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VRF 50/60Hz V5 X Series



Commercial Air Conditioners 2017/2018



VRF 50/60Hz V5 X Series

Commercial Air Conditioner Division Midea Group

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



Midea CAC After-service Application

Midea CAC News Application



iOS Version

Android Version

iOS Version

Midea CAC

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

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

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

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

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

MIDEA GROUP
FORTUNE GLOBAL
FORTUNE
500

Midea Company
Introduction



Midea CAC
Introduction



- 2016 >> Acquired 80% stake in Clivet
- 2014-2015 >> Win FIFA World Cup Stadiums project in Brazil Beira Rio, Olympic Games Stadiums project in Brazil Rio de Janeiro and Africa games Stadiums project in Congo Brazzaville successively
- 2014 >> Launched the All DC Inverter V5X globally, outstanding product performance helps Midea leading VRF market
- 2011-2014 >> Launched the DC Inverter V4 Plus Series successively, complete product lines help Midea successfully enter the mainstream VRF market
- 2011-2012 >> J.V. with Carrier LA and Carrier India successively
- 2009 >> Launched the DC Inverter V4 globally
- 2008 >> Developed DC inverter technology with Toshiba
- 2000-2001 >> Cooperated with Toshiba and Copeland, enter VRF field
- 1999 >> Entered the CAC field

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OUTDOOR UNIT LINEUP

The Midea V5 X Series is a range of high performance VRF outdoor units. With capacities ranging from 8HP to 88HP in 2HP increments, the V5 X brings high efficiency, high reliability cooling and heating to projects large and small.

The V5 X offers a variety of outstanding capabilities. Able to support piping lengths of up to 1000m and height differences of up to 110m, the V5 X rises to the challenge of today's tall buildings. Compatibility with a wide selection of indoor units provides the flexibility to produce tailored climate control solutions for a wide range of interior spaces.



Single Unit

8/10/12HP



14/16/18/20/22HP



Multi Combination

24-44HP



46-66HP



68-88HP



INDOOR UNIT LINEUP

kW		1.8	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	10.0	11.2	12.5	14.0	16.0	20.0	25.0	28.0	40.0	45.0	56.0			
Btu/h		6k	7k	9k	12k	15k	19k	24k	27k	30k	34k	38k	42k	48k	55k	68k	85k	96k	136k	154k	191k			
Cassette	One-way cassette	AC Series																						
	Two-way cassette		AC Series																					
	Four-way cassette			AC Series																				
	Compact four-way cassette		AC Series																					
Duct	Low static pressure	AC Series																						
	Medium static pressure	AC Series																						
		DC Series																						
	High static pressure							AC Series							DC Series									
	Fresh air processing unit													AC Series						DC Series				
Wall mounted		AC Series																						
Ceiling & floor				AC Series																				
Floor standing			AC Series																					
Console			DC Series																					

AC Series
DC Series



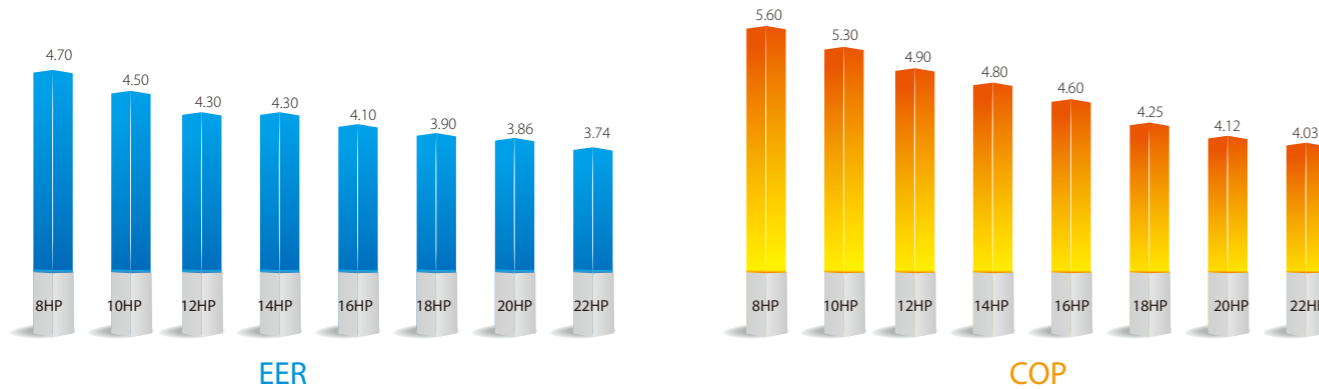
» **OUTDOOR UNITS** **V5 X SERIES VRF**

- ❖ High Efficiency
- ❖ Wide Application Range
- ❖ High Reliability
- ❖ Enhanced Comfort
- ❖ Easy Installation and Service
- ❖ Anti-corrosion Protection

High Efficiency

High EER and COP >>

DC compressors and fan motors together with a high-efficiency heat exchanger combine to give the V5 X Series top-class energy efficiency in cooling and heating.



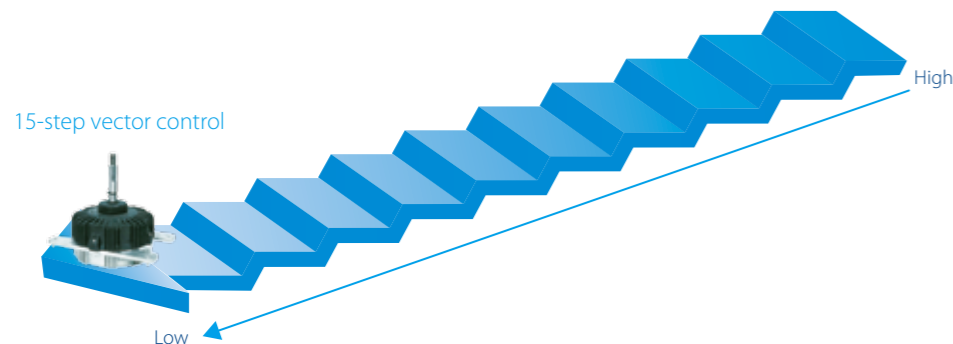
All DC Inverter Compressors >>

At the heart of the V5 X Series outdoor unit lies a world-leading DC inverter scroll compressor. The compressor's innovative design and numerous high performance features reduce power consumption by 25%.



All DC Fan Motors >>

Fan speed is controlled according to the system pressure and system load, minimizing energy consumption.

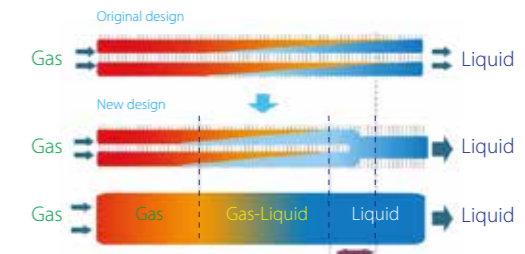
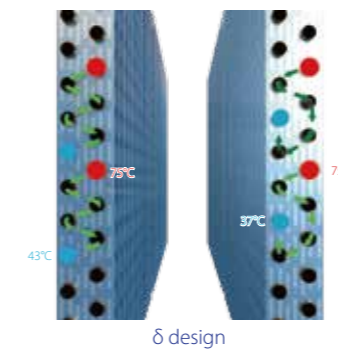


High Efficiency Heat Exchanger >>

Newly designed fins enlarge the heat exchange area and decrease air resistance, enhance heat exchange performance and save more energy.

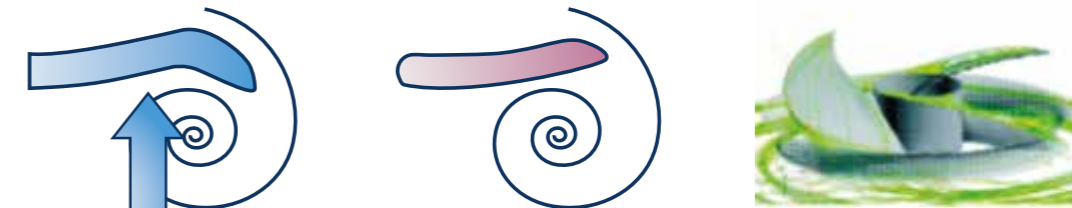
Hydrophilic fins and internally threaded copper pipes optimize heat exchange efficiency.

δ design increases the degree of liquefaction in the condenser and improves heat-exchange efficiency.



Newly Designed Fan >>

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

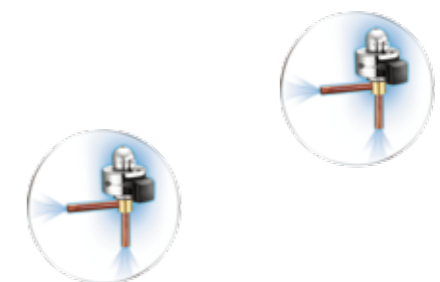


Precise Control >>

Multiple solenoid valves ensure precise temperature control, stable and efficient operation, and improved comfort.

Dual EXVs Control >>

Dual EXVs in one system, each EXV part achieves 480 Pulse rate to precisely adjust refrigerant flow.



Wide Application Range

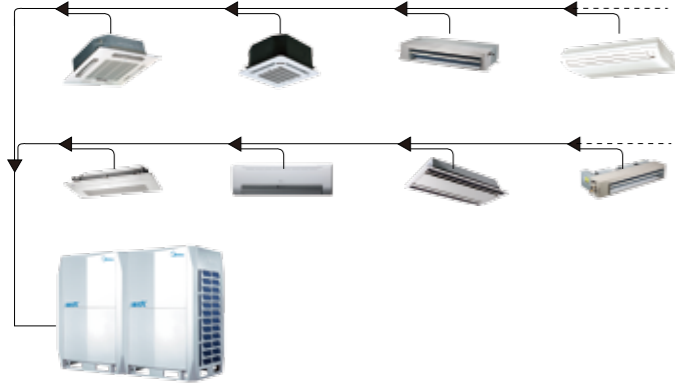
Wide Capacity Range >>

The V5 X series has an extensive range of capacities, from 8HP to 88HP, meeting all customer requirements from small to large buildings.



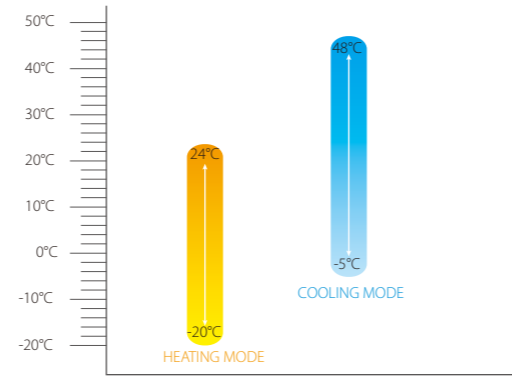
Wide Range of Indoor Units >>

Midea provides 12 types and more than 100 models of VRF indoor units to meet varied customer requirements in a wide range of locations including shopping malls, hospitals, office buildings, hotels and airports.



Wide Operation Range >>

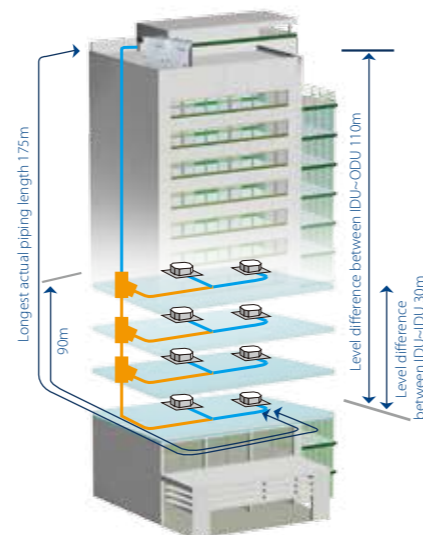
V5X Series operates stably under extreme conditions, ranging from minus 20°C to 48°C.



Long Piping Capability >>

Piping length	Capability
Total piping length	1000m
Longest length - actual (equivalent)	175m (200m)
Longest length after first branch	90m*
Largest height difference between indoor and outdoor units - ODU up (down)	90m (110m)
Largest height difference between indoor units	30m

*The longest length after first branch is 40m as standard but can be extended to up to 90m under certain conditions. Please contact your local Midea dealer for further information.



High Reliability

Duty Cycling >>

Duty cycling equalizes the running time of the outdoor units in a multiple-unit system and of the compressors in each unit, significantly extending compressor lifespan.



Backup >>

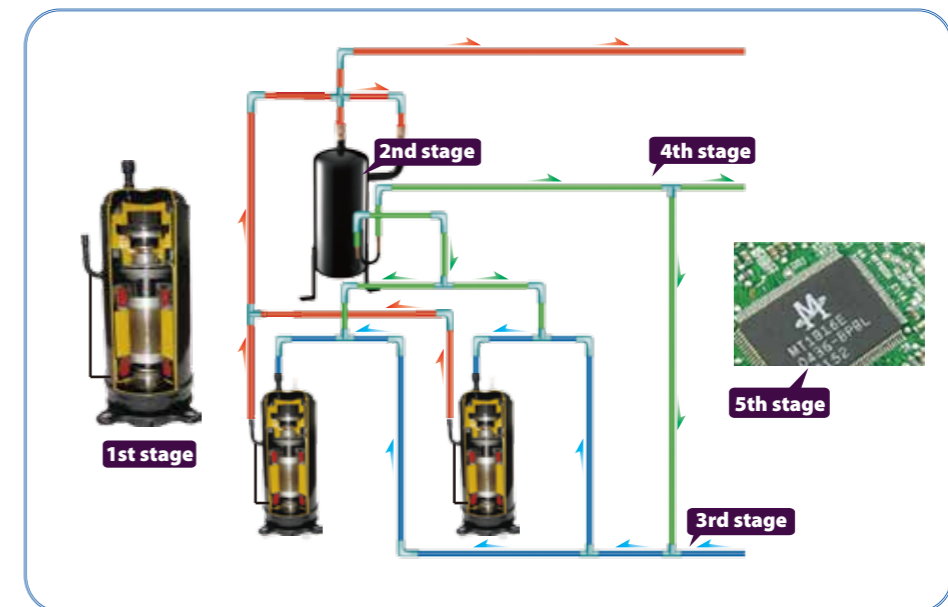
In a multi-unit system, if one module fails, the other modules provide backup so that the system can continue operating.



Precise Oil Control Technology >>

Five stages of oil control technology ensure all outdoor compressor oil is always kept at a safe level, eliminating any compressor oil shortage problems.

- The 1st stage:** Compressor internal oil separation.
- The 2nd stage:** High-efficiency centrifugal oil separator (with separation efficiency of up to 99%) ensures that oil is separated from the discharge gas and returned to the compressors in a timely fashion.
- The 3rd stage:** Oil balance pipes between compressors ensure even oil distribution to keep compressors running normally.
- The 4th stage:** Oil balance pipes among modules ensure even oil distribution among modules.
- The 5th stage:** Auto oil return program monitors the running time and system status to ensure reliable oil return.



Enhanced Comfort

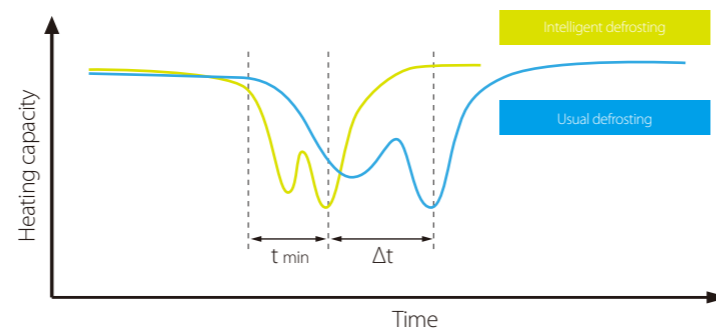
Night Silent Mode >>

The night silent mode feature, which is easily configured on the outdoor unit's PCB, includes various scheduling options that can be used to reduce noise levels at times when low noise operation is required.



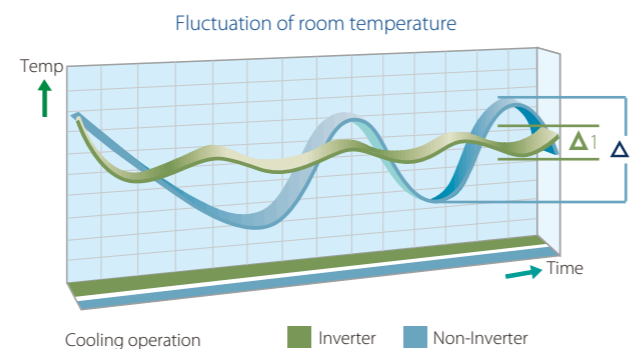
Intelligent Defrosting Technology >>

The intelligent defrosting program calculates the time required for defrosting according to the actual system status, eliminating heat losses from unnecessary defrosting. A specialized defrosting valve reduces time required for defrosting to as little as four minutes.



Rapid Cooling or Heating >>

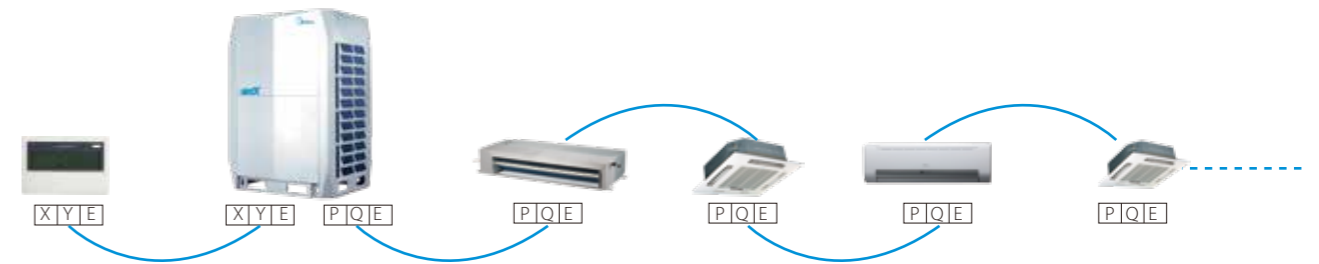
The DC inverter compressor reaches full capacity rapidly, providing quicker cooling or heating with lower levels of temperature fluctuation during the cooling/heating operation.



Easy Installation and Service

Simple Communication Wiring >>

Indoor centralized controller can be connected to either the indoor or the outdoor units. A single set of wiring can be used for system and network communication, making installation quicker and easier.



Auto Addressing >>

Outdoor unit can distribute addresses to indoor units automatically. Remote and wired controllers can be used to query or modify each indoor unit's address.



Rotatable Electric Control Box >>

The newly designed rotating control box can be rotated up to 150 degrees to provide access to the pipeline system for inspection and maintenance without the need to remove the control box.



Easy Maintenance >>

Special features that increase ease of maintenance include a control box inspection window for viewing the system status, a self-diagnosis function that speeds fault analysis, and the positioning of the compressor adjacent to the casing, which simplifies inspection and enables valve or compressor parts to be replaced easily.



Anti-corrosion Protection

Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anti-corrosion treatment on steel sheets, grills, coil fins, electric control box case and screws/bolts for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful life.

The integrity of the anti-corrosion treatment is ensured by subjecting major components and parts to salt mist testing, moisture and heating testing and light aging testing.

Motor >>

Standard products:
72h of neutral salt mist

Heavy anti-corrosion products:
240h of neutral salt mist



Painted Sheet Metal >>

Standard products:
500h of neutral salt mist
1000h of moisture and heating test
500h of light aging test

Heavy anti-corrosion products:
1000h of neutral salt mist
2000h of moisture and heating test
720h of light aging test



Screws / Bolts / Gaskets >>

Standard products:
300h of neutral salt mist

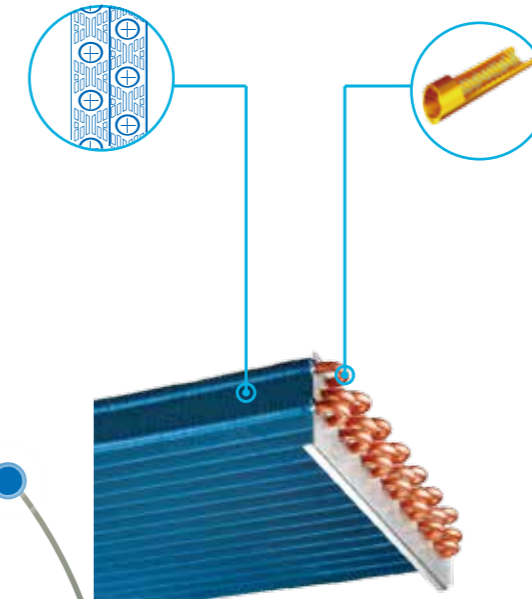
Heavy anti-corrosion products:
720h of neutral salt mist



Heat Exchanger Aluminum Foil >>

Standard products:
72h of neutral salt mist

Heavy anti-corrosion products:
1000h of neutral salt mist
140h of acid salt mist



Copper >>

Standard products:
24h of neutral salt mist

Heavy anti-corrosion products:
120h of neutral salt mist

Electric Control Box Case >>

Standard products:
96h of neutral salt mist

Heavy anti-corrosion products:
240h of neutral salt mist



Compressor / Motor Bolts >>

Standard products:
72h of neutral salt mist

Heavy anti-corrosion products:
168h of neutral salt mist



Specifications

Capacity	HP	8	10	12	14	
Model		MV5-X252WV2GN1	MV5-X280WV2GN1	MV5-X335WV2GN1	MV5-X400WV2GN1	
Power supply		3 phase, 380-415V, 50/60Hz				
Cooling ¹	Capacity	kW	25.2	28.0	33.5	40.0
		kBtu/h	86.0	95.5	114.3	136.5
	Power input	kW	5.36	6.22	7.79	9.30
	EER		4.70	4.50	4.30	4.30
Heating ²	Capacity	kW	27.0	31.5	37.5	45.0
		kBtu/h	92.1	107.5	128.0	153.5
	Power input	kW	4.82	5.94	7.65	9.38
	COP		5.60	5.30	4.90	4.80
Connected indoor units	Total capacity	50-130% of outdoor unit capacity				
	Maximum quantity	13	16	20	23	
Compressors	Type	DC inverter				
	Quantity	1	1	1	2	
Fan motors	Type	DC				
	Quantity	1	1	1	2	
	Static pressure	Pa (in. W.G.)	0-20 (0-0.08) (default)			
		Pa (in. W.G.)	20-60 (0.08-0.24) (customized)			
Refrigerant	Type	R410A				
	Factory charge	kg (lbs.)	9 (20)	9 (20)	11 (24)	13 (29)
Pipe connections ³	Liquid pipe	mm (in.)	12.7 (1/2)	12.7 (1/2)	15.9 (5/8)	15.9 (5/8)
	Gas pipe	mm (in.)	25.4 (1)	25.4 (1)	28.6 (1-1/8)	31.8 (1-1/4)
	Oil balance pipe	mm (in.)	6.35 (1/4)			
Air flow rate	m ³ /h	12000	12000	12000	14000	
Sound pressure level ⁴	dB(A)	58	59	60	62	
Net dimensions (W×H×D)	mm	990×1635×790			1340×1635×790	
	in.	39×64-3/8×31-1/8			52-3/4×64-3/8×31-1/8	
Packed dimensions (W×H×D)	mm	1055×1805×855			1405×1805×855	
	in.	41-1/2×71-1/16×33-5/8			55-3/8×71-1/16×33-5/8	
Net weight	kg (lbs.)	219 (483)	219 (483)	237 (523)	297 (655)	
Gross weight	kg (lbs.)	234 (516)	234 (516)	252 (556)	315 (695)	
Operating temperature range	°C (°F)	Cooling: -5 to 48 (23 to 118.4); Heating: -20 to 24 (-4 to 75.2)				

Notes:

- Indoor temperature 27°C (80.6°F) DB, 19°C (66.2°F) WB; outdoor temperature 35°C (95.0°F) DB; equivalent refrigerant piping length 7.5m (24.6ft.) with zero level difference.
- Indoor temperature 20°C (68.0°F) DB; outdoor temperature 7°C (44.6°F) DB, 6°C (42.8°F) WB; equivalent refrigerant piping length 7.5m (24.6ft.) with zero level difference.
- Diameters given are those of the unit's stop valve.
- Sound pressure level is measured at a position 1m (3.28ft) in front of the unit and 1.3m (4.3ft) above the floor in a semi-anechoic chamber.

Capacity	HP	16	18	20	22	
Model		MV5-X450WV2GN1	MV5-X500WV2GN1	MV5-X560WV2GN1	MV5-X615WV2GN1	
Power supply		3 phase, 380-415V, 50/60Hz				
Cooling ¹	Capacity	kW	45.0	50.0	56.0	61.5
		kBtu/h	153.5	170.6	191.1	209.8
	Power input	kW	10.98	18.52	21.54	27.95
	EER		4.10	2.70	2.60	2.20
Heating ²	Capacity	kW	50.0	56.0	63.0	69.0
		kBtu/h	170.6	191.1	214.9	235.4
	Power input	kW	10.87	22.40	26.25	30.00
	COP		4.60	2.50	2.40	2.30
Connected indoor units	Total capacity	50-130% of outdoor unit capacity				
	Maximum quantity	26	29	33	36	
Compressors	Type	DC inverter				
	Quantity	2				
Fan motors	Type	DC				
	Quantity	2				
	Static pressure	Pa (in. W.G.)	0-20 (0-0.08) (default)			
		Pa (in. W.G.)	20-60 (0.08-0.24) (customized)			
Refrigerant	Type	R410A				
	Factory charge	kg (lbs.)	13 (29)	13 (29)	16 (35)	16 (35)
Pipe connections ³	Liquid pipe	mm (in.)	15.9 (5/8)	19.1 (3/4)	19.1 (3/4)	19.1 (3/4)
	Gas pipe	mm (in.)	31.8 (1-1/4)	31.8 (1-1/4)	31.8 (1-1/4)	31.8 (1-1/4)
	Oil balance pipe	mm (in.)	6.35 (1/4)			
Air flow rate	m ³ /h	14000	16000	16000	16000	
Sound pressure level ⁴	dB(A)	62	63	63	63	
Net dimensions (W×H×D)	mm	1340×1635×790				
	in.	52-3/4×64-3/8×31-1/8				
Packed dimensions (W×H×D)	mm	1405×1805×855				
	in.	55-3/8×71-1/16×33-5/8				
Net weight	kg (lbs.)	297 (655)	305 (673)	340 (750)	340 (750)	
Gross weight	kg (lbs.)	315 (695)	323 (712)	358 (790)	358 (790)	
Operating temperature range	°C (°F)	Cooling: -5 to 48 (23 to 118.4); Heating: -20 to 24 (-4 to 75.2)				