both left and right pipe flare connectin from outdoor unit to branch box is reserved, which greatly simplifies field installation.

Two sets of pipe size converter are packed with branch box to transfer the pipe size from  $\Phi 6.35\text{mm}$  to  $9.53\text{mm}$  and from  $\Phi 12.7\text{mm}$  to  $\Phi 15.9\text{mm}$ .

### ■ Low noise

The branch pipe is linear expansion design regulates the flow of refrigerant and reduces the noise. By locating the branch box in the ceiling or outside ,noise generated by the branch box can be kept clear of living spaces, thus makes noise level to a minimum.



### ■ Brazing-free quick installation

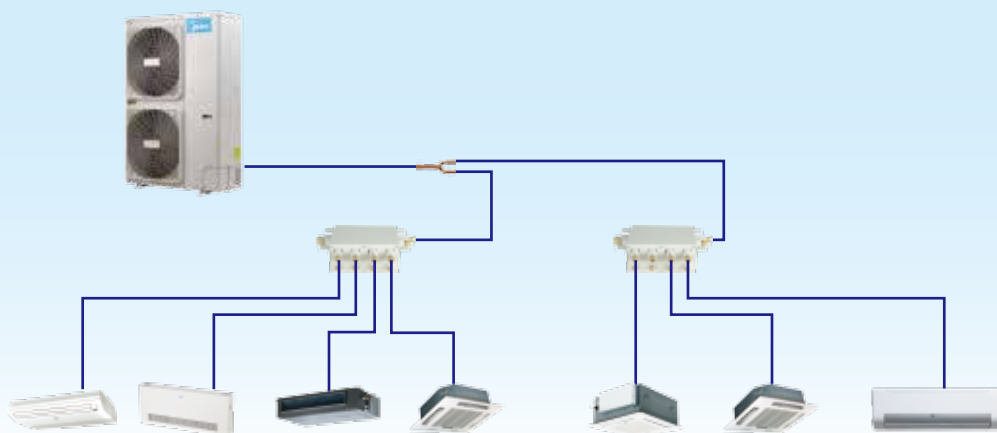
All the piping leading to and from the branch box is connected using screw joints, which can be installed quickly and easily.

### ■ Indoor installation

The branch box can be installed in the ceiling rather than outside. Removing the side and bottom covers provides easy access for maintaining inner components such as circuit boards.

Note: The branch box is just compatible with 7.2kW 17.5kW Mini VRF.

## New piping connection design

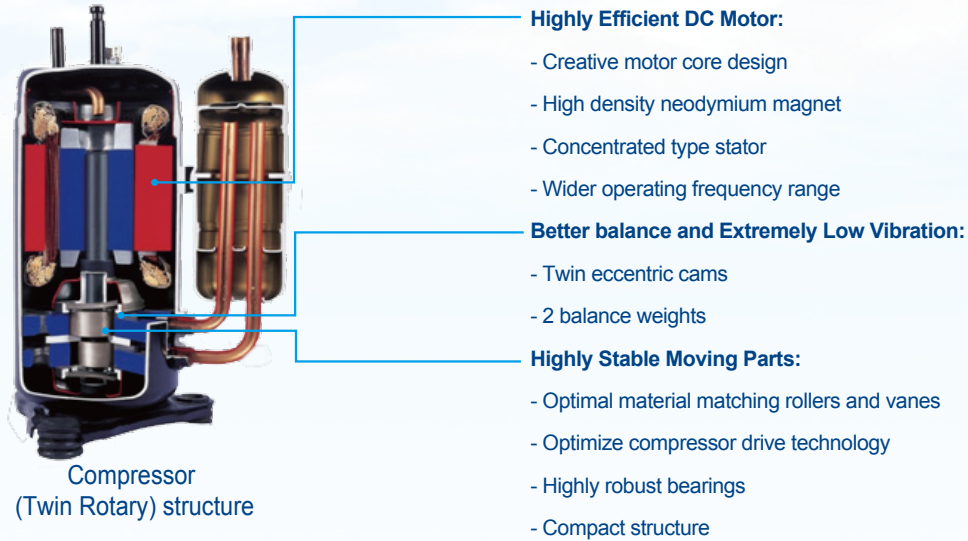




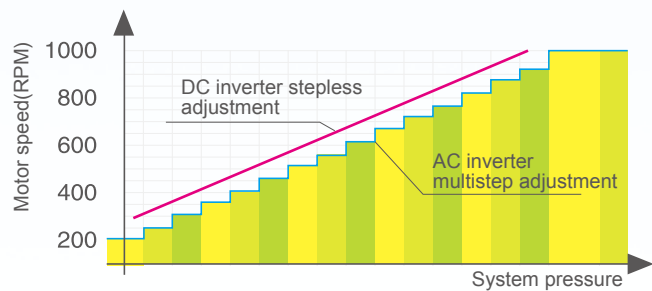
# Advanced Technologies

## Full DC inverter technology

At the heart of our system is a highly intelligent inverter driven compressor. This advanced technology enables the output of the outdoor unit to be modulated by the cooling or heating demands of the zone that it controls. This advanced system ensures precise temperature regulation and highly efficient energy usage, making a significant contribution to the limiting the impact on the environment.



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

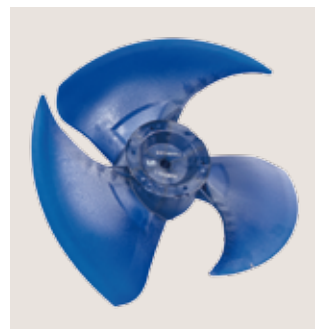


## New grill design

Optimally designed fan shape and newly designed grill ensure both safety and air volume.



Newly designed grill



Powerful Large Propeller



Specifications →



# Specifications

## 220-240V~50Hz

MDV-V80W/DN1

MDV-V105W/DN1



Model			MDV-V80W/DN1	MDV-V105W/DN1
Power supply		V/Ph/Hz	220-240/1/50Hz	220-240/1/50Hz
Cooling	Capacity	kW	7.2(1.5~8)	9.0(2~10)
	Input	kW	2.05	2.68
	EER	kW/kW	3.90	3.92
Heating	Capacity	kW	7.2(1.6~8.4)	9.0(2.1~10.5)
	Input	kW	2.24	2.9
	COP	kW/kW	4.02	3.97
Connectable indoor unit	Total capacity	%	45-130	45-130
	Max. quantity		4	5
Sound pressure level		dB(A)	56	57
Pipe connections	Liquid side	mm	Φ9.53	Φ9.53
	Gas side	mm	Φ15.9	Φ15.9
Fan motor	Type		DC	DC
	Quantity		1	1
	Air flow rate	m³/h	5500	5500
	Motor output	W	170	170
Rotary compressor	Quantity		1	1
	Capacity	kW	7	7
	Crankcase heater	W	25	25
	Oil type		FV50S	FV50S
	Oil charge	ml	670+200	670+200
Refrigerant	Type		R410A	R410A
	Factory charging	kg	2.8	2.95
Design pressure (High/Low)		MPa	4.4/2.6	4.4/2.6
Net dimension (W×H×D)		mm	1075×966×396	1075×966×396
Packing size (W×H×D)		mm	1120×1100×435	1120×1100×435
Net weight		kg	62	74
Gross weight		kg	67	81
Operating temperature range	Cooling	°C	-15-43	
	Heating	°C	-15-27	

**Note:**

1. The cooling conditions: Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. equivalent pipe length: 5m drop length: 0m.
2. The heating conditions: Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. equivalent pipe length: 5m drop length: 0m.
3. Sound level: Anechoic chamber conversion value, measured at a point 1m in front of the unit at a height of 1m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

## Specifications



### 220-240V~50Hz

MDV-V120W/DN1  
MDV-V140W/DN1  
MDV-V160W/DN1(B)  
MDV-V180W/DN1

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

MDV-V120W/DRN1  
MDV-V140W/DRN1  
MDV-V160W/DRN1  
MDV-V180W/DRN1

Model			MDV-V120W/DN1	MDV-V140W/DN1	MDV-V160W/DN1(B)	MDV-V180W/DN1
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Model			MDV-V120W/DRN1	MDV-V140W/DRN1	MDV-V160W/DRN1	MDV-V180W/DRN1
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
Cooling	Capacity	kW	12.3	14	15.5	17.5
	Input	kW	3.25	3.95	4.52	5.3
	EER	kW/kW	3.78	3.54	3.43	3.3
Heating	Capacity	kW	13.2	15.4	17	19
		RT	3.70	4.30	4.80	5.4
	Input	kW	3.47	4.16	4.77	5
	COP	kW/kW	3.80	3.70	3.56	3.80
Connectable indoor unit	Total capacity	%	45-130	45-130	45-130	45-130
	Max. quantity		6	6	7	9
Sound pressure level		dB(A)	57	57	57	59
Pipe connections	Liquid side	mm	Φ9.53	Φ9.53	Φ9.53	Φ9.53
	Gas side	mm	Φ15.9	Φ15.9	Φ19.1	Φ19.1
Fan motor	Type		DC	DC	DC	DC motor
	Quantity		2	2	2	2
	Air flow rate	m³/h	6000	6000	6000	6800
	Output	W	85×2	85×2	85×2	85×2
Rotary compressor	Quantity		1	1	1	1
	Capacity	kW	10	10	14	14
	Crankcase heater	W	25	25	25	25
	Oil type		FV50S	FV50S	FV50S	FV50S
	Oil charge	ml	870+630	870+630	1400+250	1400+250
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charging	kg	3.3	3.9	3.9	4.5
Design pressure (High/Low)		MPa	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6
Net dimension (W×H×D)		mm	900×1327×400	900×1327×400	900×1327×400	900×1327×400
Packing dimension (W×H×D)		mm	1030×1456×435	1030×1456×435	1030×1456×435	1030×1456×435
Net weight(220V/380V)		kg	95/95	95/95	100/102	107/107
Gross weight(220V/380V)		kg	106/106	106/106	111/113	118/118
Operating temperature range	Cooling	°C	-15-43			
	Heating	°C	-15-27			

Note:

- The cooling conditions: Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. equivalent pipe length:5m drop length: 0m.
- The heating conditions: Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. equivalent pipe length: 5m drop length: 0m.
- Sound level: Anechoic chamber conversion value, measured at a point 1m in front of the unit at a height of 1m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
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# Specifications



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

MDV-V200W/DRN1

MDV-V224W/DRN1

MDV-V260W/DRN1

Model			MDV-V200W/DRN1	MDV-V224W/DRN1	MDV-V260W/DRN1
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50
Cooling	Capacity	kW	20.0	22.4	26.0
		RT	5.7	6.4	7.4
	Power input	kW	6.1	6.8	7.6
	EER	kW/kW	3.28	3.29	3.42
Heating	Capacity	kW	22.0	24.5	28.5
		RT	6.3	7	8.1
	Power input	kW	6.1	5.9	6.8
	COP	kW/kW	3.61	4.15	4.19
Connectable indoor unit	Total capacity	%	50-130	50-130	50-130
	Max. quantity		10	11	12
Sound pressure level		dB(A)	59	59	60
Pipe connections	Liquid pipe	mm	Φ9.53	Φ9.53	Φ9.53
	Gas pipe	mm	Φ19.1	Φ19.1	Φ22.2
Fan motor	Type		DC	DC	DC
	Quantity		2	2	2
	Air flow rate	m <sup>3</sup> /h	10999	10494	10494
	Motor output	W	210+160	200+150	200+150
Compressor	Type		Rotary	Rotary	Rotary
	Quantity		1	1	1
	Capacity	kW	13.98	16.86	16.86
	Crankcase heater	W	25	25	25
	Oil type		FV50S	FV50S	FV50S
	Oil charge	ml	1400	1700	1700
Refrigerant	Type		R410A	R410A	R410A
	Factory charging	kg	4.8	6.2	6.2
Design pressure (High/Low)		MPa	4.4/2.6	4.4/2.6	4.4/2.6
Net dimension (W×H×D)		mm	1120×1558×400	1120×1558×400	1120×1558×400
Packing size (W×H×D)		mm	1270×1575×480	1270×1575×480	1270×1575×480
Net weight		kg	137	146.5	147
Gross weight		kg	153	162.5	163
Operating temperature range	Cooling	°C		-15-46	
	Heating	°C		-15-24	

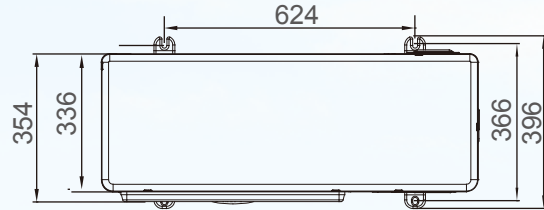
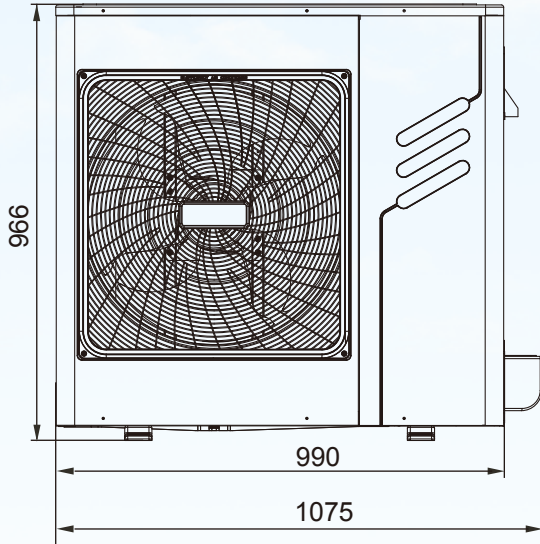
**Note:**

1. The cooling conditions: Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. equivalent pipe length: 7.5m drop length: 0m.
2. The heating conditions: Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. equivalent pipe length: 7.5m drop length: 0m.
3. Sound level: Anechoic chamber conversion value, measured at a point 1m in front of the unit at a height of 1m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
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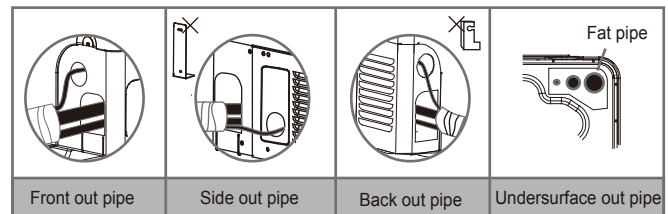
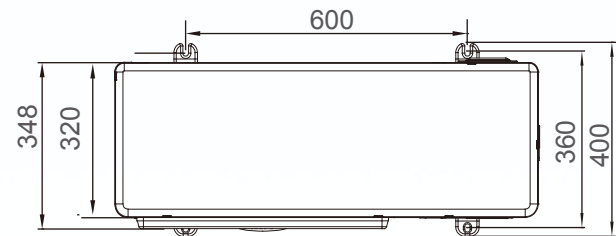
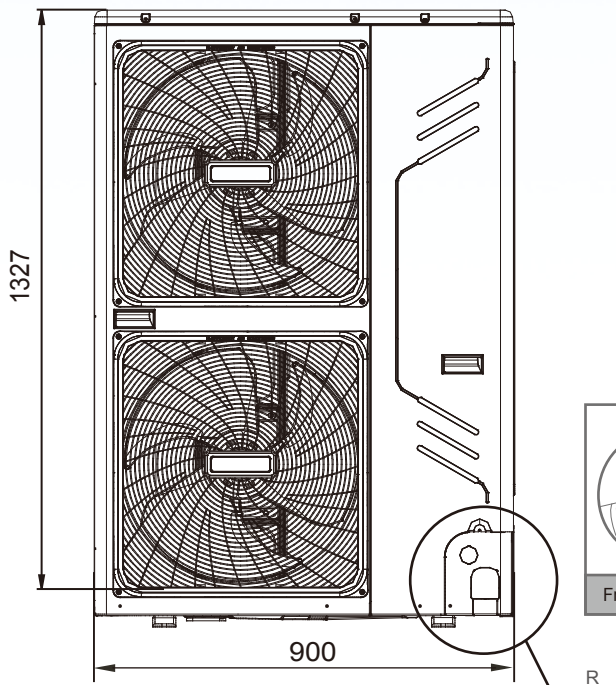
## Dimension

### Unit Dimensions (Unit: mm)

8/10.5kW

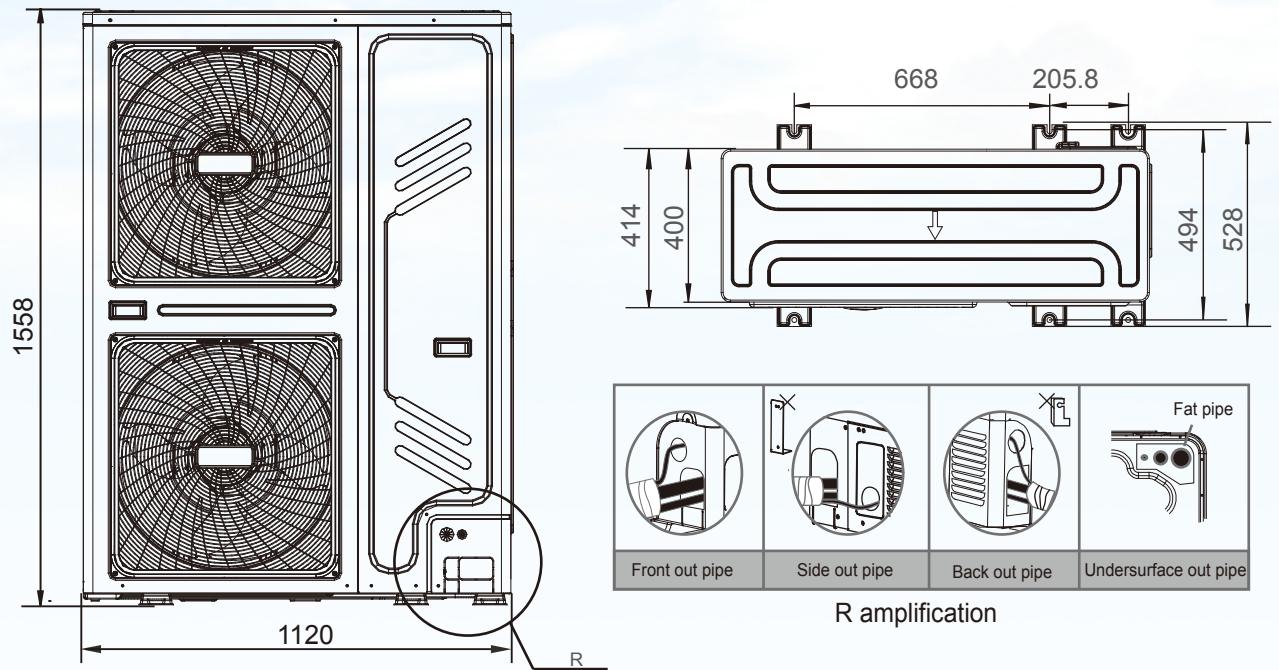


12/14/16/18kW



R amplification

20/22.4/26kW







GD Midea Heating & Ventilating Equipment Co., Ltd.  
Is certified under the ISO 14001 International standard  
for environmental management.  
Certificate No.15912E10020R0L



GD Midea Heating & Ventilating Equipment Co., Ltd.  
Is certified under the ISO 9001 International standard  
for quality assurance.  
NO.01 100 019209



GD Midea Heating & Ventilating Equipment Co., Ltd.  
Certificate of Occupational Health and Safety Management System  
Certificate No. 15912S20006R0L-1.

## Dealer information

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<http://www.midea.com>

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