1305-V1212

COMMERCIAL AIR CONDITIONERS

R410A VRF Series 60Hz

V4 Plus /V4 Plus S/ V4 Plus R/ V4 Plus W/ Mini VRF

TÜVRheinland® CERT ISO 9001

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

CVC® EMS

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

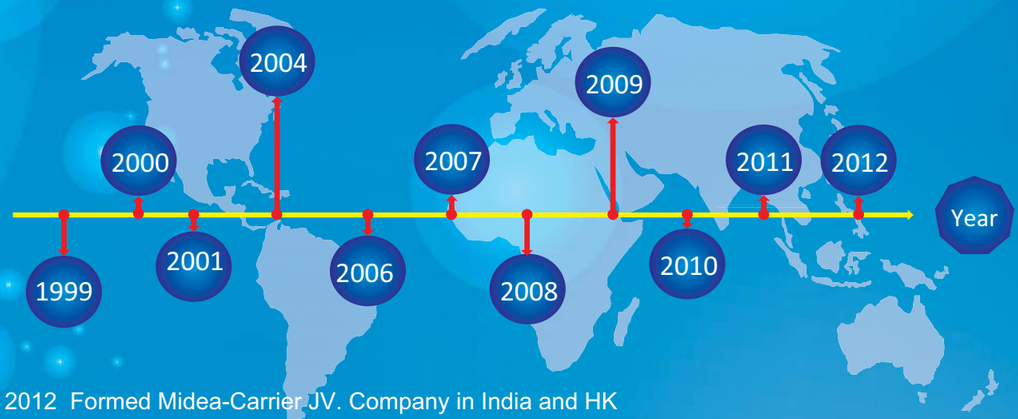
Commercial Air Conditioner Business Units
Midea Group
Add: West region of Midea commercial air conditioner department,Industry Avenue,
Beijiao,Shunde,Foshan,Guangdong,P.R.China Postal code:528311
Tel:+86-757-22390820 Fax:+86-757-23270470
http://global.midea.com.cn
http://www.midea.com
Note:The data in this book may be changed without notice for further improvement
on quality and performance.

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.



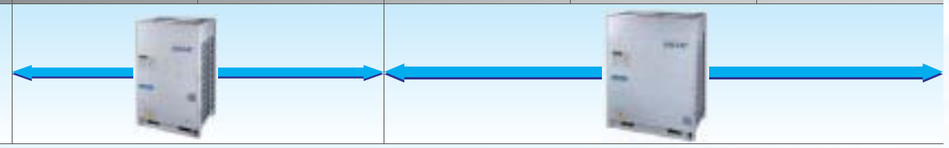
2012 Formed Midea-Carrier JV. Company in India and HK
2011 Formed Midea-Carrier JV. Company in Brazil
2010 Built the 3rd manufacturing base in Hefei
2009 Launched the DC inverter V4 system globally
2008 JV with Toshiba Carrier for the DC inverter technology
2007 Won the first Midea centrifugal chiller 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

Products Lineup

V4 Plus series *(Heat pump,Cooling only & Corrosion resistance type)*

Capacity Range	HP	8	10	12	14	16
	KW	25.2	28.0	33.5	40.0	45.0

Appearance



V4 Plus S series

Capacity Range	HP	8	10	12	14	16	18
	KW	25.2	28.0	33.5	40.0	45.0	50.0

Appearance

V4 Plus R series

Capacity Range	HP	8	10
	KW	25.2	28.0

Appearance

V4 Plus W series

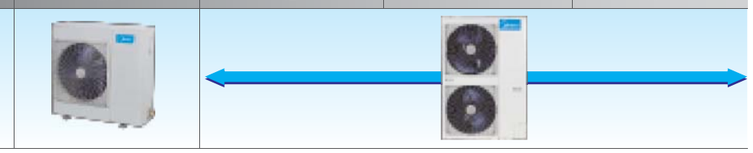
Capacity Range	HP	8	10	12
	KW	25.2	28.0	33.5

Appearance

Full DC Inverter Mini VRF

Capacity Range	HP	3	3.2	4	5
	KW	10.5	12	14	16

Appearance



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Overview
V4 Plus Series
V4 Plus S Series
V4 Plus R Series
V4 Plus W Series
Full DC Inverter Mini VRF
Indoor Units Lineup
Control System
HRV
Accessories

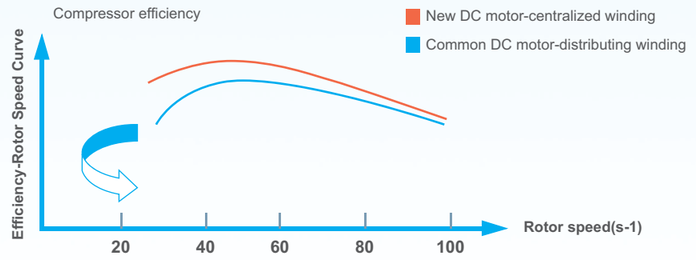
Overview

VRF Air Conditioner has a number of key technologies which improve performance and save energy. Here are the main technologies which create the perfect cooling/heating performance, enhance comfort and reliability and easy installation.

High efficiency full DC inverter compressor

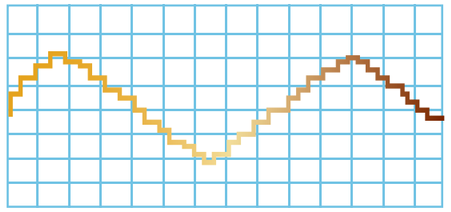
VRF Air Conditioner achieves the industry's top class energy efficiency of cooling EER and heating COP by utilizing the Brushless Reluctance DC compressor control, improved performance heat exchanger by innovative design and numerous high performance key parts. High efficiency DC inverter compressor reduces power consumption by 25%.

Powerful magnets provide high torque and efficiency and achieve 70% reduction in volume.

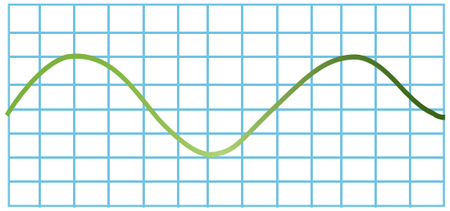


Smooth 180° sine wave DC Inverter

Adopting the 180° Sine Wave Inverter to smooth motor rotation greatly improves operating efficiency compared with traditional sawtooth wave.



Common Sawtooth Wave



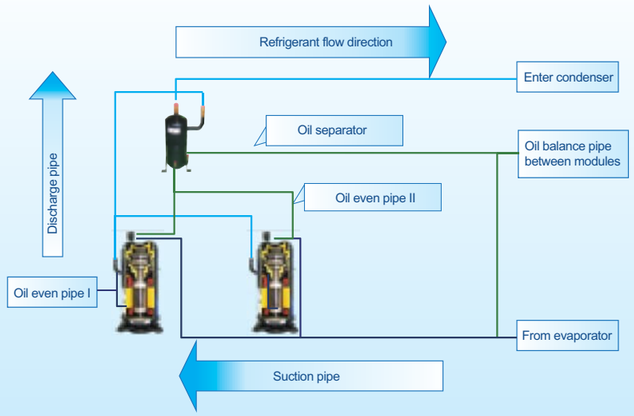
180° Sine Wave DC Inverter

Double EEV control technology

Double EEV Control Technology in one system, each EEV part achieves 480 pulse to adjust flow precisely. Ensure the temperature-control precisely and steadily to provide a comfortable envrionment.

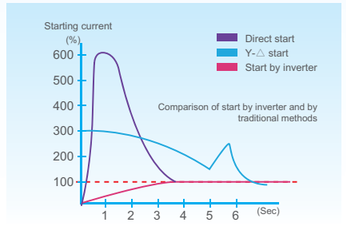
High efficiency oil balance and oil return technology

- Oil balance pipes among modules and individual oil balance by vector control ensure even oil distribution among the modules which keeps compressors running normally.
- High effciency centrifugal oil separator (separation efficiency up to 99%)makes oil separate from discharge gas and go back to compressors.
- Auto oil return program monitors the running time and status of the system, ensures reliable oil return.



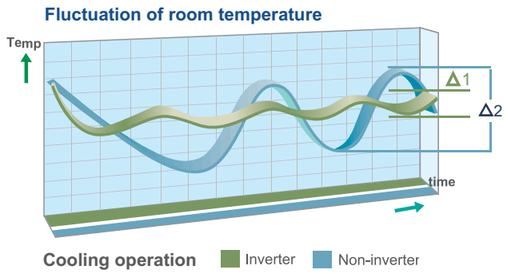
Intelligent soft start technology

DC inverter compressor soft start function reduces strike to the electric network. This kind of high-performance and low sound scroll compressor operates at a faster rate when starting, reducing start-up time. It also helps the unit to quickly adjust the room temperature to the set level.



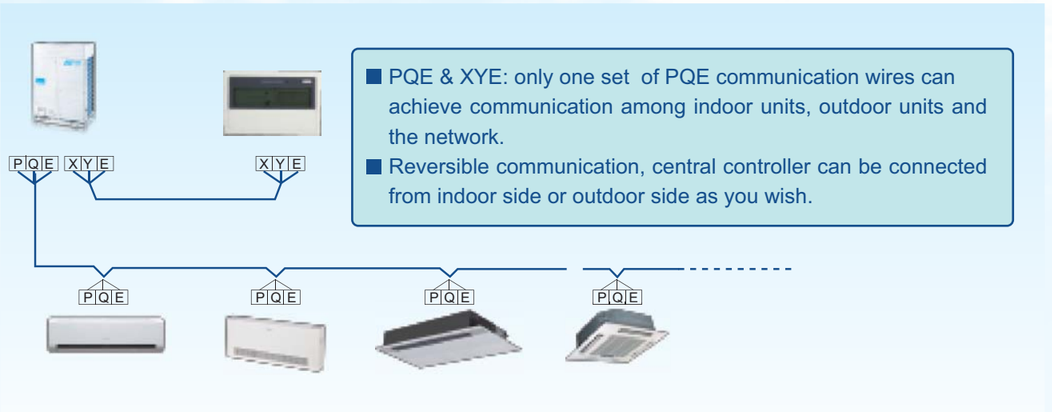
Quick warm-up & cool-down design

- By utilizing the benefits of the inverter compressor, the system can reach full load quickly and shorten the warm-up and cool-down times to provide an immediate and comfortable air solution.
- Less temperature fluctuation will create a better living environment.



Simple signal line connection

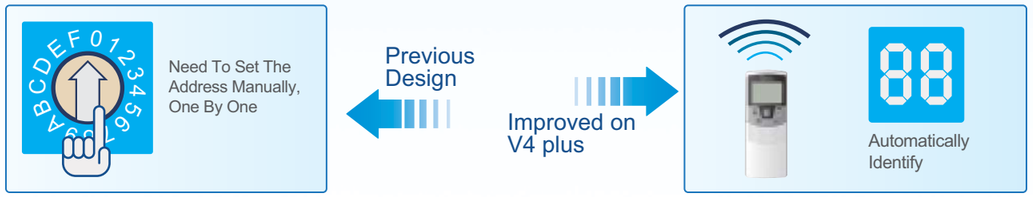
Installation is easier as communication wiring can be shared by indoor & outdoor units. It's easy for the user to retrofit the existing system with a centralized control by simply connecting to the outdoor units.



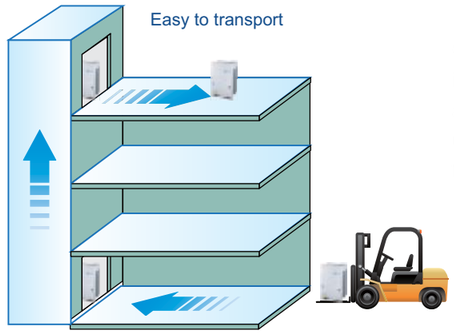
- PQE & XYE: only one set of PQE communication wires can achieve communication among indoor units, outdoor units and the network.
- Reversible communication, central controller can be connected from indoor side or outdoor side as you wish.

Auto addressing

- The outdoor unit can automatically distribute the addresses to indoor units without any manual settings.
- Wireless controller can inquire and modify each indoor unit's address.



Compact design for effective use of space



Compact size and light weight design minimizes the installation footprint, reduces the installation floor load, and is easier for transportation. For some projects the units can even be transported through the elevator or forklift, reduce access problem at the jobsite.

V4 PLUS Series

Developed to facilitate more flexible system design for big-sized and high-rise buildings V4 PLUS SERIES VRF product, which is designed to optimize the system and better satisfying the market. Offering a higher capacity up to 64HP by combining maximum four outdoor units, in 2HP as an increment.

Recommended combination table

Model (capacity)		N°of outdoor units	N°of compressors	Maximum N° of connectable indoor units	Capacity (kW)	
HP	kW				Cooling	Heating
8	25.2	1	2	13	25.2	27
10	28.0	1	2	16	28	31.5
12	33.5	1	2	16	33.5	37.5
14	40.0	1	3	16	40	45
16	45.0	1	3	20	45	50
18	53.2	2	4	20	53.2	58.5
20	56.0	2	4	24	56	63
22	61.5	2	4	24	61.5	69
24	68.0	2	5	28	68	76.5
26	73.0	2	5	28	73	81.5
28	80.0	2	6	28	80	90
30	85.0	2	6	32	85	95
32	90.0	2	6	32	90	100
34	96.0	3	7	36	96	108
36	101.0	3	7	36	101	113
38	106.5	3	7	36	106.5	119
40	113.0	3	8	42	113	126.5
42	120.0	3	9	42	120	135
44	125.0	3	9	42	125	140
46	130.0	3	9	48	130	145
48	135.0	3	9	48	135	150
50	143.2	4	10	54	143.2	158.5
52	146.0	4	10	54	146	163
54	151.5	4	10	54	151.5	169
56	158.0	4	11	58	158	176.5
58	165.0	4	12	58	165	185
60	170.0	4	12	58	170	190
62	175.0	4	12	64	175	195
64	180.0	4	12	64	180	200

Notes:

Capacities are based on the following conditions:

Cooling: Indoor temperature 27℃(80.6°F) DB/19℃(66.2°F) WB; Outdoor temperature 35℃(95°F) DB/24℃(75.2°F) WB

Heating: Indoor temperature 20℃(68°F) DB/15℃(59°F) WB; Outdoor temperature 7℃(44.6°F) DB/6℃(42.8°F) WB

Piping length: Interconnecting piping length is 7.5m, level difference is zero.

The above combination models are factory-recommended models.

V4 Plus Series

Features

Wide Application Range

Large capacity for big sized building

The outdoor units capacity range from 8HP up to 64HP in 2HP increment. Maximum 64 indoor units with capacity up to 130% of total outdoor units can be connected in one refrigeration system.

8, 10HP

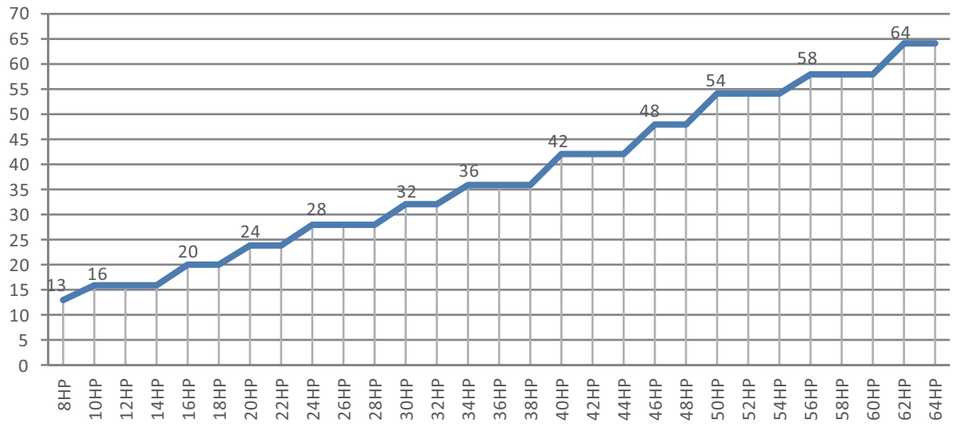
12, 14, 16HP

18, 20, 22, 2 4, 26, 28, 30, 32HP

34, 36, 38, 40, 42, 44, 46, 48HP

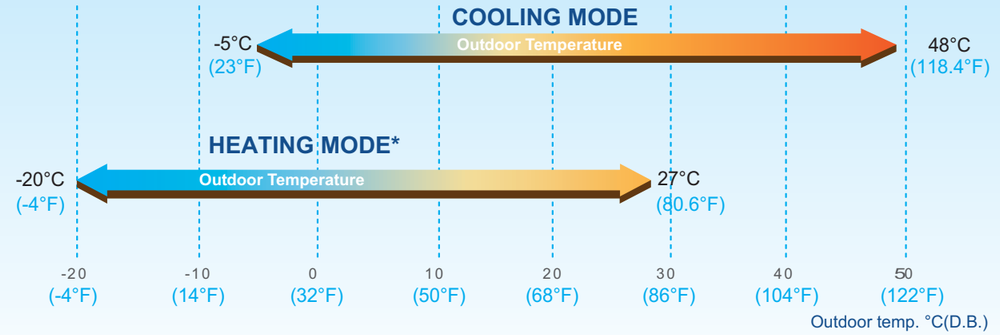
50, 52, 54, 56, 58, 60, 62, 64HP

Large connectable indoor units quantity



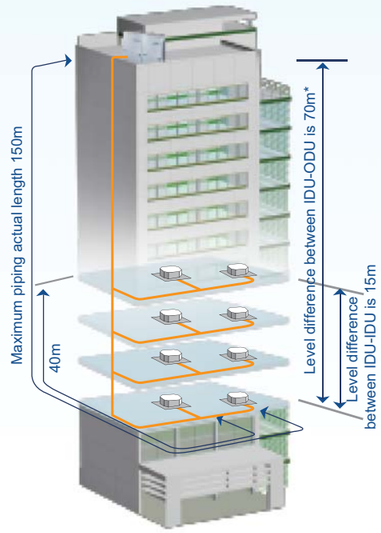
V4 Plus Series

Wide operation Range



The V4+ series system operates stably at extreme temperatures ranging from -20°C(-4°F) to 48°C(118.4°F).
*V4 Plus C system is without HEATING MODE.

Long piping length



			Permitted value
Piping length	Total pipe length*(Actual)	≤30HP	350m
		>30HP	500m
	Maximum piping(L)	Actual length	150m
		Equivalent length	175m
Level difference	Piping (farthest from the first line pipe branch) equivalent length		40m
	Level difference between ODU-IDU	Outdoor unit up	70m*
		Outdoor unit down	70m
	Level difference between IDU-IDU		15m

*Total pipe length is equal to gas pipe or liquid pipe length.
*Level difference above 50m are not supported by default but are available on request for customized.

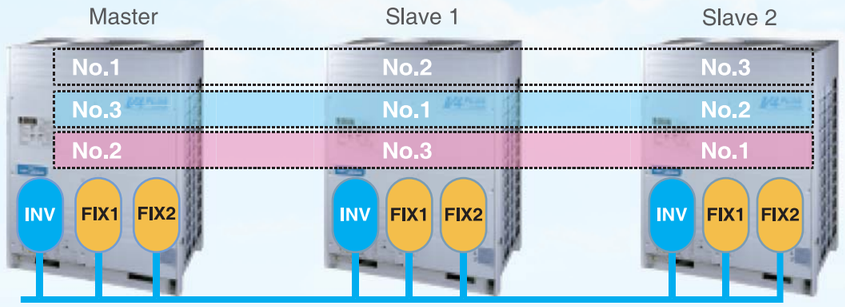
Extra high static pressure – Max. 60Pa and air volume increased by 10%

The high-static pressure propeller and optimized fan guard can adapt to various installation environments.
Midea now offers up to 60Pa* external static pressure units for customized applications. A standard 0-20Pa function is equipped by default.
*60pa only available for 12HP, 40Pa is available for other models, if you require over 40Pa please consult the manufacturer.

Higher Reliability

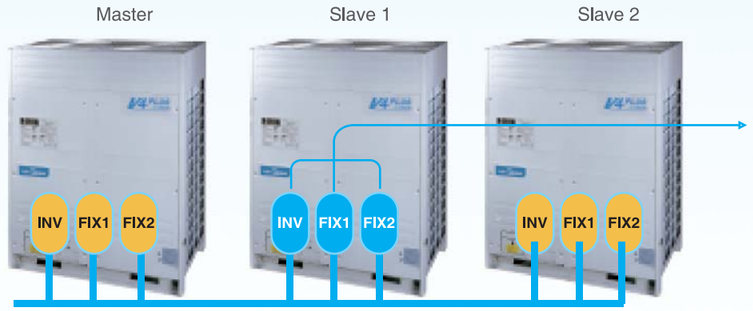
Duty cycling

In one combination, any outdoor unit can run as the master outdoor unit to equalize the service life of all units.



Back-up function

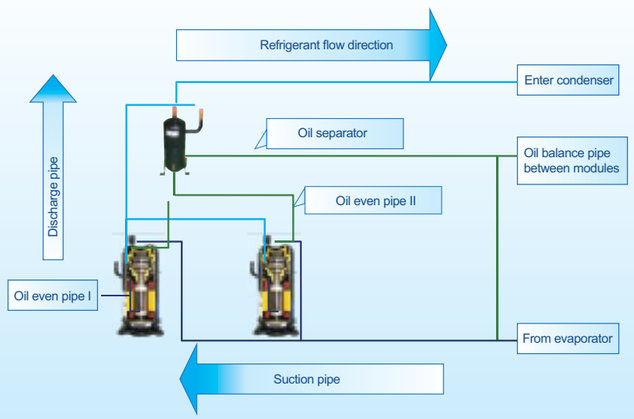
In a multiple system, when the master unit failed, any single unit can be set as the master unit，then the remaining units can keep on working. This can be set on PCB by DIP switches at site.



When the slave 1 failed and came into standby state, the left module can still work.

High efficiency oil balance and oil return technology

- Oil balance pipes among modules and individual oil balance by vector control ensure even oil distribution among the modules which keeps compressors running normally.
- High effciency centrifugal oil separator (separation efficiency up to 99%) makes oil separate from discharge gas and go back to compressors.
- Auto oil return program by monitoring the running time and state of system ensures reliable oil return.



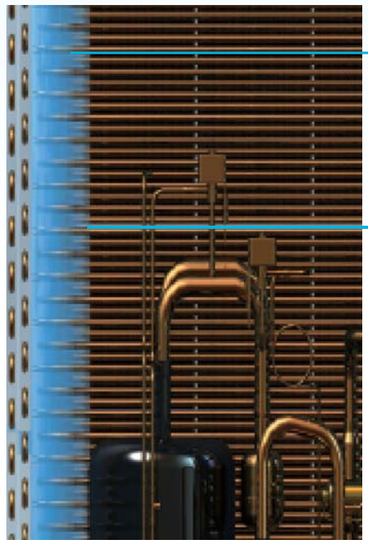
High Efficiency

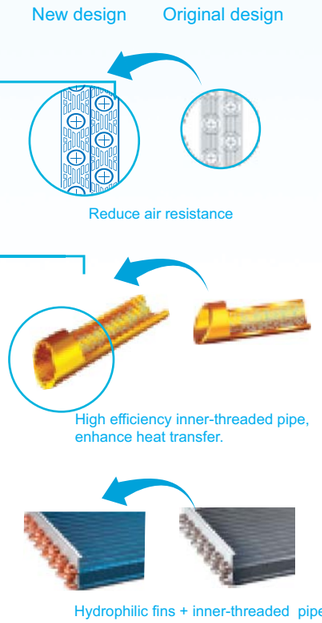
The V4 PLUS Series with high efficient DC compressor, DC motor and high efficient heat exchanger, achieve the world's Top Class energy efficiency. The cooling EER is up to 4.29 and the heating COP is up to 4.39 in the 8HP category.

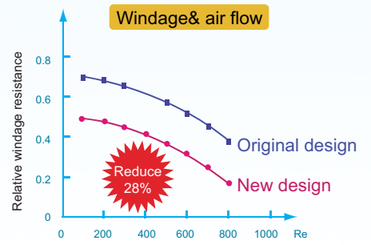
Enhanced rated heat capacity

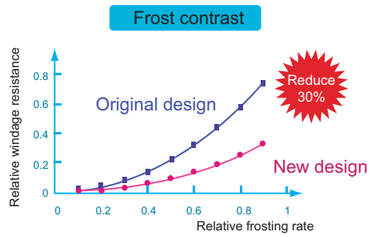
*V4 Plus C system is without heating COP value

High performance heat exchanger





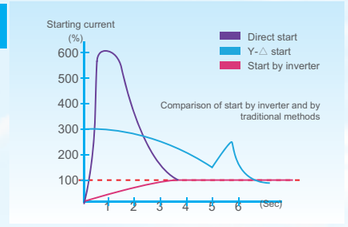




Enhanced Comfort

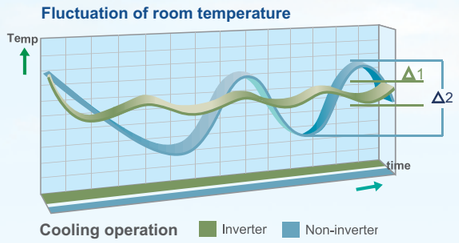
Intelligent soft start technology

DC inverter compressor soft start function reduces strike to the electric network. This kind of high-performance and low sound scroll compressor operates at a faster rate when starting, reducing start-up time. It also helps the unit to quickly adjust the room temperature to the set level.



Quick warm-up & cool-down design

By utilizing the benefits of the inverter compressor, the system can reach full load quickly and shorten the warm-up and cool-down times to provide an immediate and comfortable air solution. Less temperature fluctuation will create a better living environment.



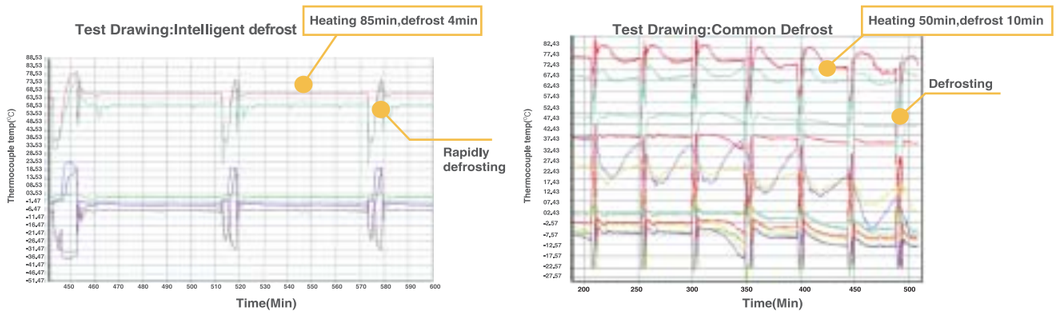
Night silent operation mode

Midea's Night Silent Mode feature which is easily set on the PCB board allows the unit to be set to varies time options during Non Peak and Peak operation time optimizing the units noise output.
Extra silent operation mode can reduce sound level further, minimum 46.8dB (A).
Night silent operation will be activated X hours after the peak temperature during daytime, and it will go back to normal operation after Y hours.

-Model 1→X: 6 hours, Y: 10 hours
-Model 2→X: 8 hours, Y: 10 hours
-Model 3→X: 6 hours, Y: 12 hours
-Model 4→X: 8 hours, Y: 8 hours

Notes:
This function can be activated by setting at site. Temperature(load) curve shown in the graph is just an example.

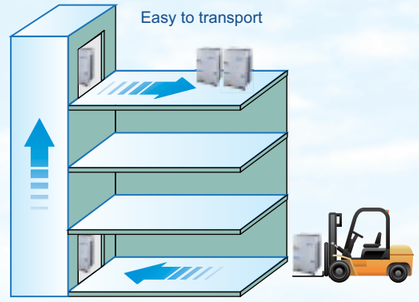
Intelligent defrosting raises heat capacity*



*V4 Plus C system is without this function.

Easier Installation and Service

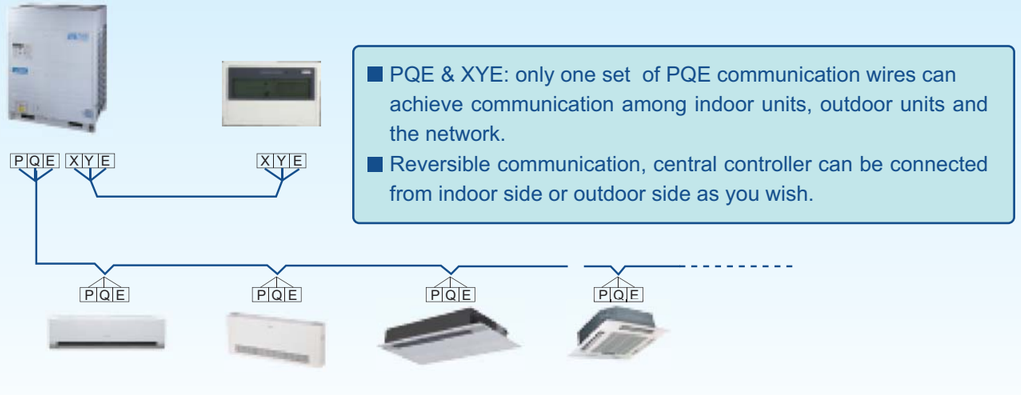
Compact design for effective use of space



Compact size and light weight design minimizes the installation footprint, reduces the installation floor load, and is easier for transportation. For some projects the units can even be transported through the elevator or forklift, reduce access problem at the jobsite.

Simple signal line connection

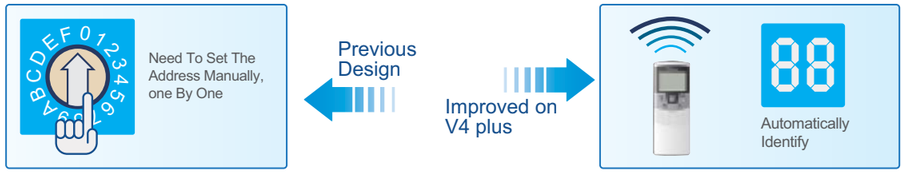
Installation is easier as communication wiring can be shared by indoor & outdoor units . It's easy for the user to retrofit the existing system with a centralized simply connecting to the outdoor units.



- PQE & XYE: only one set of PQE communication wires can achieve communication among indoor units, outdoor units and the network.
- Reversible communication, central controller can be connected from indoor side or outdoor side as you wish.

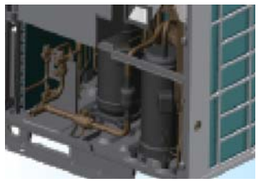
Auto addressing

The outdoor unit can automatically distribute the addresses to indoor units without any manual settings.
Wireless controller can inquire and modify each indoor unit's address.



Easy access

The checking window on electric control box for convenient spot checking and status enquiry.

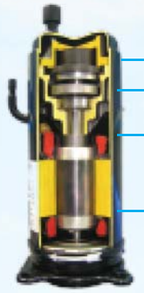


Compressor is located near the door, which simplifies checks and enables valve or compressor parts to be replaced easily.

Technologies

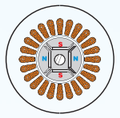
High efficiency full DC inverter compressor

High efficiency DC inverter compressor reduces power consumption by 25%.

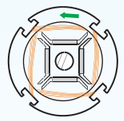


- New structure-enhanced mid-frequency performance
- Specially designed scroll profile for R410A
- More compact, weight reduced by 50%
- Advanced permanent magnet DC motor improves low-frequency band performance

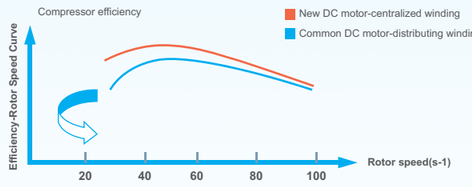
Powerful magnets provide high torque and efficiency and achieve 70% reduction in volume.



Centralizing winding



Distributing winding

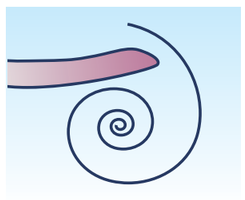


Fan grille

Optimized fan blade shape with new air outlet grille enhanced air flow volume which greatly improves fan performance and decreases noise.
Also, a higher external static pressure has been achieved up to 40Pa. (0-20Pa is standard, 20~40Pa should be customized.)

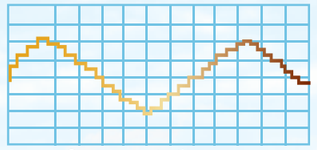
New profile fan blade

A new blade with sharp edges and a slight curve increases the airflow rate and lowers vibration and airflow resistance.

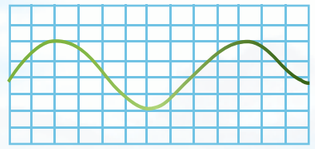


Smooth 180°sine wave DC Inverter

Adopting the 180° Sine Wave Inverter to smooth motor rotation greatly improves operating efficiency compared with traditional sawtooth wave.



Common sawtooth wave



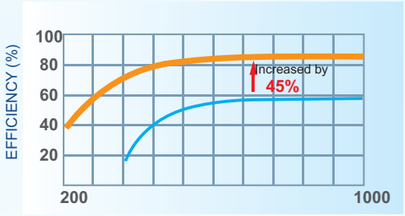
180° Sine Wave DC inverter

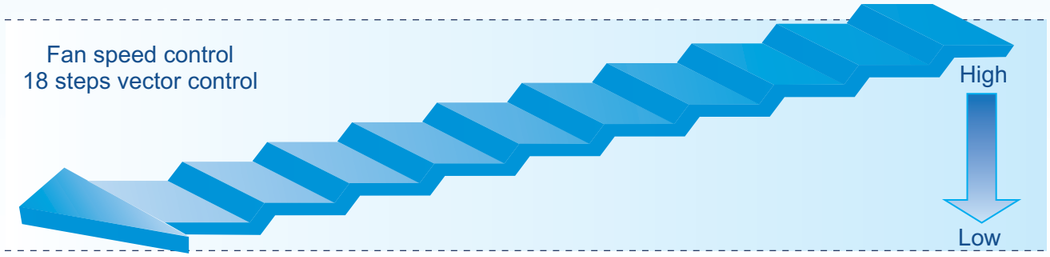
DC fan motor

According to the running load and pressure, it controls the speed of DC fan to achieve the minimum power consumption.

- Used across entire range of models (from 8 to 64 HP).
- Efficiency improvement up to 45% especially at low speed.
- Wide speed adjustment with 18 steps vetor control.

DC motor





Multi solenoid valves control technology

Multi solenoid valves control technology in one system. All the solenoid valves equipped in the unit ensure temperature-control precisely, system running steadily and economic to provide a comfortable environment.

Specifications

V4 Plus Heat Pump Unit

Model			MDV-252(8)W/DCN1(B)	MDV-280(10)W/DCN1(B)	MDV-335(12)W/DCN1(B)	MDV-400(14)W/DCN1(B)	MDV-450(16)W/DCN1(B)
Power supply		V-Ph-Hz	380~415V-3Ph-60Hz	380~415V-3Ph-60Hz	380~415V-3Ph-60Hz	380~415V-3Ph-60Hz	380~415V-3Ph-60Hz
Cooling	Capacity	RT	7.2	8.0	9.5	11.4	12.8
		kW	25.2	28	33.5	40	45
		Btu/h	86,000	95,500	114,300	136,500	153,500
		kcal/h	21,672	24,080	28,810	34,400	38,700
	Input	kW	5.87	7.2	9.05	12.31	14.02
	EER	kW/kW	4.29	3.89	3.7	3.25	3.21
Heating	Capacity	RT	7.7	8.9	10.7	12.8	14.2
		kW	27	31.5	37.5	45	50
		Btu/h	92,100	107,500	128,000	153,500	170,600
		kcal/h	23,220	27,090	32,250	38,700	43,000
	Input	kW	6.15	7.61	8.99	11.19	12.79
	COP	kW/kW	4.39	4.14	4.17	4.02	3.91
Connectable Indoor Unit	Total Capacity	%	50-130	50-130	50-130	50-130	50-130
	Max. Quantity		13	16	16	16	20
Sound Pressure Level		dB(A)	57	57	58	60	60
Pipe Connections	Liquid pipe	in.(mm)	Φ1/2(Φ12.7)	Φ1/2(Φ12.7)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)
	Gas pipe	in.(mm)	Φ1(Φ25.4)	Φ1(Φ25.4)	Φ1-1/4(Φ31.8)	Φ1-1/4(Φ31.8)	Φ1-1/4(Φ31.8)
	Oil balance pipe	in.(mm)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)
Outdoor fan motor	Motor type		DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantities		1	1	2	2	2
	Air Flow Rate	m^3/h	11,700	11,700	15,600	15,600	15,600
		CFM	6,880	6,880	9,173	9,173	9,173
	Motor output	W	750	750	575×2	575×2	575×2
	Fan type		Axial propeller	Axial propeller	Axial propeller	Axial propeller	Axial propeller
	ESP	Pa	0~20 (default)	0~20 (default)	0~20 (default)	0~20 (default)	0~20 (default)
			20~40 (customized)	20~40 (customized)	20~60 (customized)	20~40 (customized)	20~40 (customized)
DC Inverter compressor	Quantities		1	1	1	1	1
	Capacity	W	11,800	11,800	11,800	11,800	11,800
	Crankcase heater	W	27.6×2	27.6×2	27.6×2	27.6×2	27.6×2
	Refrigerant oil	gal.(ml)	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500
Fixed scroll compressor	Quantities		1	1	1	2	2
	Capacity	W	15,500	15,500	15,500	15,500×2	15,500×2
	Crankcase heater	W	27.6	27.6	27.6	27.6×2	27.6×2
	Refrigerant oil	gal.(ml)	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132×2/ 500×2	FVC68D 0.132×2/ 500×2
Refrigerant	Type		R410A	R410A	R410A	R410A	R410A
	Factory Charging	lbs.(kg)	22(10)	22(10)	26(12)	33(15)	33(15)
Design Pressure (Hi/Lo)		MPa	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6
Unit Dimension	Net (W×H×D)	in.(mm)	37-25/32×63-9/16×30-1/8(960×1,615×765)		49-7/32×63-9/16×30-1/8(1,250×1,615×765)		
	Packing Size (W×H×D)	in.(mm)	40-3/8×70-1/2×32-11/16(1,025×1,790×830)		51-9/16×70-1/2×32-1/2(1,305×1,790×820)		
Unit weight	Net	lbs.(kg)	560(245)	560(245)	607(275)	717(325)	717(325)
	Gross weight	lbs.(kg)	573(260)	573(260)	651(295)	761(345)	761(345)
Operating Temp. Range	Cooling	℉(℃)	23℉-118.4℉(-5℃－48℃)				
	Heating	℉(℃)	5℉-80.6℉(-15℃－27℃)				

Notes:

1.Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB(80.6°F), 19°C WB(60°F)	35°C DB(95°F)	7.5m(24.6ft)	0m(0ft)
Heating	20°C DB(68°F), 15°C WB(44.6°F)	7°C DB(42.8°F)	7.5m(24.6ft)	0m(0ft)

2.Sound level: Anechoic chamber conversion value, measured at a position 1m(3.28ft) in front of the unit and 1.3m(4.26ft)above the floor.

3.Refrigerant pipe dim.listed here only for when the total equivalent length ＜90m(295.2ft). For the data when total quivalent length ≥90m(295.2ft) please refer to technical manual.

4.The above data may be changed without notice for further improvement on quality and performance.

V4 Plus Heat Pump Unit

Model			MDV-252(8)W/DDN1(B)	MDV-280(10)W/DDN1(B)	MDV-335(12)W/DDN1(B)	MDV-400(14)W/DDN1(B)	MDV-450(16)W/DDN1(B)
Power supply		V-Ph-Hz	220V-3Ph-60Hz	220V-3Ph-60Hz	220V-3Ph-60Hz	220V-3Ph-60Hz	220V-3Ph-60Hz
Cooling	Capacity	RT	7.2	8.0	9.5	11.4	12.8
		kW	25.2	28	33.5	40	45
		Btu/h	86,000	95,500	114,300	136,500	153,500
		kcal/h	21,672	24,080	28,810	34,400	38,700
	Input	kW	5.87	7.2	9.05	12.31	14.02
	EER	kW/kW	4.29	3.89	3.7	3.25	3.21
Heating	Capacity	RT	7.7	8.9	10.7	12.8	14.2
		kW	27	31.5	37.5	45	50
		Btu/h	92,100	107,500	128,000	153,500	170,600
		kcal/h	23,220	27,090	32,250	38,700	43,000
	Input	kW	6.15	7.61	8.99	11.19	12.79
	COP	kW/kW	4.39	4.14	4.17	4.02	3.91
Connectable Indoor Unit	Total Capacity	%	50-130	50-130	50-130	50-130	50-130
	Max. Quantity		13	16	16	16	20
Sound Pressure Level		dB(A)	57	57	58	60	60
Pipe Connections	Liquid pipe	in.(mm)	Φ1/2(Φ12.7)	Φ1/2(Φ12.7)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)
	Gas pipe	in.(mm)	Φ1(Φ25.4)	Φ1(Φ25.4)	Φ1-1/4(Φ31.8)	Φ1-1/4(Φ31.8)	Φ1-1/4(Φ31.8)
	Oil balance pipe	in.(mm)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)
Outdoor fan motor	Motor type		DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantities		1	1	2	2	2
	Air Flow Rate	m^3/h	11,700	11,700	15,600	15,600	15,600
		CFM	6,880	6,880	9,173	9,173	9,173
	Motor output	W	750	750	575×2	575×2	575×2
	Fan type		Axial propeller	Axial propeller	Axial propeller	Axial propeller	Axial propeller
	ESP	Pa	0~20 (default)	0~20 (default)	0~20 (default)	0~20 (default)	0~20 (default)
			20~40 (customized)	20~40 (customized)	20~60 (customized)	20~40 (customized)	20~40 (customized)
DC Inverter compressor	Quantities		1	1	1	1	1
	Capacity	W	11,800	11,800	11,800	11,800	11,800
	Crankcase heater	W	27.6×2	27.6×2	27.6×2	27.6×2	27.6×2
	Refrigerant oil	gal.(ml)	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500
Fixed scroll compressor	Quantities		1	1	1	2	2
	Capacity	W	18,850	18,850	18,850	18,850×2	18,850×2
	Crankcase heater	W	27.6	27.6	27.6	27.6×2	27.6×2
	Refrigerant oil	gal.(ml)	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132×2/ 500×2	FVC68D 0.132×2/ 500×2
Refrigerant	Type		R410A	R410A	R410A	R410A	R410A
	Factory Charging	lbs.(kg)	22(10)	22(10)	26(12)	33(15)	33(15)
Design Pressure (Hi/Lo)		MPa	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6
Unit Dimension	Net (W×H×D)	in.(mm)	37-25/32×63-9/16×30-1/8(960×1,615×765)		49-7/32×63-9/16×30-1/8(1,250×1,615×765)		
	Packing Size (W×H×D)	in.(mm)	40-3/8×70-1/2×32-11/16(1,025×1,790×830)		51-9/16×70-1/2×32-1/2(1,305×1,790×820)		
Unit weight	Net	lbs.(kg)	560(245)	560(245)	607(275)	717(325)	717(325)
	Gross weight	lbs.(kg)	573(260)	573(260)	651(295)	761(345)	761(345)
Operating Temp. Range	Cooling	℉(℃)	23℉-118.4℉(-5℃－48℃)				
	Heating	℉(℃)	5℉-80.6℉(-15℃－27℃)				

Notes:

1.Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB(80.6°F), 19°C WB(60°F)	35°C DB(95°F)	7.5m(24.6ft)	0m(0ft)
Heating	20°C DB(68°F), 15°C WB(44.6°F)	7°C DB(42.8°F)	7.5m(24.6ft)	0m(0ft)

2.Sound level: Anechoic chamber conversion value, measured at a position 1m(3.28ft) in front of the unit and 1.3m(4.26ft)above the floor.

3.Refrigerant pipe dim.listed here only for when the total equivalent length ＜90m(295.2ft). For the data when total quivalent length ≥90m(295.2ft) please refer to technical manual.

4.The above data may be changed without notice for further improvement on quality and performance.

V4 Plus Cooling Only Unit

Model			MDVC-252(8)W /DCN1(B)	MDVC-280(10)W /DCN1(B)	MDVC-335(12)W /DCN1(B)	MDVC-400(14)W /DCN1(B)	MDVC-450(16)W /DCN1(B)
Power supply		V-Ph-Hz	380~415V-3Ph-60Hz	380~415V-3Ph-60Hz	380~415V-3Ph-60Hz	380~415V-3Ph-60Hz	380~415V-3Ph-60Hz
Cooling	Capacity	RT	7.2	8.0	9.5	11.4	12.8
		kW	25.2	28	33.5	40	45
		Btu/h	86,000	95,500	114,300	136,500	153,500
		kcal/h	21,672	24,080	28,810	34,400	38,700
	Input	kW	5.87	7.2	9.05	12.31	14.02
	EER	kW/kW	4.29	3.89	3.7	3.25	3.21
Connectable Indoor Unit	Total Capacity	%	50-130	50-130	50-130	50-130	50-130
	Max. Quantity		13	16	16	16	20
Sound Pressure Level		dB(A)	57	57	58	60	60
Pipe Connections	Liquid pipe	in.(mm)	Φ1/2(Φ12.7)	Φ1/2(Φ12.7)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)
	Gas pipe	in.(mm)	Φ1(Φ25.4)	Φ1(Φ25.4)	Φ1-1/4(Φ31.8)	Φ1-1/4(Φ31.8)	Φ1-1/4(Φ31.8)
	Oil balance pipe	in.(mm)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)
Outdoor fan motor	Motor type		DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantities		1	1	2	2	2
	Air Flow Rate	m^3/h	11,700	11,700	15,600	15,600	15,600
		CFM	6,880	6,880	9,173	9,173	9,173
	Motor output	W	750	750	560× 2	560× 2	560× 2
	Fan type		Axial	Axial	Axial	Axial	Axial
	ESP	Pa	0~20 (default)	0~20 (default)	0~20 (default)	0~20 (default)	0~20 (default)
			20～40(customized)	20～40(customized)	20～60(customized)	20～40(customized)	20～40(customized)
DC Inverter compressor	Quantities		1	1	1	1	1
	Capacity	W	11,800	11,800	11,800	11,800	11,800
	Crankcase heater	W	27.6×2	27.6×2	27.6×2	27.6×2	27.6×2
	Refrigerant oil	gal.(ml)	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132×2/ 500×2	FVC68D 0.132×2/ 500×2
Fixed scroll compressor	Quantities		1	1	1	2	2
	Capacity	W	15,500	15,500	15,500	15,500×2	15,500×2
	Crankcase heater	W	27.6	27.6	27.6	27.6×2	27.6×2
	Refrigerant oil	gal.(ml)	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132×2/ 500×2	FVC68D 0.132×2/ 500×2
Refrigerant	Type		R410A	R410A	R410A	R410A	R410A
	Factory Charging	lbs.(kg)	22(10)	22(10)	26(12)	33(15)	33(15)
Design Pressure (Hi/Lo)		MPa	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6
Unit Dimension	Net (W×H×D)	in.(mm)	37-25/32×63-9/16×30-1/8(960×1,615×765)		49-7/32×63-9/16×30-1/8(1,250×1,615×765)		
	Packing Size (W×H×D)	in.(mm)	40-3/8×70-1/2×32-11/16(1,025×1,790×830)		51-9/16×70-1/2×32-1/2(1,305×1,790×820)		
Unit weight	Net	lbs.(kg)	560(245)	560(245)	607(275)	717(325)	717(325)
	Gross weight	lbs.(kg)	573(260)	573(260)	651(295)	761(345)	761(345)
Operating Temp. Range- cooling		℉(℃)	23℉-118.4℉(-5℃～48℃)				

Notes:

1.Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB(80.6°F), 19°C WB(60°F)	35°C DB(95°F)	7.5m(24.6ft)	0m(0ft)

2.Sound level: Anechoic chamber conversion value, measured at a position 1m(3.28ft) in front of the unit and 1.3m(4.26ft)above the floor.

3.Refrigerant pipe dim.listed here only for when the total equivalent length ＜90m(295.2ft). For the data when total quivalent length ≥90m(295.2ft) please refer to technical manual.

4.The above data may be changed without notice for further improvement on quality and performance.

V4 Plus Series

Model			MDVC-252(8)W /DDN1(B)	MDVC-280(10)W /DDN1(B)	MDVC-335(12)W /DDN1(B)	MDVC-400(14)W /DDN1(B)	MDVC-450(16)W /DDN1(B)
Power supply		V-Ph-Hz	220V -3Ph-60Hz	220V -3Ph-60Hz	220V -3Ph-60Hz	220V -3Ph-60Hz	220V -3Ph-60Hz
Cooling	Capacity	RT	7.2	8.0	9.5	11.4	12.8
		kW	25.2	28	33.5	40	45
		Btu/h	86,000	95,500	114,300	136,500	153,500
		kcal/h	21,672	24,080	28,810	34,400	38,700
	Input	kW	5.87	7.2	9.05	12.31	14.02
	EER	kW/kW	4.29	3.89	3.7	3.25	3.21
Connectable Indoor Unit	Total Capacity	%	50-130	50-130	50-130	50-130	50-130
	Max. Quantity		13	16	16	16	20
Sound Pressure Level		dB(A)	57	57	58	60	60
Pipe Connections	Liquid pipe	in.(mm)	Φ1/2(Φ12.7)	Φ1/2(Φ12.7)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)
	Gas pipe	in.(mm)	Φ1(Φ25.4)	Φ1(Φ25.4)	Φ1-1/4(Φ31.8)	Φ1-1/4(Φ31.8)	Φ1-1/4(Φ31.8)
	Oil balance pipe	in.(mm)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)
Outdoor fan motor	Motor type		DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantities		1	1	2	2	2
	Air Flow Rate	m^3/h	11,700	11,700	15,600	15,600	15,600
		CFM	6,880	6,880	9,173	9,173	9,173
	Motor output	W	750	750	560× 2	560× 2	560× 2
	Fan type		Axial	Axial	Axial	Axial	Axial
	ESP	Pa	0~20 (default)	0~20 (default)	0~20 (default)	0~20 (default)	0~20 (default)
			20～40(customized)	20～40(customized)	20～60(customized)	20～40(customized)	20～40(customized)
DC Inverter compressor	Quantities		1	1	1	1	1
	Capacity	W	11,800	11,800	11,800	11,800	11,800
	Crankcase heater	W	27.6×2	27.6×2	27.6×2	27.6×2	27.6×2
	Refrigerant oil	gal.(ml)	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132×2/ 500×2	FVC68D 0.132×2/ 500×2
Fixed scroll compressor	Quantities		1	1	1	2	2
	Capacity	W	15,500	15,500	15,500	15,500×2	15,500×2
	Crankcase heater	W	27.6	27.6	27.6	27.6×2	27.6×2
	Refrigerant oil	gal.(ml)	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132/ 500	FVC68D 0.132×2/ 500×2	FVC68D 0.132×2/ 500×2
Refrigerant	Type		R410A	R410A	R410A	R410A	R410A
	Factory Charging	lbs.(kg)	22(10)	22(10)	26(12)	33(15)	33(15)
Design Pressure (Hi/Lo)		MPa	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6	4.4/2.6
Unit Dimension	Net (W×H×D)	in.(mm)	37-25/32×63-9/16×30-1/8(960×1,615×765)		49-7/32×63-9/16×30-1/8(1,250×1,615×765)		
	Packing Size (W×H×D)	in.(mm)	40-3/8×70-1/2×32-11/16(1,025×1,790×830)		51-9/16×70-1/2×32-1/2(1,305×1,790×820)		
Unit weight	Net	lbs.(kg)	560(245)	560(245)	607(275)	717(325)	717(325)
	Gross weight	lbs.(kg)	573(260)	573(260)	651(295)	761(345)	761(345)
Operating Temp. Range- cooling		℉(℃)	23℉-118.4℉(-5℃～48℃)				

Notes:

1.Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB(80.6°F), 19°C WB(60°F)	35°C DB(95°F)	7.5m(24.6ft)	0m(0ft)

2.Sound level: Anechoic chamber conversion value, measured at a position 1m(3.28ft) in front of the unit and 1.3m(4.26ft)above the floor.

3.Refrigerant pipe dim.listed here only for when the total equivalent length ＜90m(295.2ft). For the data when total quivalent length ≥90m(295.2ft) please refer to technical manual.

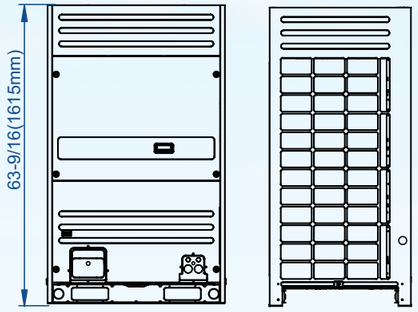
4.The above data may be changed without notice for further improvement on quality and performance.

Dimensions

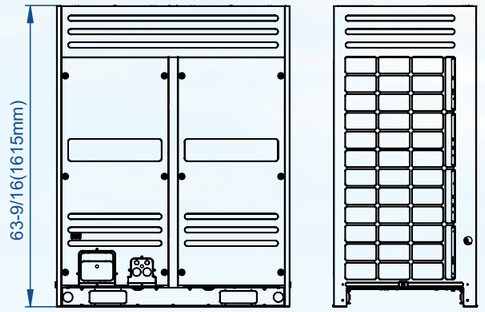
Body dimensions

Unit: in.(mm)

8、10 HP

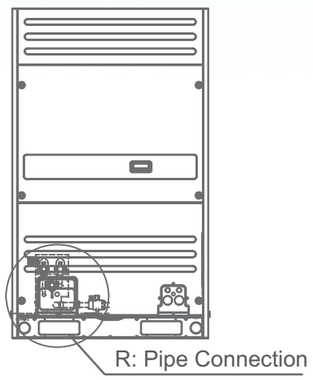


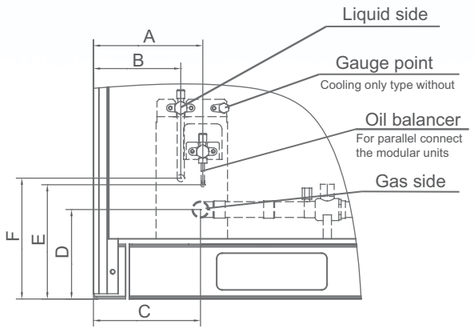
12、14、16 、18 HP



Pipe connection

Unit: in.(mm)



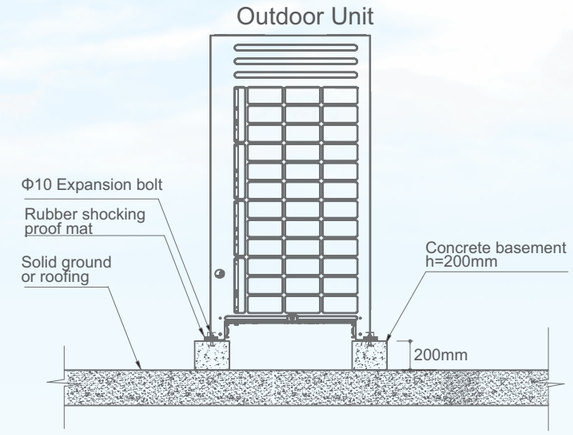


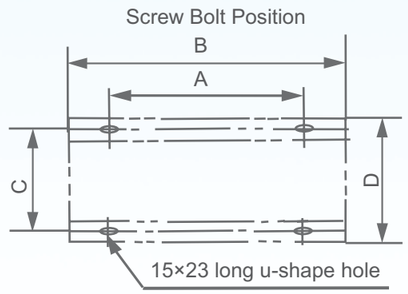
R Section View

SIZE \ HP	8HP	10HP	12HP	14HP	16HP
A	7-53/64(199)		6-21/32(169)		
B	6-17/64(159)		8-15/64(209)		
C	7-43/64(195)		6-21/32(169)		
D	6-39/64(168)		6-39/64(168)		
E	8-3/16(208)		8-3/16(208)		
F	8-21/32(220)		8-21/32(220)		
Liquid pipe	Φ1/2(Φ12.7)		Φ5/8(Φ15.9)		
Gas pipe	Φ1(Φ25.4)		Φ1-1/4(Φ31.8)		

Installation dimensions

Unit: in.(mm)





SIZE \ HP	8/10	12/14/16
A	32-43/64(830)	44-3/32(1120)
B	37-51/64(960)	49-7/32(1250)
C	28-31/32(736)	28-31/32(736)
D	30-1/8(765)	30-1/8(765)

Notes:

(1) Ensure that the outdoor unit is installed in a dry, well-ventilated place.

(2) Ensure that the noise and exhaust ventilation of the outdoor unit do not affect the neighbors of the property owner or the surrounding ventilation.

(3) Ensure that the outdoor unit is installed in a well-ventilated place that is possibly closest to the indoor unit.

(4) Ensure that the outdoor unit is installed in a cool place without direct sunshine exposure or direct radiation of high-temp heat source.

(5) Do not install the outdoor unit in a dirty or severely polluted place, so as to avoid blockage of the heat exchanger in the outdoor unit.

(6) Do not install the outdoor unit in a place with oil pollution or full of harmful gases such as sulfurous gas.

(7) Do not install the outdoor unit in a place surrounded by salty air. (Except for the models with corrosion-resistant function.)

V4 PLUS S Series

V4 Plus S outdoor units achieve world's largest capacity of 72HP with the industry's top class energy efficiency of cooling and heating. It supports an incredible piping length of 1000m and a longer level difference of 110m, making it perfect for big-sized and high-rise buildings for wide application.

Lineup

Model

Capacity Range	HP	8	10	12	14	16	18
	KW	25.2	28.0	33.5	40.0	45.0	50.0
Appearance							

Combination Table

Model	N° of Outdoor Units	N° of Compressors	Outdoor Unit Combination						Maximum N° of Connectable Indoor Units	Capacity	
			8HP	10HP	12HP	14HP	16HP	18HP*		Cooling	Heating
MDV-252(8)W/D2CN1(B)	1	1	1						13	25.2	27
MDV-280(10)W/D2CN1(B)	1	1		1					16	28	31.5
MDV-335(12)W/D2CN1(B)	1	2			1				20	33.5	37.5
MDV-400(14)W/D2CN1(B)	1	2				1			23	40	45
MDV-450(16)W/D2CN1(B)	1	2					1		26	45	50
MDV-500(18)W/D2CN1(B)	2	2	1	1					29	50	56
MDV-560(20)W/D2CN1(B)	2	2		2					33	56	63
MDV-615(22)W/D2CN1(B)	2	3		1	1				36	61.5	69
MDV-670(24)W/D2CN1(B)	2	3		1		1			39	67	75
MDV-730(26)W/D2CN1(B)	2	3		1			1		43	73	81.5
MDV-800(28)W/D2CN1(B)	2	4				2			46	80	90
MDV-850(30)W/D2CN1(B)	2	4				1	1		50	85	95
MDV-900(32)W/D2CN1(B)	2	4					2		53	90	100
MDV-960(34)W/D2CN1(B)	3	4		2		1			56	96	108
MDV-1010(36)W/D2CN1(B)	3	4		2			1		59	101	113
MDV-1065(38)W/D2CN1(B)	3	5		1	1		1		63	106.5	119
MDV-1130(40)W/D2CN1(B)	3	5		1		1	1		64	113	126.5
MDV-1200(42)W/D2CN1(B)	3	6				3			64	120	135
MDV-1250(44)W/D2CN1(B)	3	6				2	1		64	125	140
MDV-1300(46)W/D2CN1(B)	3	6				1	2		64	130	145
MDV-1350(48)W/D2CN1(B)	3	6					3		64	135	150
MDV-1432(50)W/D2CN1(B)	4	6	1	1			2		64	143.2	158.5
MDV-1460(52)W/D2CN1(B)	4	6		2			2		64	146	163
MDV-1515(54)W/D2CN1(B)	4	7		1	1		2		64	151.5	169
MDV-1580(56)W/D2CN1(B)	4	7		1		1	2		64	158	176.5
MDV-1650(58)W/D2CN1(B)	4	8				3	1		64	165	185
MDV-1700(60)W/D2CN1(B)	4	8				2	2		64	170	190
MDV-1750(62)W/D2CN1(B)	4	8				1	3		64	175	195
MDV-1800(64)W/D2CN1(B)	4	8					4		64	180	200
MDV-1835(66)W/D2CN1(B)	4	8			1			3	64	183.5	205.5
MDV-1900(68)W/D2CN1(B)	4	8				1		3	64	190	213
MDV-1950(70)W/D2CN1(B)	4	8					1	3	64	195	218
MDV-2000(72)W/D2CN1(B)	4	8						4	64	200	224

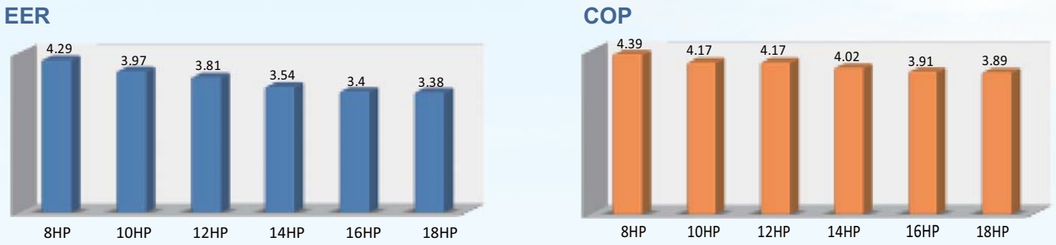
Notes:
Capacities are based on the following conditions:
Cooling: Indoor temperature 27°C(80.6°F) DB/19°C(66.2°F) WB; Outdoor temperature 35°C(95°F) DB
Heating: Indoor temperature 20°C(68°F) DB/15°C(59°F) WB; Outdoor temperature 7°C(44.6°F) DB
Piping length: Interconnecting piping length 7.5m, level difference of zero.
The above models combination are factory-recommended models.
*The recommended combination larger than 64HP adopt 5 basic models since 18HP model can be customized.
The above recommended combination will be changed at that time.

Features

HIGH EFFICIENCY

V4 PLUS S Series with high efficiency DC compressors, DC motors and high efficient heat exchanger, achieve the world's Top Class energy efficiency. The cooling EER up to 4.29 and the heating COP up to 4.39 in the 8HP category.

High EER/COP values



All DC inverter compressors

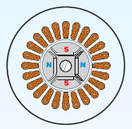
8HP and 10HP models are equipped with one DC inverter compressor and 12, 14, 16, 18HP models are equipped with two.

DC inverter compressors enable the V4+S series to offer a wide operation range from 20Hz to 200Hz and raise IPLV considerably.

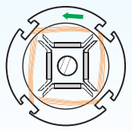
All DC Inverter

- New structure enhances mid-frequency performance
- Specially designed scroll profile for R410A
- More compact, weight reduced by 50%
- Advanced permanent magnet DC motor improves the low frequency band performance

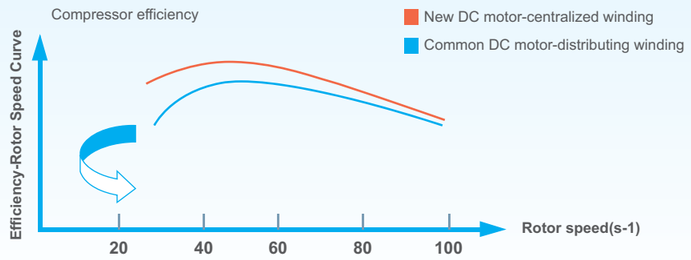
Powerful magnets provide high torque and efficiency and achieve 70% reduction in volume.
Wide operation range from 20Hz to 200Hz.



Centralizing winding



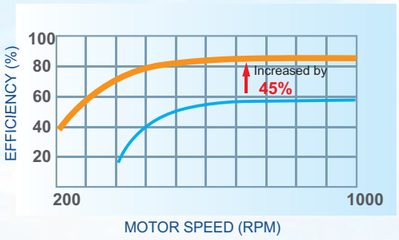
Distributing winding

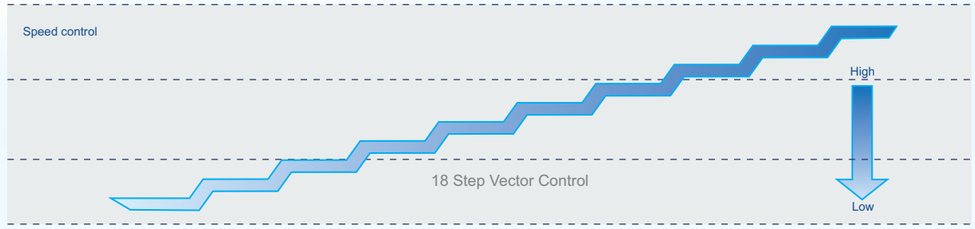


All DC fan motors

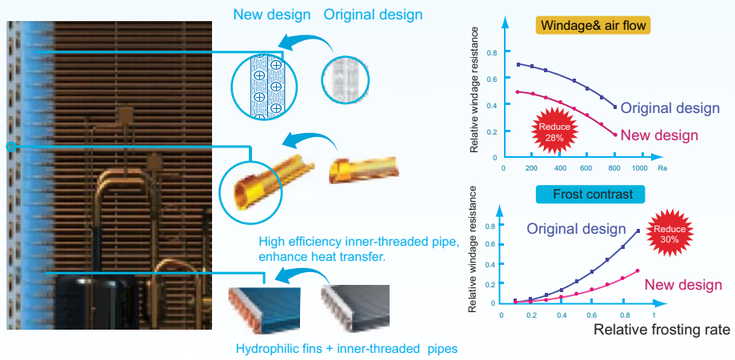
According to the running load and pressure, it controls the speed of DC fan to achieve the min. power consumption.

- Used across entire range of models (from 8 to 72 HP).
- Efficiency improvement by up to 45% especially at low speed.
- Wide speed adjustment with 18 steps vector control.

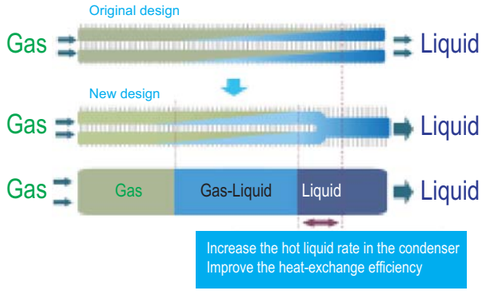


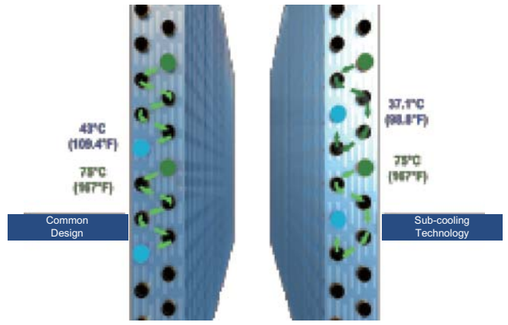


High performance heat exchanger



- The new designed window fins enlarge the heat-exchanging area , decrease the air resistance, save more power and enhance heat exchange performance.
- Hydrophilic fins and inner-threaded copper pipes optimize heat exchange efficiency.





- Innovative designed high efficiency heat exchanger, which can reach up to 12°C(21.6°F)subcooling degree, reduces the system resistance and improves reliability.
- When the outdoor temperature is 35°C(95°F), the refrigerant can be cooled down to 37.1°C(98.8°F), thus achieving high heat-exchanging efficiency with only 2.1°C(3.8°F) temperature difference.

Fan grille

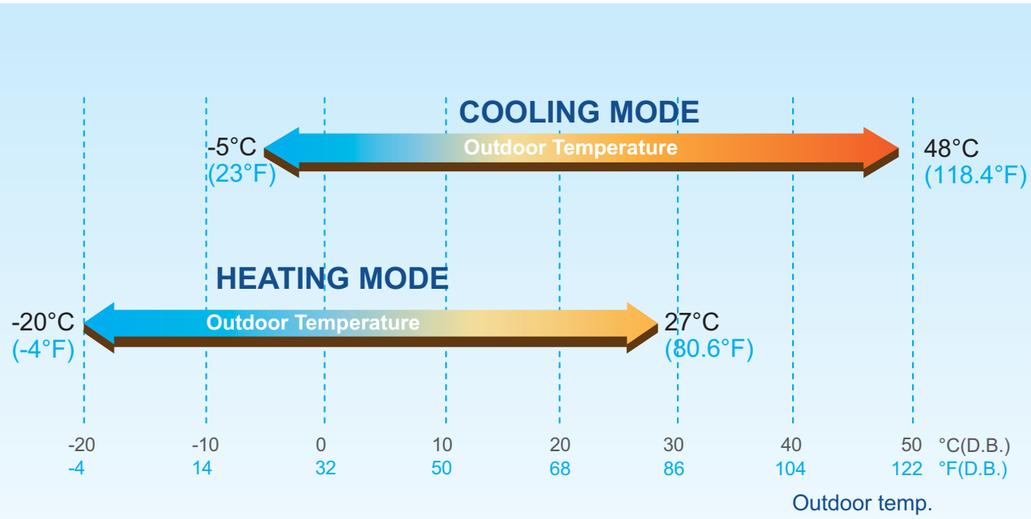
Optimized fan blade shape with new air outlet grille enhanced air flow volume which greatly improves fan performance and decreases noise. Also, a higher external static pressure has been achieved up to 60Pa*. (0-20Pa is standard, 20~40Pa should be customized.)

*: 60Pa is available for 12HP model.

New fan blade profile

A new blade with sharp edges and a slight curve increases the airflow rate and lowers vibration and airflow resistance.

Wide operation range



The V4+ S series system operates stably at extreme temperatures ranging from minus 20°C to 48°C. (-4°F to 118.4°F)

WIDE APPLICATION RANGE

Large capacity for big sized building

The outdoor units capacity range from 8HP up to 72HP in 2HP increment. Maximum 64 indoor units with capacity up to 130% of total outdoor units can be connected in one refrigeration system.

8, 10HP

12, 14, 16HP

18HP

18, 20, 22, 24, 26, 28, 30, 32HP

34,36, 38, 40, 42, 44, 46, 48HP

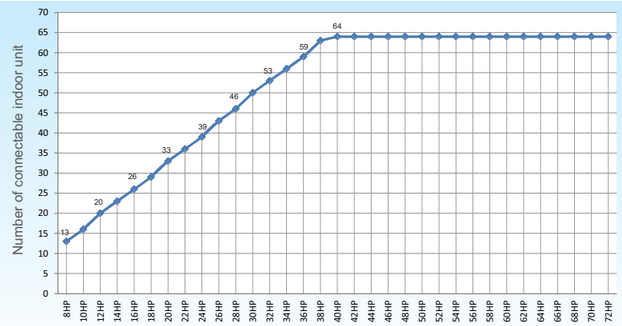
50, 52, 54, 56, 58, 60, 62, 64HP

66, 68, 70, 72HP

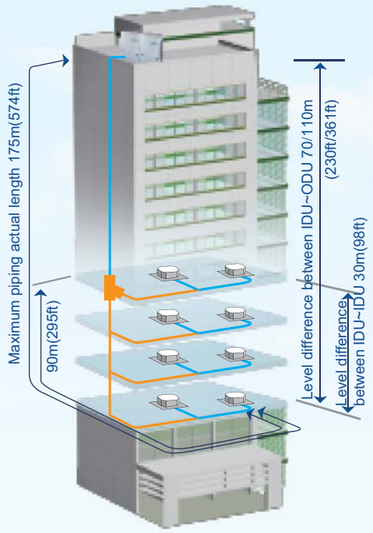
*18HP model can be customized.

More connectable indoor units.

The high number of connectable units is suitable for large buildings and projects.



Long piping length



The solution supports an incredible piping length of 1,000m(3280ft) and level difference of 110m(361ft), making it perfect for large projects.

			Permitted value
Piping length	Total pipe length*(Actual)		1000m (3280ft)
	Maximum piping(L)	Actual length	175m (574ft)
		Equivalent length	200m (656ft)
Level difference	Piping (The farthest IDU from the first Indoor unit branch)equivalent length		40m/90m* (131ft/295ft*)
	Level difference between IDU~ODU	Outdoor unit up	70m(230ft)
		Outdoor unit down	110m(361ft)
	Level difference between IDU~IDU		30m(98ft)

*Total pipe length is equal to two times pipe length plus pipe length.
*When the fastest pipe length is more than 40m(131ft). It needs to meet the specific condition according to the installation part of the techinical manual.

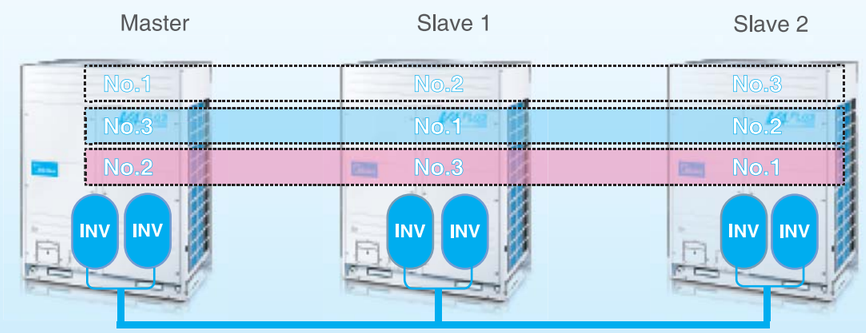
Extra high static pressure – Max. 60 Pa and air volume increased by 10%

The high-static pressure propeller and optimized fan guard can adapt to various installation environments.
Midea now offers up to 40 Pa* external static pressure units for customized applications (60 Pa is available for the 12HP model). A standard 0-20Pa function is equipped by default.
*You need to consult Midea if you require over 40Pa.

HIGHER RELIABILITY

Duty cycling

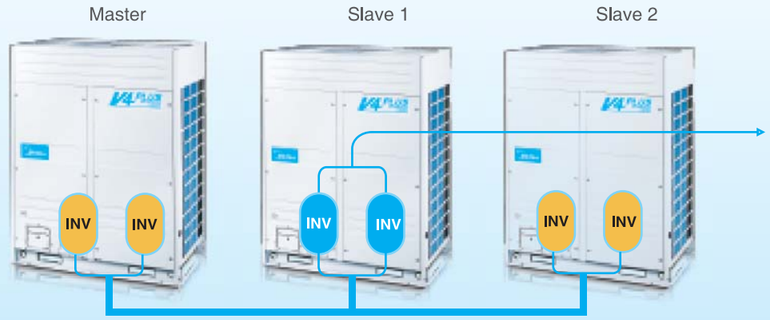
In one combination, any outdoor unit can run as the master outdoor unit to equalize the service life of all units.



12HP~18HP models with two compressors have an alternative cycle duty function.

Back-up function

In a multiple system, when the master unit failed, any single unit can be set as the master unit，then the remaining units can keep on working. This can be set on PCB by DIP switches at site.



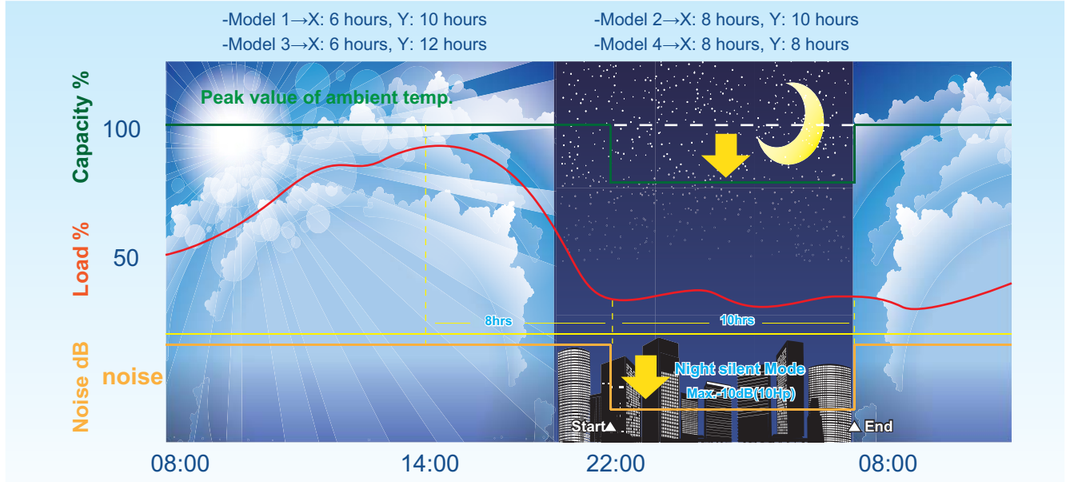
Indoor unit quantity monitoring

The quantity of indoor units should be exactly set on the outdoor PCB, once some indoor units miscommunicate with outdoor units during system running, the outdoor units will stop and display the fault code “H7”. This can prevent compressor from liquid hammer caused by dropped indoor units with EXV unclosed.

ENHANCED COMFORT

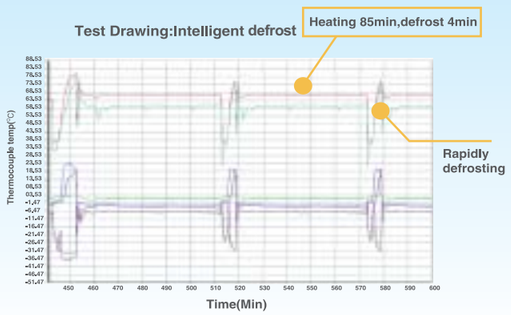
Night silent operation mode

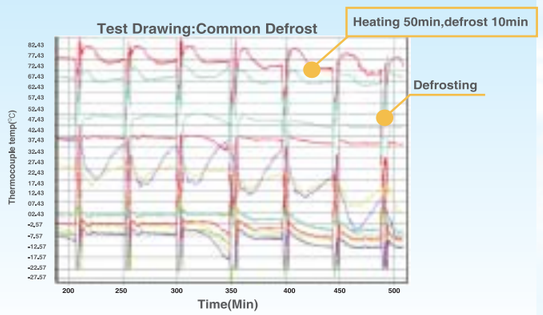
Midea's Night Silent Mode feature which is easily set on the PCB board allows the unit to be set to varies time options during Non Peak and Peak operation time optimizing the units noise output.
Extra silent operation mode can reduce sound level further, minimum 45dB (A).
Night silent operation will be activated X hours after the peak temperature during daytime, and it will go back to normal operation after Y hours.



Notes:
This function can be activated by setting at site. Temperature(load) curve shown in the graph is just an example.

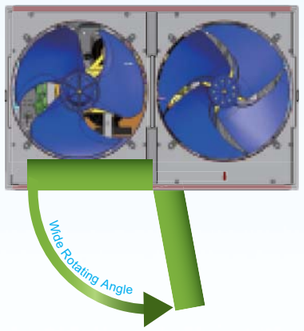
Intelligent defrosting raises heat capacity





EASIER INSTALLATION AND SERVICE

Easy access



* Rotating Control box is available for 18HP model which with G-shape Condenser.

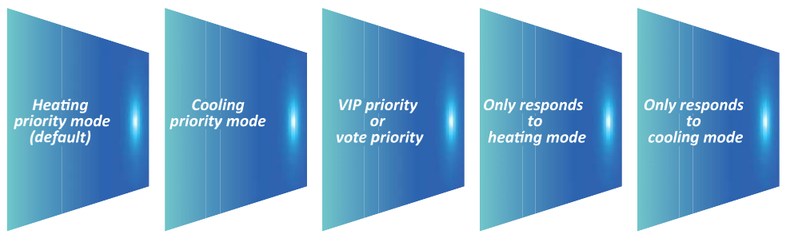
Newly designed rotating control box is so excellent that it can rotate in a wide angle. It is convenient for inspection and maintenance of the pipeline system and greatly reduces the time of dismount the electric control box.

Reserved checking window on electric control box for convenient spot checking and status enquiry.

Self-diagnosis function helps service engineers locate faults quickly and easily.

Various locking modes

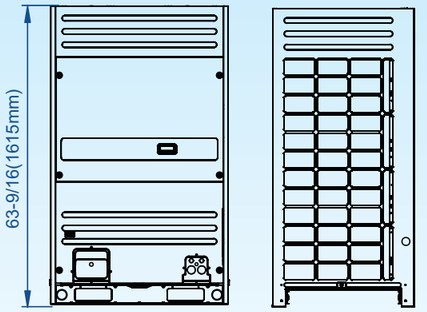
Various locking modes enhance convenience for users.
In VIP priority or vote priority mode, the address of the VIP unit should be set as 63, if there is no 63 unit, it will respond to vote priority.



Dimensions

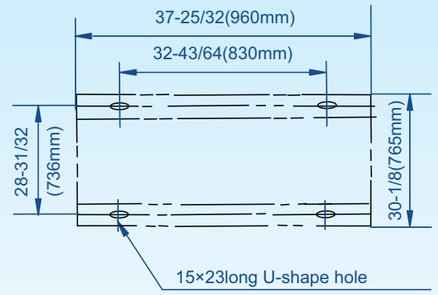
8、10 HP

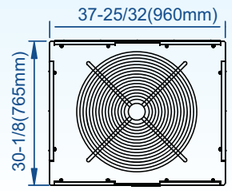
Unit:in.(mm)



■ Position illustration of screw bolts .

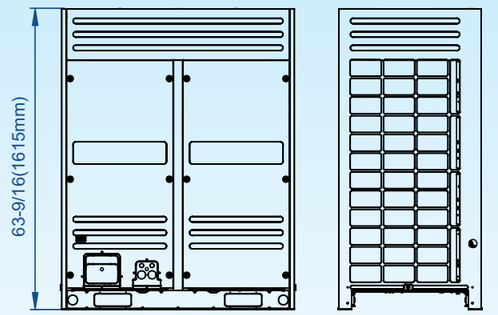
Unit: in.(mm)





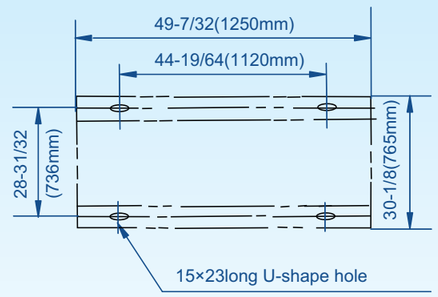
12、14、16 、18 HP

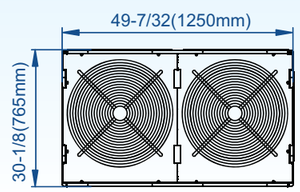
Unit:in.(mm)



■ Position illustration of screw bolts.

Unit: in.(mm)





Outdoor Unit

V4+S Series
MDV-252(8)W/D2CN1(B)
MDV-280(10)W/D2CN1(B)
MDV-335(12)W/D2CN1(B)

■ Specifications

Model			MDV-252(8)W/D2CN1(B)	MDV-280(10)W/D2CN1(B)	MDV-335(12)W/D2CN1(B)
Power source		V-Ph-Hz	380-415/3/60		
Cooling Mode	Capacity (Nominal)	kW	25.2	28	33.5
		Btu/h	86,000	95,500	114,300
		kcal/h	21,703	24,115	28,852
	Power input	kW	5.875	7.053	8.793
	EER	kW/kW	4.29	3.97	3.81
Heating Mode	Capacity (Nominal)	kW	27	31.5	37.5
		Btu/h	92,100	107,500	128,000
		kcal/h	23,253	27,129	32,297
	Power input	kW	6.15	7.554	8.993
	COP	kW/kW	4.39	4.17	4.17
Indoor unit connectable	Total capacity	%	50-130	50-130	50-130
	Max. quantity of indoor units		13	16	20
Sound pressure level		dB(A)	57	57	59
Refrigerant piping diameter	Liquid line pipe	in.(mm)	Φ1/2(Φ12.7)	Φ1/2(Φ12.7)	Φ5/8(Φ15.9)
	Gas pipe	in.(mm)	Φ1(Φ25.4)	Φ1(Φ25.4)	Φ1/4(Φ31.8)
	Oil balbance pipe	in.(mm)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)
Fan	Type		Axial propeller	Axial propeller	Axial propeller
	Quantity		1	1	1+1
	Air flow rate	m^3/h	11,242	11,242	15,620
		CFM	6,611	6,611	9,185
	Dimension(Dia. ×H)	in.(mm)	27-9/16×8(700×202)	27-9/16×8(700×202)	22×7-7/16(560×189)
	Vane Quantities of each blower		3	3	3+4
	Motor output	kW	0.75	0.75	0.56+0.38
	ESP	Pa	0~20 (default)	0~20 (default)	0~20 (default)
			20~40 (optional)	20~40 (optional)	20~60 (optional)
DC inverter Compressor	Quantity		1	1	1+1
	Capacity	W	31,590	31,590	31,590+11,800
	Refrigerant oil	gal.(ml)	0.132(500)	0.132(500)	0.132+0.132(500+500)
Net dimension(W×H×D)		in.(mm)	37-25/32×63-9/16×30-1/8(960×1,615×765)		49-7/32×63-9/16×30-1/8(1,250×1,615×765)
Packing dimension(W×H×D)		in.(mm)	40-3/8×70-1/2×32-11/16(1,025×1,790×830)		51-3/8×70-15/32×32-9/32(1,305×1,790×820)
Pipe connection	The farthest pipe length	ft.(m)	656(200)	656(200)	656(200)
	Max. height difference	ft.(m)	361(110)	361(110)	361(110)
Refrigerant charge	Type		R410A	R410A	R410A
	Original charge	lbs.(kg)	22(10)	22(10)	26.5(12)
Net/Gross weight		lbs.(kg)	466/499（212/227）	466/499（212/227）	634/678(288/308)

Notes:
1.Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB(80.6°F), 19°C WB(66.2°F)	35°C DB(95°F)	7.5m(24.6ft)	0m(0ft)
Heating	20°C DB(68°F), 15°C WB(59°F)	7°C DB(44.6°F)	7.5m(24.6ft)	0m(0ft)

2.Sound level: Anechoic chamber conversion value, measured at a position 1m(3.28ft) in front of the unit and 1.5m(4.92ft) above the floor.
3.Due to continued product improvements, the above specifications may change without prior notice.

Outdoor Unit

V4+S Series
MDV-400(14)W/D2CN1(B)
MDV-450(16)W/D2CN1(B)
MDV-500(18)W/D2CN1(B)

■ Specifications

Model			MDV-400(14)W/D2CN1(B)	MDV-450(16)W/D2CN1(B)	MDV-500(18)W/D2CN1(B)*
Power source		V-Ph-Hz	380-415/3/60		
Cooling Mode	Capacity (Nominal)	kW	40	45	50
		Btu/h	136,500	153,500	170,500
		kcal/h	34,450	38,756	43,063
	Power input	kW	11.299	13.253	14.793
	EER	kW/kW	3.54	3.4	3.38
Heating Mode	Capacity (Nominal)	kW	45	50	56
		Btu/h	153,500	170,600	190,960
		kcal/h	38,756	43,062	48,230
	Power input	kW	11.194	12.79	14.396
	COP	kW/kW	4.02	3.91	3.89
Indoor unit connectable	Total capacity	%	50-130	50-130	50-130
	Max. quantity of indoor units		23	26	29
Sound pressure level		dB(A)	60	60	61
Refrigerant piping diameter	Liquid line pipe	in.(mm)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)	Φ3/4(Φ19.1)
	Gas pipe	in.(mm)	Φ1/4(Φ31.8)	Φ1/4(Φ31.8)	Φ1/4(Φ31.8)
	Oil balbance pipe	in.(mm)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)	Φ1/4(Φ6.35)
Fan	Type		Axial propeller	Axial propeller	Axial propeller
	Quantity		1+1	1+1	1+1
	Air flow rate	m^3/h	15,620	15,620	15,620
		CFM	9,185	9,185	9,185
	Dimension(Dia. ×H)	in.(mm)	560×189	560×189	560×189
	Vane Quantities of each blower		3+4	3+4	3+4
	Motor output	kW	0.56+0.38	0.56+0.38	0.56+0.38
	ESP	Pa	0~20 (default)	0~20 (default)	0~20 (default)
			20~40 (optional)	20~40 (optional)	20~40 (optional)
DC inverter Compressor	Quantity		1+1	1+1	1+1
	Capacity	W	31,590+11,800	31,590+11,800	31,590+11,800
	Refrigerant oil	gal.(ml)	0.132+0.132(500+500)	0.132+0.132(500+500)	0.132+0.132(500+500)
Net dimension(W×H×D)		in.(mm)	49-7/32×63-9/16×30-1/8(1,250×1,615×765)		
Packing dimension(W×H×D)		in.(mm)	51-3/8×70-15/32×32-9/32(1,310×1,790×825)		
Pipe connection	The farthest pipe length	ft.(m)	656(200)	656(200)	656(200)
	Max. height difference	ft.(m)	361(110)	361(110)	361(110)
Refrigerant charge	Type		R410A	R410A	R410A
	Original charge	lbs.(kg)	33.1(15)	33.1(15)	37.5(17)
Net/Gross weight		lbs.(kg)	634/678(288/308)	634/678(288/308)	683/728(310/330)

Notes:
1.Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB(80.6°F), 19°C WB(66.2°F)	35°C DB(95°F)	7.5m(24.6ft)	0m(0ft)
Heating	20°C DB(68°F), 15°C WB(59°F)	7°C DB(44.6°F)	7.5m(24.6ft)	0m(0ft)

2.Sound level: Anechoic chamber conversion value, measured at a position 1m(3.28ft) in front of the unit and 1.5m(4.92ft) above the floor.
3.18HP model can be customized.
4.Due to continued product improvements, the above specifications may change without prior notice.

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. Five to seven rooms require only one outdoor unit, and individual control is enabled in each room.

NEW Fashion Design

R-410A

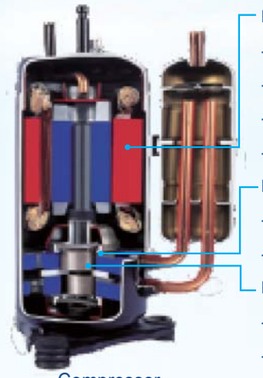
DC Inverter

Features

Midea's continuous technological innovations fully meets current market needs. All of this year's new technologies have been developed to provide the most efficient and convenient air conditioners.

High efficiency full DC inverter compressor

High efficiency and Energy-saving, thanks to the DC inverter compressor and DC fan motor. Inverter systems save energy as continuous operation offers the same capacity as lower power consumption. This benefits all occupants by maintaining even room temperatures, as well as the environment by reducing energy consumption.



Compressor
(Twin Rotary) structure

Highly Efficient DC Motor:

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

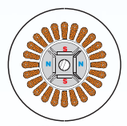
Better balance and Extremely Low Vibration:

- Twin eccentric cams
- 2 balance weights

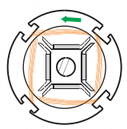
Highly Stable Moving Parts:

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

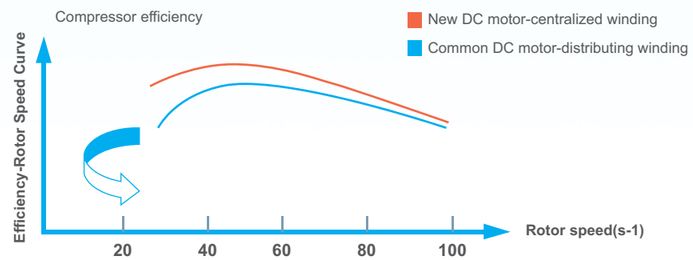
Powerful magnets provide high torque and efficiency and achieve 70% reduction in volume.



Centralizing winding



Distributing winding



Low noise DC fan motor

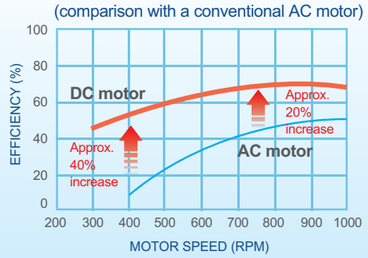
DC fan motor structure

Panasonic DC fan motor :

-Wider Fan Speed Adjustment
-lower Noise
-lower Power Consumption

DC motor efficiency

(comparison with a conventional AC motor)



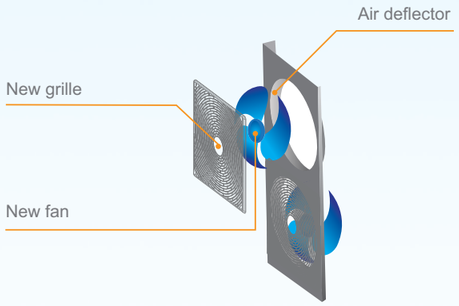
High performance heat exchanger

Hydrophilic Blue Fin Coil

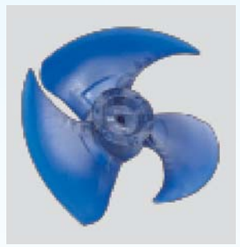
The coils are specially coated to enhance durability and protect against corrosion from air, water and other corrosive agents. The blue fin coil provides three times higher resistance against corrosion. This special coating assures a longer coil service life to provide years of comfort for users.

Noise reducing design

Optimally designed fan shape and air discharge grille increases air volume and reduces running noise.



Newly Designed Fan Guard

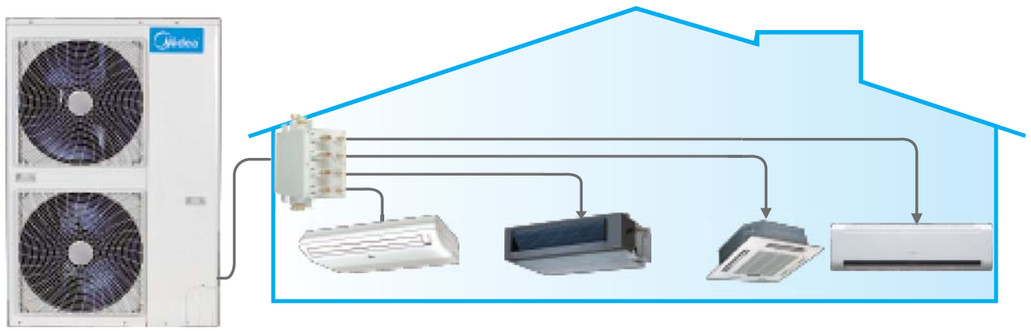


Powerful Large Propeller

Application flexibility-various Indoor units

Mini VRF with intelligent control gives you independent zoning control with maximum flexibility.A single outdoor unit supports up to seven 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. 5 indoor units for a 10.5 kW outdoor unit installation
- Max. 6 indoor units for a 12 kW outdoor unit installation
- Max. 6 indoor units for a 14 kW outdoor unit installation
- Max. 7 indoor units for a 16 kW outdoor unit installation

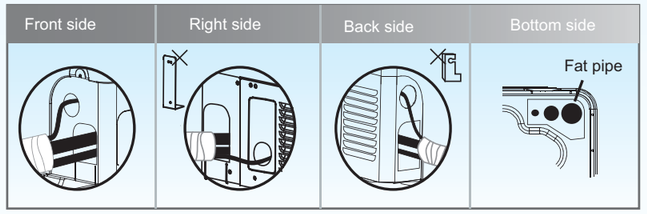


Auto addressing

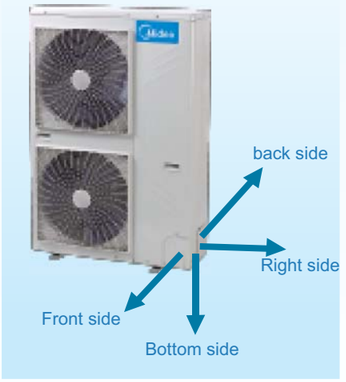
Addresses of indoor units can be set automatically by outdoor units.
Wireless controller can inquire and modify every indoor units address.

More convenience in installation

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

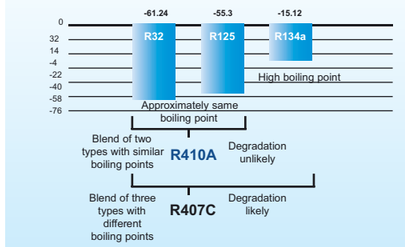


For installation in different types of rooms in small offices and shops,the Mini VRF system offers a wide range of indoor and outdoor units. These are almost as easy to install as residential air conditioning systems, making them the ideal choice.



Benefits of R410A refrigerant

Comparison of refrigerant boiling points (liquid and gas)



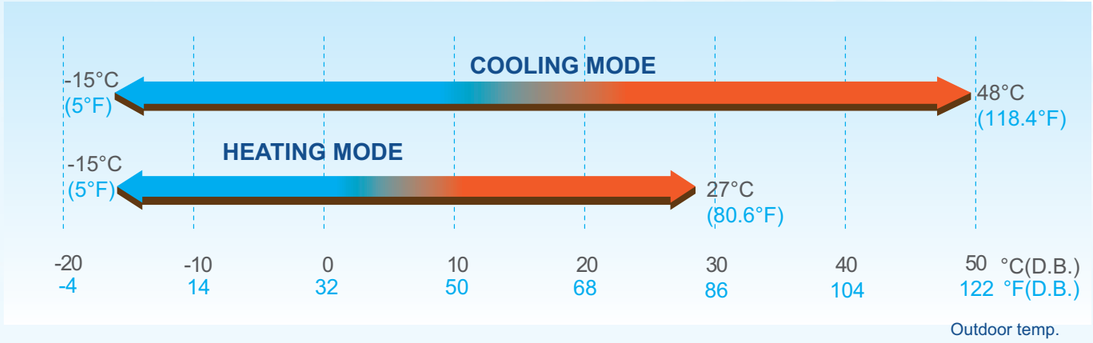
Making continuous efforts to stay eco-friendly, midea's air conditioners use R-410A, an environmentally friendly refrigerant to help rid the air of pollutants and restrain the use of materials with high global warming potential (GWP). Incorporating the Energy efficient, non-ozone-depleting R410A refrigerant in air conditioning systems delivers multiple benefits:

- Zero ozone-depleting potential
- Significant increase in energy efficiency.
- Reduces pressure loss to improve performance.

Wide operation temperature range

Up to 48°C(118.4°F) in cooling mode and down to -15°C(5°F) in heating mode.

The operation range of the Mini VRF system works to reduce limitations on installation locations. The wide operation range of the Mini VRF system greatly increases the number of possible installation locations where the system can run stably.

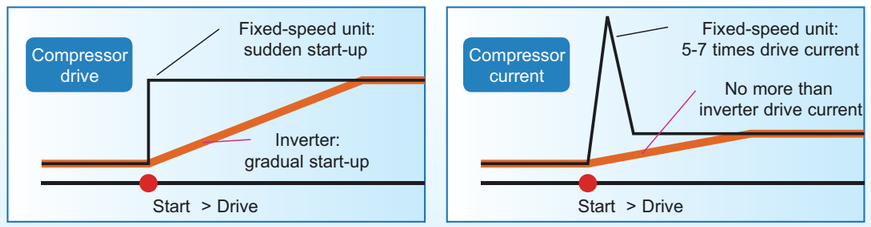


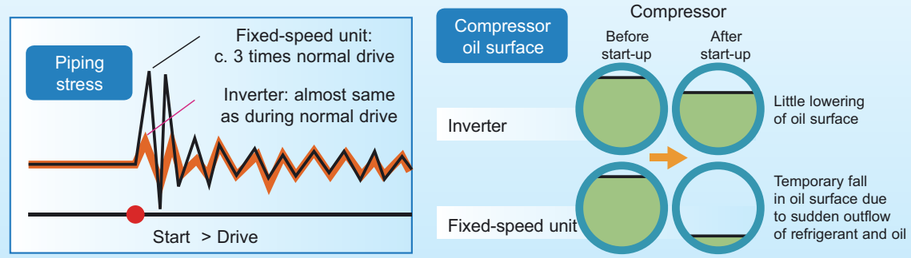
Mini VRF system operates stably at extreme temperatures ranging from minus 15°C(5°F) to 48°C(118.4°F)

Smooth control

By using all inverter-driven compressors, Midea is able to significantly reduce the electrical and mechanical stresses that are placed on fixed-speed compressors during start-up. Current absorption on an inverter-driven compressor is smoothed out at start-up thus reducing the wear on the electrical and mechanical components and increasing reliability

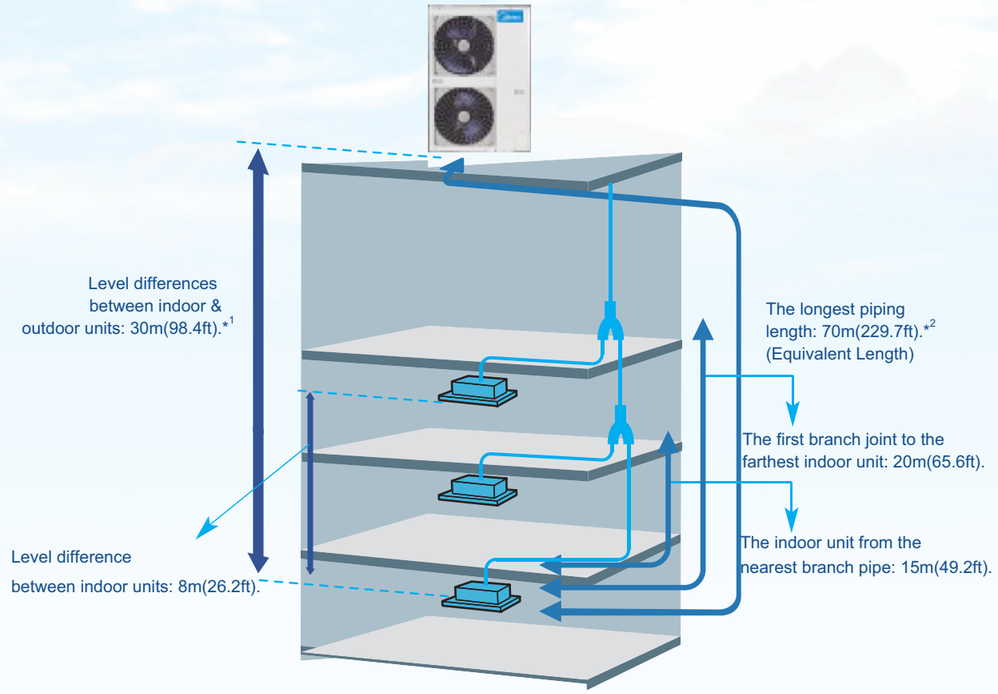
Start-up using all inverter-driven compressor





Flexible piping design

The Mini VRF provides a max. piping length possibility of 100m(328ft), a maximum height difference between outdoor and indoor units of 30m(98.4ft). The height difference between indoors unit can be up to 8m(26.2ft). These generous allowances facilitate an extensive array of system designs.



Note:*1.when outdoor unit up level difference is 30m.,when outdoor unit down level difference is 20m(65.6ft).
*2.Longest piping length

	8/10.5kW	12/14/16kW
Actual length	≤45m(146.7ft)	≤60m(196.9ft)
Equipment length	≤50m(164ft)	≤70m(229.7ft)

Total piping length: 100m(328ft).

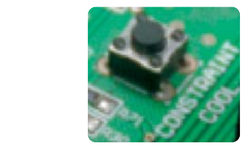
Auto-restart function

Even if an extended power failure occurs, the A/C system automatically restarts with the same settings. A power failure will not cause any settings to be lost, thus eliminating the need for re-programming.

Easy maintenance

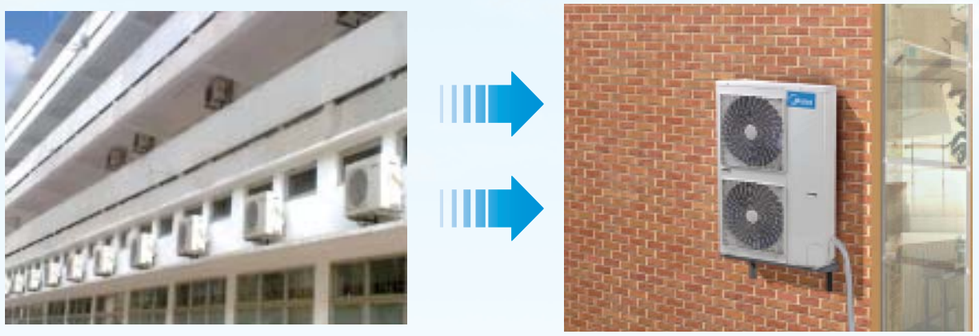
Forced cooling button makes outdoor unit run in cooling mode at any condition, so it is very easy for you to charge refrigerant to the system when it need to be done.

The self-diagnosis function detects malfunctions in major locations in the system and displays the type of malfunction and location. This allows service and maintenance to be performed more efficiently.

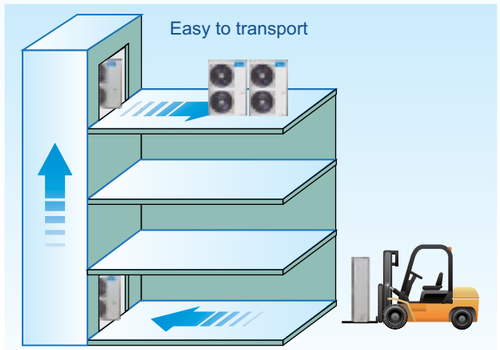


Space saving design

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 removes this problem, and retains buildings' original aesthetics.



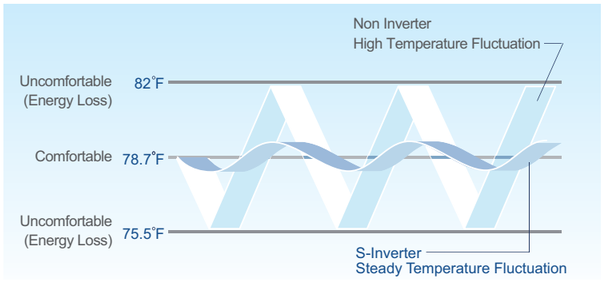
Easy installation



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

Comfortable temperature

The inverter Mini VRF can quickly reach the desired temperature. After reaching the set temperature, it finely adjusts to cope with any changes. This means less temperature fluctuations to achieve maximum comfort in minutes.



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 Φ6.35mm(Φ 1/4in). to Φ9.53mm(Φ3/8in). and from Φ12.7mm(Φ1/2in). to Φ15.9(Φ5/8in)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 maintaining the 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.

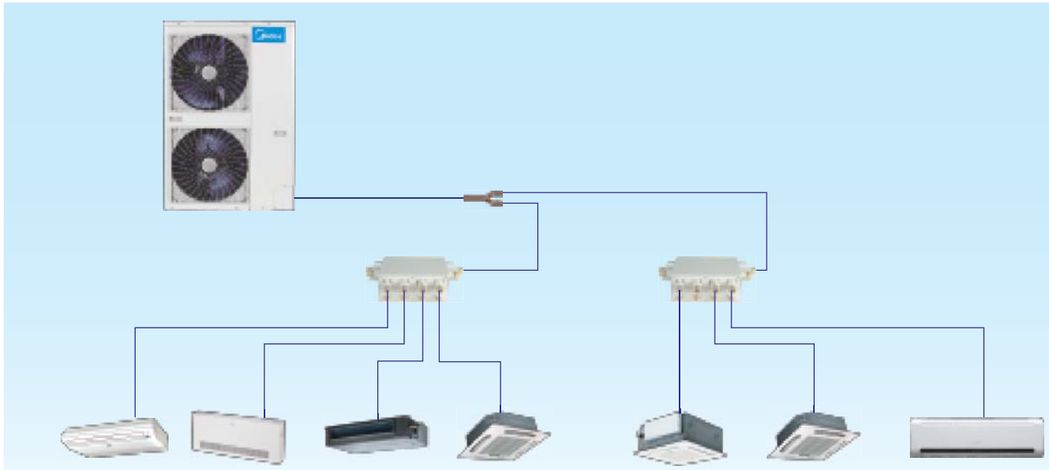
Indoor installation

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.

Universal indoor units

The same indoor units as the R410A DC inverter mini VRF system.

New piping connection design



Outdoor Unit

Specifications

208-230V~60Hz

MDV-V105W/DVN1

MDV-V120W/DVN1

MDV-V140W/DVN1

MDV-V160W/DVN1

Model			MDV-V105W/DVN1	MDV-V120W/DVN1	MDV-V140W/DVN1	MDV-V160W/DVN1
Power supply		V-Ph-Hz	208-230V~60Hz	208-230V-60Hz	208-230V-60Hz	208-230V-60Hz
Cooling	Capacity*	kW	10.5	12	14	15.5
		Btu/h	35,800	40,900	47,800	52,900
		Kcal/h	9,042	10,340	12,063	13,355
	Input	kW	2.68	3.25	3.95	4.52
	EER	W/W	3.92	3.69	3.54	3.43
Heating	Capacity*	kW	11.5	13.2	15.4	17
		Btu/h	39,200	45,000	52,500	58,000
		Kcal/h	9,906	11,373	13,269	14,647
	Input	kW	2.9	3.47	4.16	4.77
	COP	W/W	3.97	3.80	3.70	3.56
Indoor unit connectable		%	45%~130%	45%~130%	45%~130%	45%~130%
Max. quantity of indoor units			5	6	6	7
Outndoor sound level*(sound pressure level)		dB(A)	57	57	57	57
Compressor	Type		Rotary	Rotary	Rotary	Rotary
	Input	W	3,010	3,010	3,010	4,240
	Refrigerant oil	gal.(ml)	FV50S 0.177+0.058(670ml+200ml)	FV50S 0.230+0.166 (870+630)		FV50S 0.37+0.066(1400+250)
Outdoor air flow		m^3/h	5,100	6,000	6,000	6,000
		CFM	3,000	3,531	3,531	3,531
Refrigerant piping	Liquid side	in.(mm)	Φ3/8(Φ9.53)	Φ3/8(Φ9.53)	Φ3/8(Φ9.53)	Φ3/8(Φ9.53)
	Gas side	in.(mm)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)
Outdoor fan motor	Type		DC motor	DC motor	DC motor	DC motor
	Brand		Panasonic	Panasonic	Panasonic	Panasonic
	Output	W	72	2x85	2x85	2x85
Outdoor fan	Type		Axial fan	Axial fan	Axial fan	Axial fan
Outdoor unit Dimension	Body(WxHxD)	in.(mm)	38-31/32x38-1/32x13-15/64 (990x966x336)	35-7/16x52-1/4x12-19/32(900x1,327x320)		
	Packing (WxHxD)	in.(mm)	43-1/2x39-9/16x17-1/8 (1,105x1,005x435)	40-35/64x57-21/64-17-1/8(1,030x1,456x435)		
Weight	Net weight	lbs.(kg)	158.7(72)	209.4/209.4(95/95)	209.4/209.4(95/95)	220.5/224.9(100/102)
	Gross weight	lbs.(kg)	174.2(79)	233.7/233.7(106/106)	233.7/233.7(106/106)	244.7/249.1(111/113)
Refrigerant	Type		R410A	R410A	R410A	R410A
	Charged volume	lbs.(kg)	6.61(3)	7.3(3.3)	8.6(3.9)	8.6(3.9)
Connection wiring	Power Wiring	mm^2	3 core x 4.0	3 core x 4.0	3 core x 4.0	3 core x 4.0
	Signal wiring	mm^2	3 core shielded wire x 0.75			

Note:

1. The cooling conditions: indoor temp.: 27℃ DB(80.6℉), 19℃ WB(60℉) outdoor temp.: 35℃ DB(95℉) equivalent pipe length: 5m drop length: 0m.
2. The heating conditions: indoor temp.: 20℃ DB(68℉), 15℃WB(44.6 ℉) outdoor temp.: 7℃DB(42.8 ℉) equivalent pipe length: 5m drop length: 0m.
3. Sound level: Anechoic chamber conversion value, measured at a point 1 m(3.28ft) in front of the unit at a height of *m(1m(3.28ft) for 105 model,1.2m(3.94ft) for 120~160model). 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.

Full DC Inverter Mini VRF

Outdoor Unit

Specifications

380-415V-3N~60Hz

MDV-V120W/DCN1

MDV-V140W/DCN1

MDV-V160W/DCN1

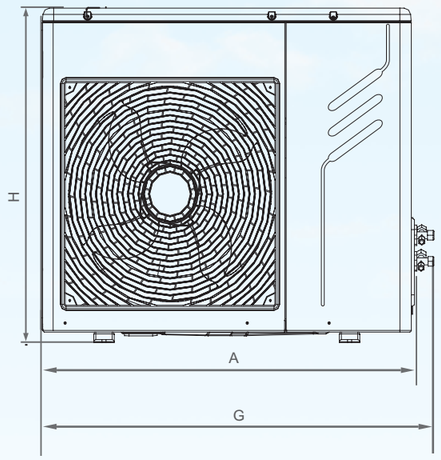
Model			MDV-V120W/DCN1	MDV-V140W/DCN1	MDV-V160W/DCN1
Power supply		V-Ph-Hz	380-415V-3N-60Hz	380-415V-3N-60Hz	380-415V-3N-60Hz
Cooling	Capacity*	kW	12	14	15.5
		Btu/h	40,900	47,800	52,900
		Kcal/h	10,340	12,063	13,355
	Input	kW	3.25	3.95	4.52
	EER	W/W	3.69	3.54	3.43
Heating	Capacity*	kW	13.2	15.4	17
		Btu/h	45,000	52,500	58,000
		Kcal/h	11,373	13,269	14,647
	Input	kW	3.47	4.16	4.77
	COP	W/W	3.80	3.70	3.56
Indoor unit connectable		%	45%~130%	45%~130%	45%~130%
Max. quantity of indoor units			6	6	7
Outndoor sound level*(sound pressure level)		dB(A)	57	57	57
Compressor	Type		Rotary	Rotary	Rotary
	Input	W	3,010	3,010	4,240
	Refrigerant oil	gal(ml)	FV50S 0.230+0.166 (870+630)		FV50S 0.37+0.066(1400+250)
Outdoor air flow		m^3/h	6,000	6,000	6,000
		CFM	3,531	3,531	3,531
Refrigerant piping	Liquid side	in.(mm)	Φ3/8(Φ9.53)	Φ3/8(Φ9.53)	Φ3/8(Φ9.53)
	Gas side	in.(mm)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)	Φ5/8(Φ15.9)
Outdoor fan motor	Type		DC motor	DC motor	DC motor
	Brand		Panasonic	Panasonic	Panasonic
	Output	W	2x85	2x85	2x85
Outdoor fan	Type		Axial fan	Axial fan	Axial fan
Outdoor unit Dimension	Body(WxHxD)	in(mm)	35-7/16x52-1/4x12-19/32(900x1,327x320)		
	Packing (WxHxD)	in.(mm)	40-35/64x57-21/64-17-1/8(1,030x1,456x435)		
Weight	Net weight(1N/3N)	lbs.(kg)	209.4/209.4(95/95)	209.4/209.4(95/95)	220.5/224.9(100/102)
	Gross weight(1N/3N)	lbs.(kg)	233.7/233.7(106/106)	233.7/233.7(106/106)	244.7/249.1(111/113)
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	Lbs(kg)	7.3(3.3)	8.6(3.9)	8.6(3.9)
Connection wiring	Power Wiring(1N)	mm^2	3 core x 4.0	3 core x 4.0	3 core x 4.0
	PoweR Wiring(3N)	mm^2	5 core x 2.5	5 core x 2.5	5 core x 2.5
	Signal wiring		3 core shielded wire x 0.75		

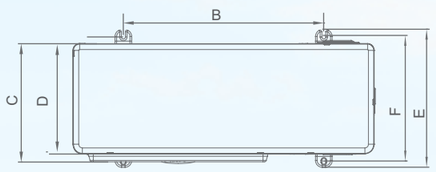
Note:

1. The cooling conditions: indoor temp.: 27℃ DB(80.6℉), 19℃ WB(60℉) outdoor temp.: 35℃ DB(95℉) equivalent pipe length: 5m drop length: 0m.
2. The heating conditions: indoor temp.: 20℃ DB(68℉), 15℃WB(44.6 ℉) outdoor temp.: 7℃DB(42.8 ℉) equivalent pipe length: 5m drop length: 0m.
3. Sound level: Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of *m(0.9m for 80model, 1m for 105 model,1.2m for 120~160model). 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.

Dimension

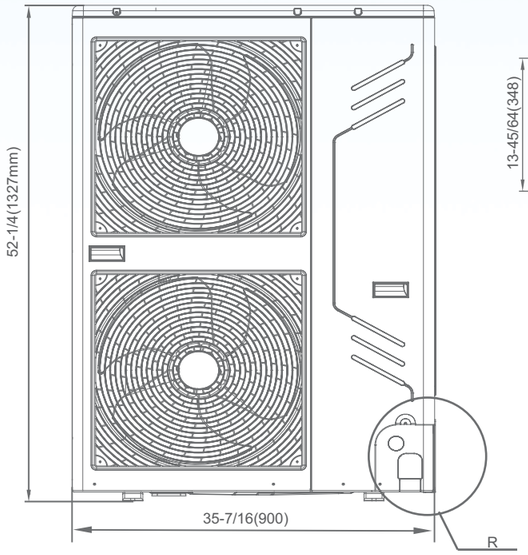
Unit Dimensions

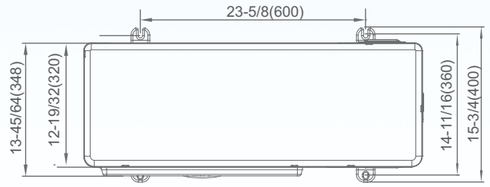


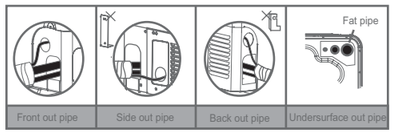


unit: in.(mm)

MODEL	A	B	C	D	E	F	G	H
80	35-15/64 (895)	23-15/64 (590)	12-21/64 (313)	11-57/64 (302)	13-31/32 (355)	13-7/64 (333)	38-25/64 (975)	33-15/16 (862)
100	38-31/32 (990)	24-9/16 (624)	13-15/16 (354)	13-15/64 (336)	15-19/32 (396)	14-13/32 (366)	42-21/64 (1075)	38-1/32 (966)

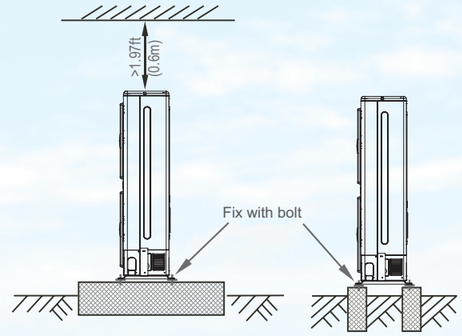




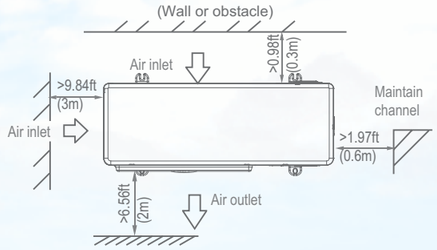


R amplification

Unit installation



Single Unit installation



Parallel installation