



Atom T VRF



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2024



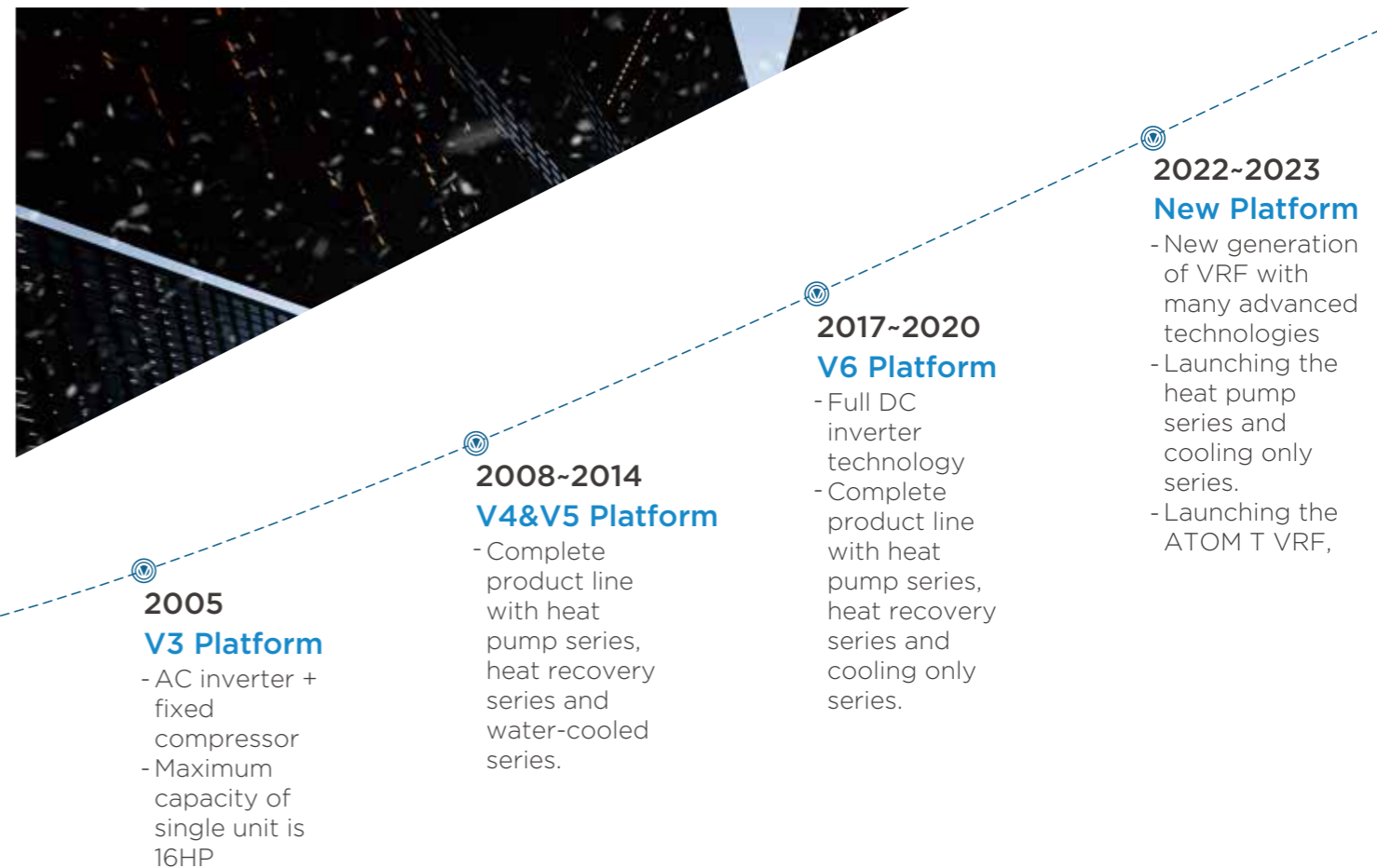
Midea MBT

Midea MBT (Midea Building Technologies) is a key division of the Midea Group, a leading provider of comprehensive solutions for intelligent buildings. It specializes in energy sources, elevators, control systems, and heating, ventilation & air conditioning. Midea MBT continues the tradition of innovation upon which it was founded and has emerged as a global leader in the HVAC and building management industry. A strong

drive for advancement has resulted in an extensive R&D department that has placed Midea MBT at the forefront of the competition. Through independent projects and joint-cooperation with other global enterprises, Midea has supplied thousands of innovative solutions to customers worldwide.



Midea VRF History



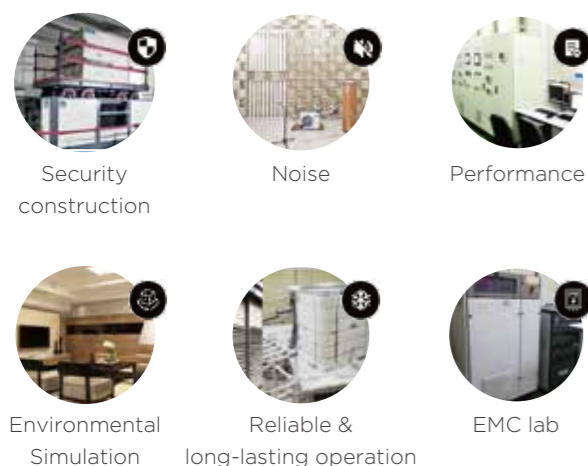
3 businesses make up the core of Midea intelligent building solutions.



4 production bases can achieve fast delivery.



Over 100 testing labs cover a wide range of real application scenarios.



All products can be visualized and digitalized throughout entire process.



Friendly to Environment

R32



Advantages of R32 Refrigerant



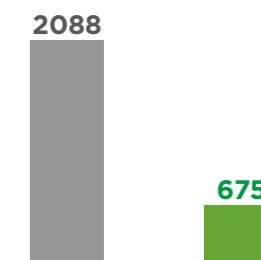
- Lower GWP 675
- Zero impact on ozone layer
- Less carbon emission



- Higher heat transfer coefficient
- Less pressure loss
- No temperature glide



- Easier to get
- Less charged volume



-68%

Potential global warming impact



Benefits of Midea VRF

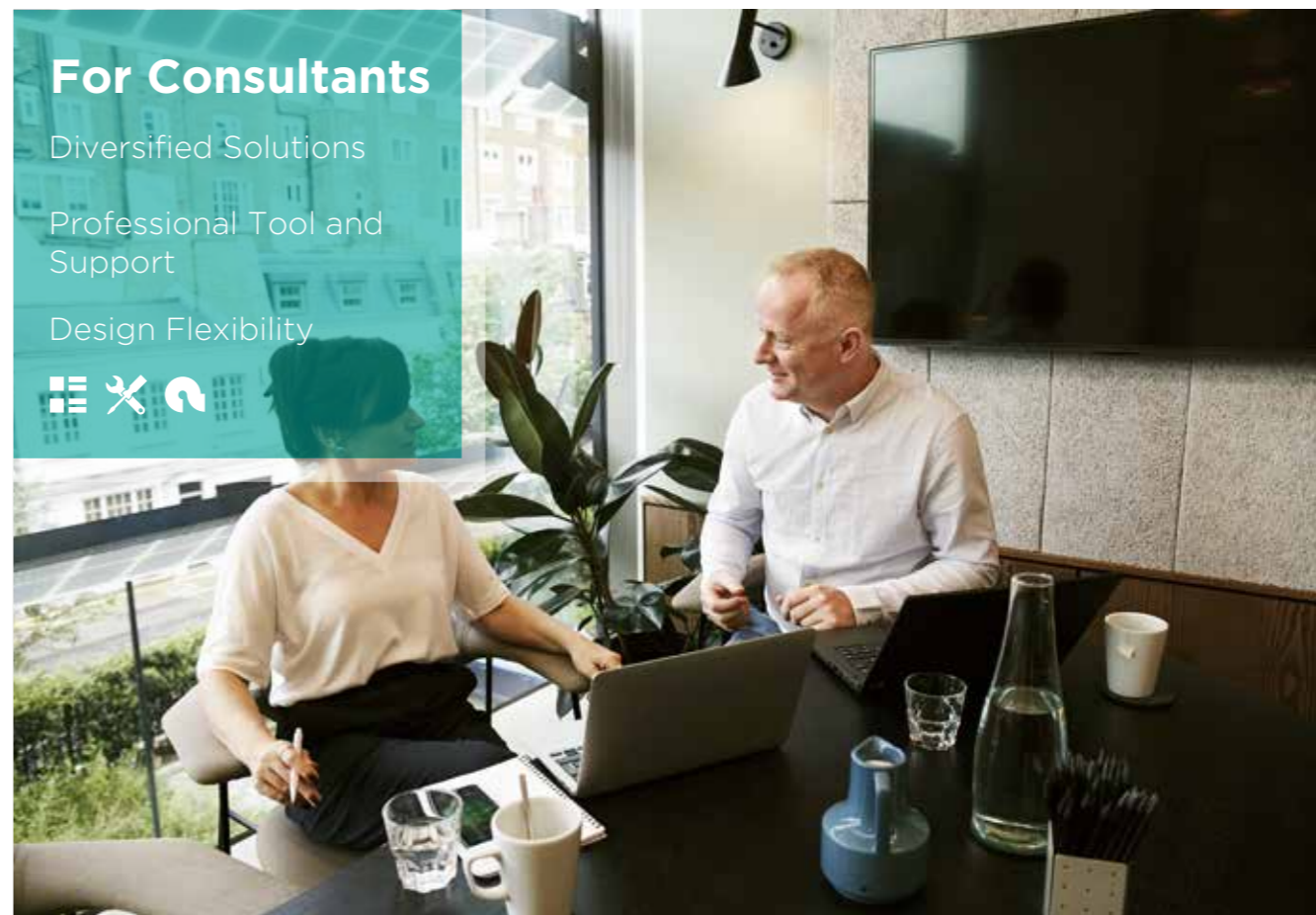
For End-users

- Healthy Operation
- Cost Saving Operation
- Comfortable Environment



For Consultants

- Diversified Solutions
- Professional Tool and Support
- Design Flexibility



For Building Owners

- Energy Saving Management
- Reliable Operation
- Backup Solution



For Construction Companies

- Green Solutions
- Space Saving Design
- Intelligent Management



Application Solutions

Villas

Enjoy high quality of life

The fashionable and simple appearance perfectly matches all kinds of villa styles, and the concealed indoor unit provides you with high-quality air while perfectly integrating into all kinds of interior decoration.



Residential Apartments

One for every home

The compact size and high efficiency make Midea VRF suitable for all residential homes.



Offices

Enjoy comfort while working

Midea VRF provides solution for small to medium-sized office buildings and its smart control solutions makes the management of VRF simple and easy whereas the wide variety of indoor units are suitable for all designs.



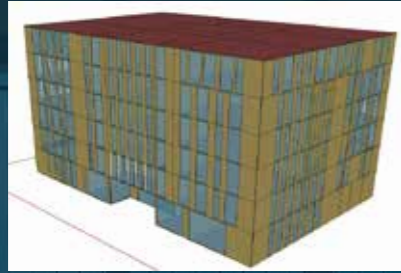
Convenience Stores/ Restaurants

Meeting all expectations

The innovative design and a variety of indoor unit choices makes Midea Mini VRF suitable for different applications.



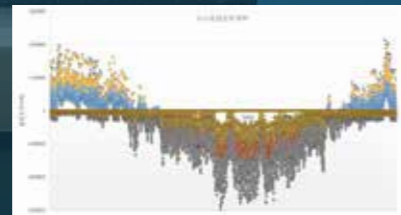
Design Service



Energy Plus Building load calculation



BIM building information import

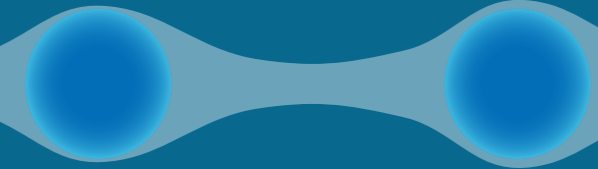


MSSP Online VRF system design

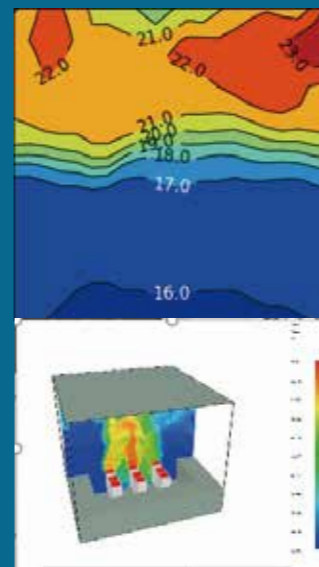
Installation service



Automatic commissioning report



MCFD Energy consumption and airflow simulation optimization



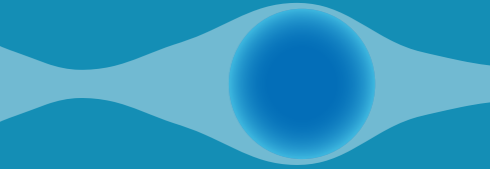
Management service



The probability of Filth blockage 80%



Degradation of energy efficiency 25%



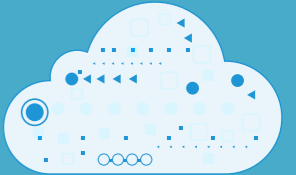
Continuous energy saving service



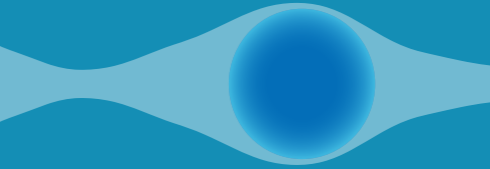
After-sales service



Intelligent maintenance tool



Cloud-based big data analytics



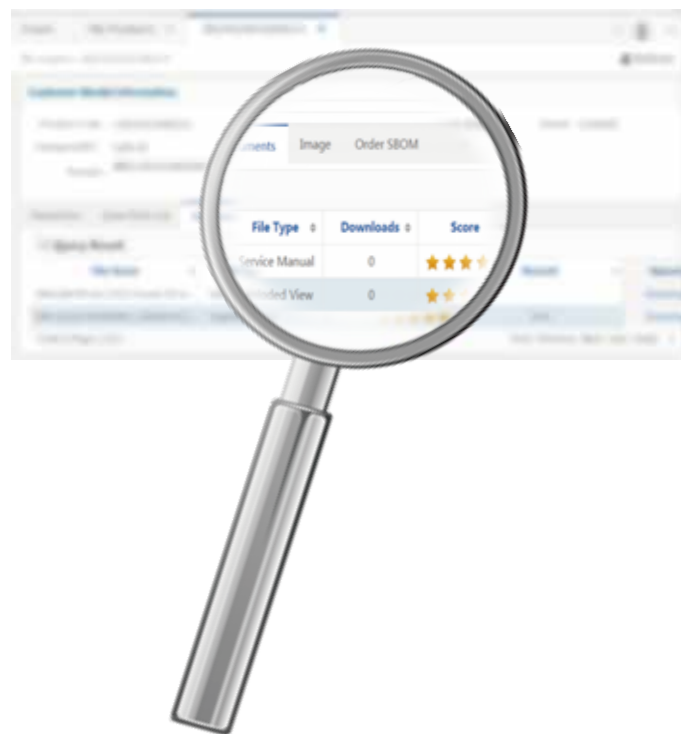
2 +10 +N Spare Parts Layout can ensure the timely supply of global after-sales spare parts.



Technical Support Platform (TSP)

TSP is a platform for customers to seek professional technical support. Through TSP, you can inquire about product information, documentation, spare parts and troubleshooting, ask technical questions, submit complaints, and order spare parts.

<https://tsp.midea.com/>



My order

Inquire about spare parts from an exploded view and place orders for spare parts directly in TSP.

Document inquiry and download

View or download product technical documentation online, such as catalogs, images, training PPTs, etc.

Technical inquiry & FAQ

Ask technical questions online and receive a prompt response from our technicians. Or find a quick solution in the FAQ.

Troubleshooting

Query the error code and solution by SN, model name, error code or product type.

Complain

Submit product quality complaints online, and our after-sales engineers will respond promptly.

Mobile Intelligence Service App (MISA)

MISA is the mobile terminal of TSP, with the same functions as TSP. The mobile service improves the response time and convenience of technical support.

<https://link.midea.com>



Technical Enquiry



Troubleshooting

Download



Scan to download the mobile app



FAQ



Complain



Search product manuals

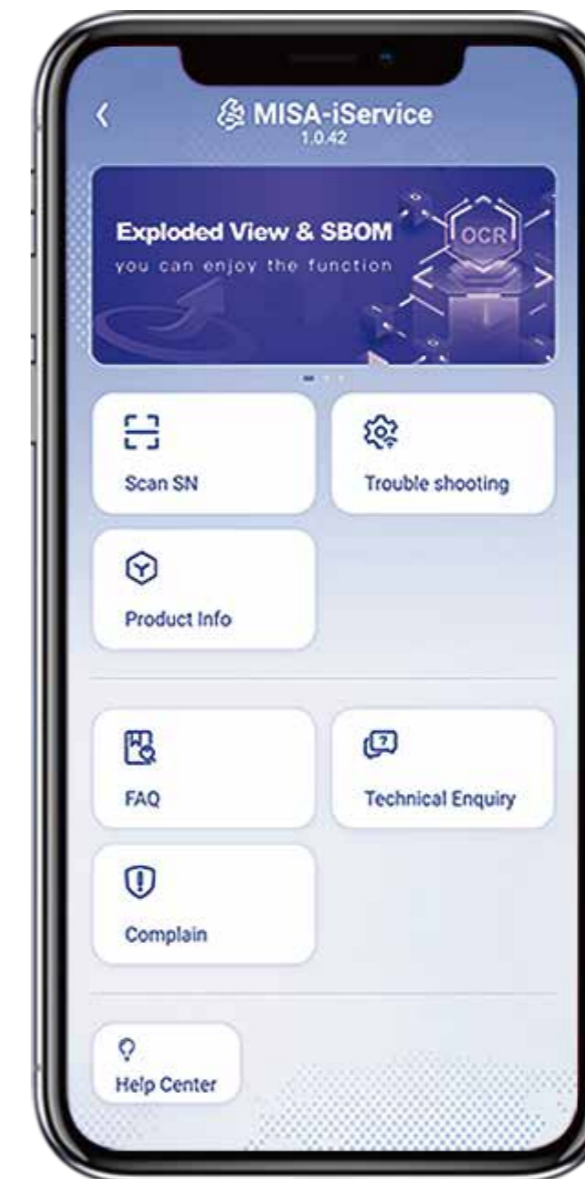


Spare parts list

Feedback



Thank you for your attention and feedback



Midea Global Spare Parts Center

The global spare parts center provides high quality and fast spare parts supply. Midea's online system (<https://tsp.midea.com>) allows users to query and purchase spare parts with one click, further shortening the supply time of spare parts.



The “**2** (HQ spare parts center) + **10** (Regional spare parts center) + **N** (Country spare parts inventory)” Spare Parts Layout can ensure the timely supply of after-sales spare parts around the globe.





ATOM T Series

Atom T VRF Outdoor Unit

kW		8	10	12	14	16
kBtu/h		24	30	41	47	52
Outdoor Unit		•	•			
				•	•	•

Application Scenarios

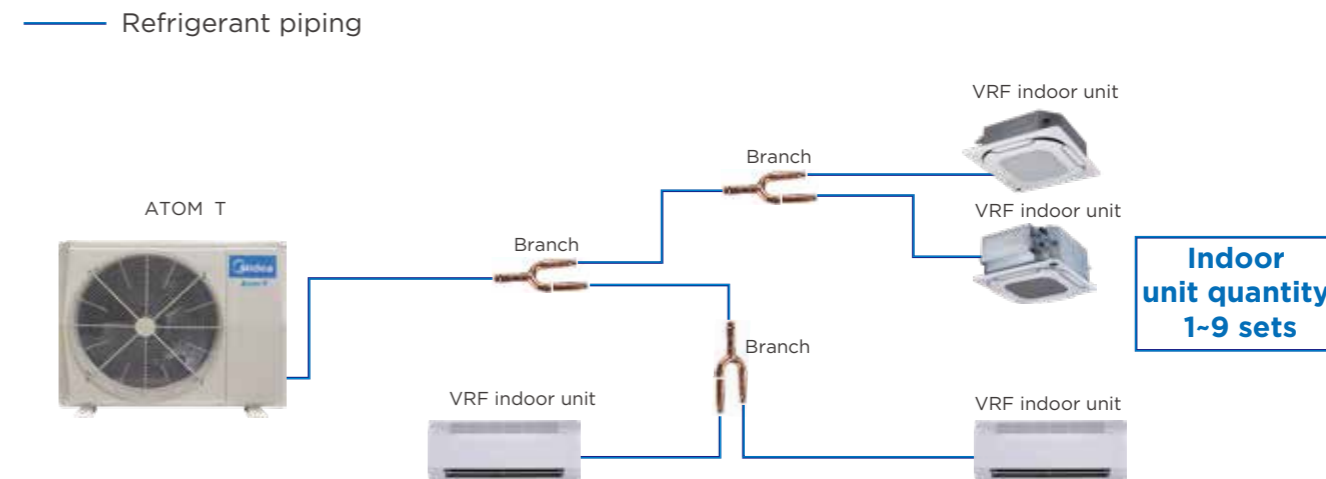
Case 1 ATOM T VRF + Indoor Unit
Case 2 ATOM T VRF + DHW Kit

Case 3 ATOM T VRF + Hydraulic Module
Case 4 ATOM T VRF + All in One Hydraulic Module



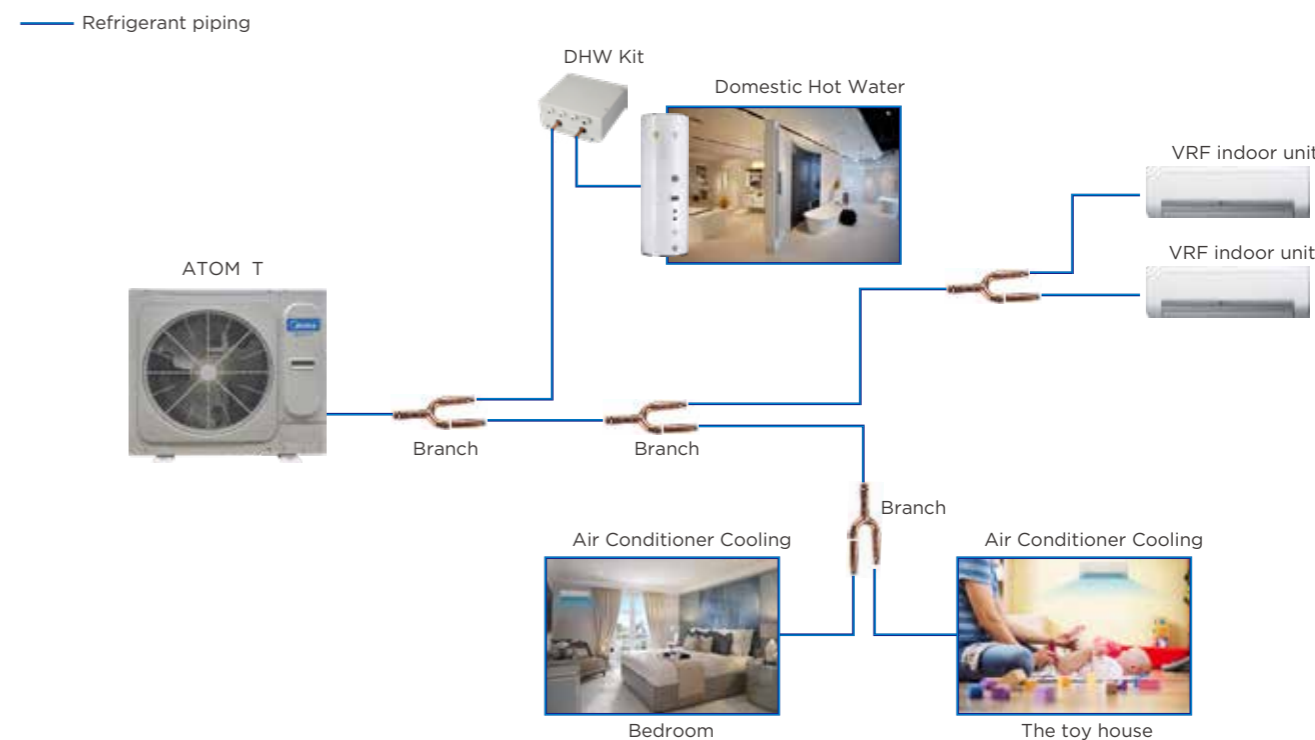
Case 1: ATOM T VRF + Indoor Unit

A single outdoor unit supports 1 to 9 indoor units, freeing up considerable space outside. Use your backyard more wisely with much more space available created by less number of outdoor units.



Case 2: ATOM T VRF + DHW Kit

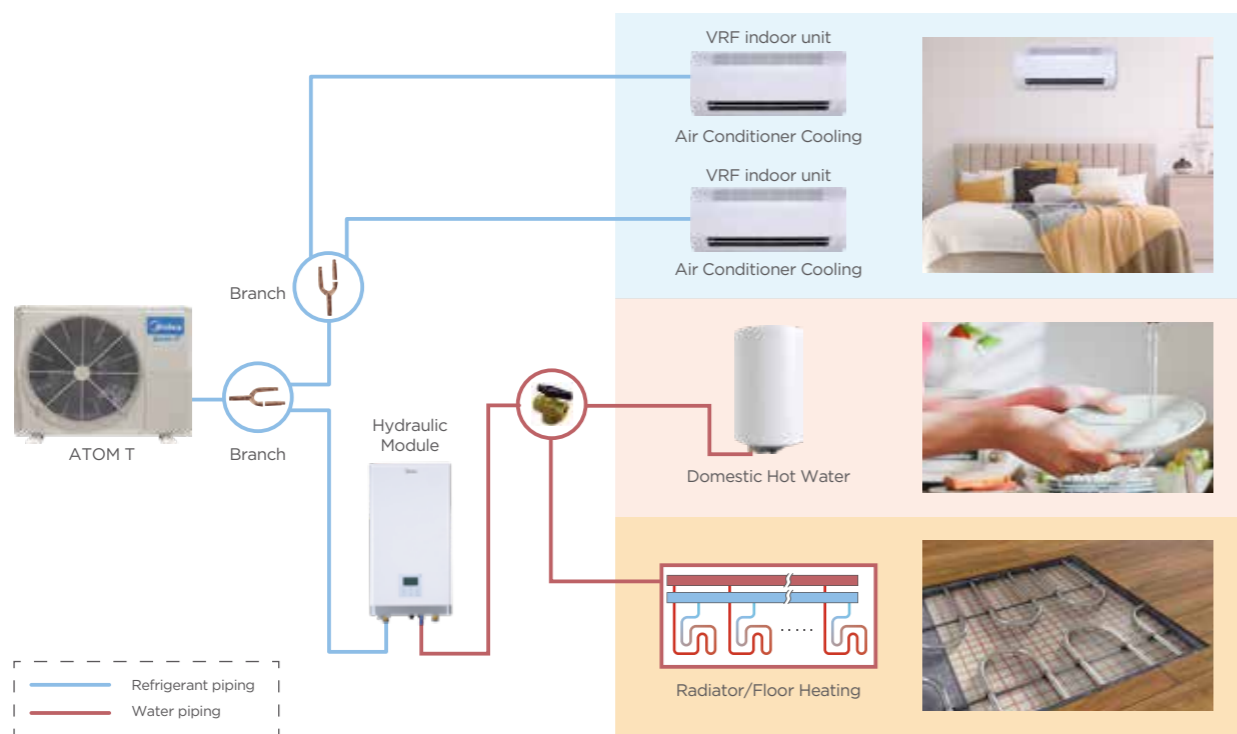
Installing one ATOM T system allows for both domestic hot water and air conditioning applications, saving installation time.



*DHW kit cannot be independently connected with the Outdoor unit, VRF indoor unit must be connected in the system.

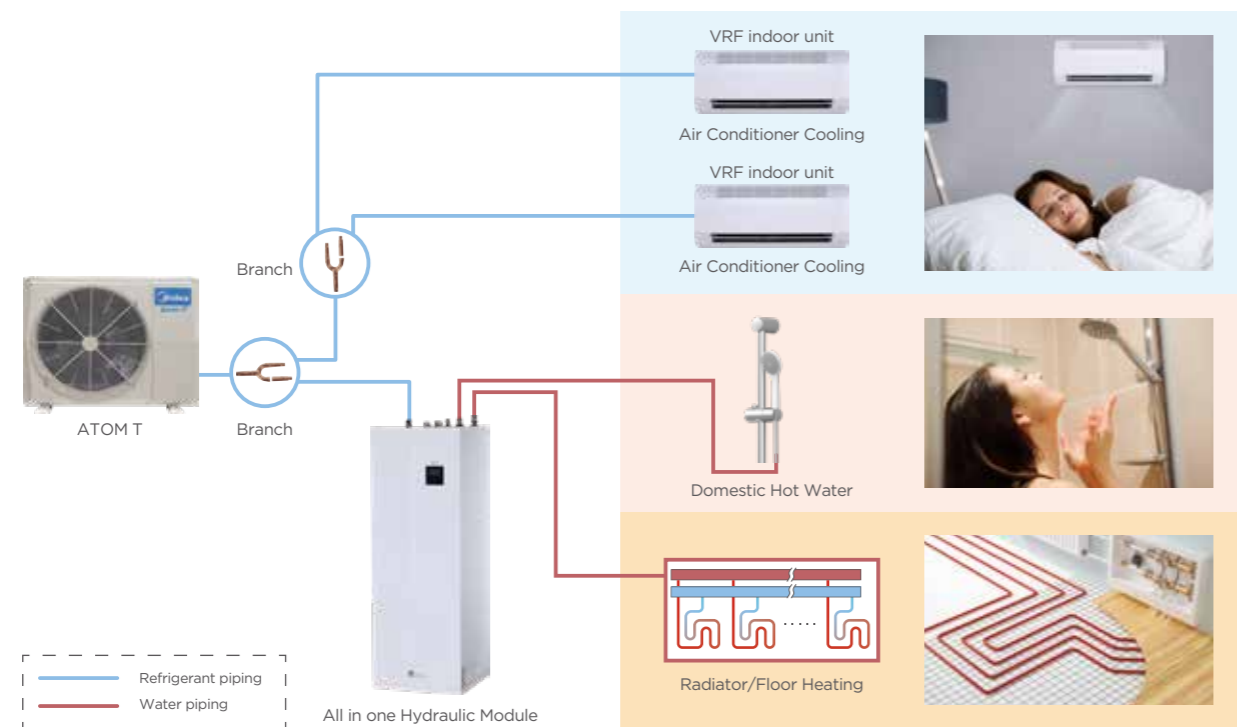
Case 3: ATOM T VRF + Hydraulic Module

ATOM T VRF is integrated system that provides space heating and cooling as well as domestic hot water for fast cooling and comfortable heating.



Case 4: ATOM T VRF + All in One Hydraulic Module

ATOM T VRF is integrated system that provides space heating and cooling as well as domestic hot water, with the All in One Hydraulic Module to minimize the space occupied by the equipment.



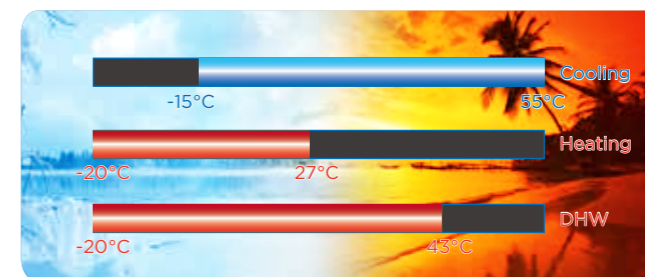
WIDE APPLICATION RANGE

Wide Operation Range

Atom T's capacity is from 24kBtu/h to 52kBtu/h. The wide capacity range adapt to more conditions. It can help to freeing up considerable space outside by less number of outdoor units.



Wide Operation Range



Wide Range of Indoor Units

Atom T indoor units including Four-way cassette, Compact Four-way cassette, Wall mounted, Duct. The capacity is from 5kBtu/h to 56kBtu/h. Multiple types of indoor units to meet varied indoor requirements.



Wide Recognized Range

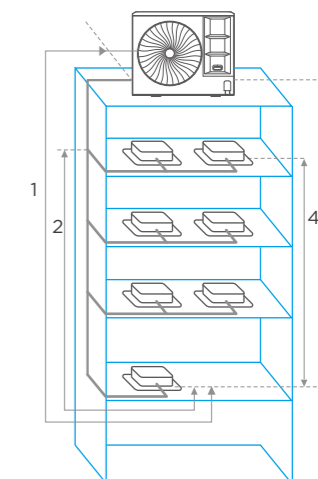
Atom T outdoor units are certified for SG Ready, Keymark, Eurovent and CE certification.



Long Piping Capability

The total piping length of the ATOM T Mini VRF can be up to 100m, the level difference between indoor and outdoor units can be up to 30m and the level difference between indoor units can be up to 10m, making the ATOM T Mini VRF perfectly suitable for small and medium-sized buildings.

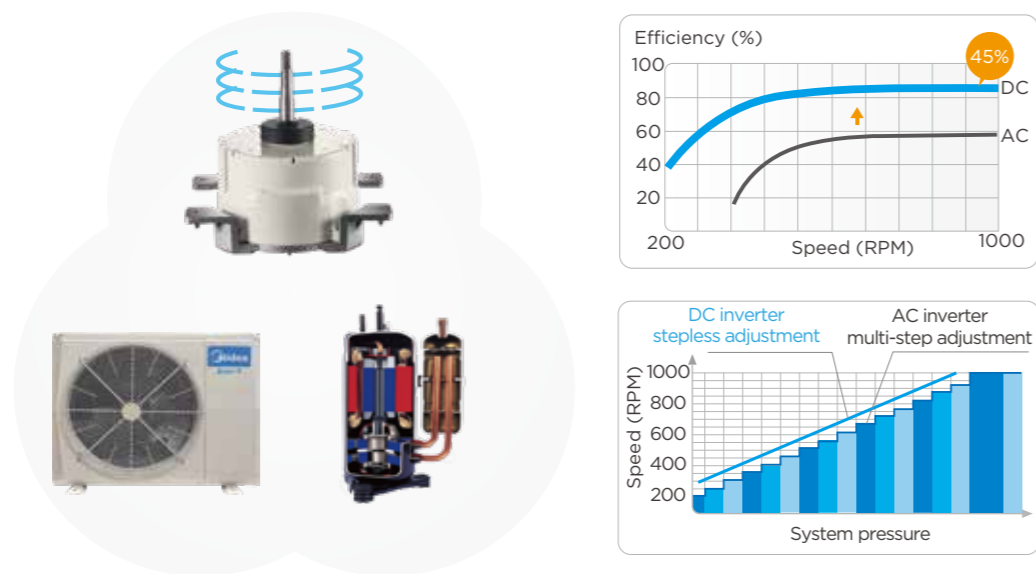
Piping length / Height difference		8kW	10-12kW	14-16kW
Total piping length		60	80	100
1 Longest piping length	Actual	35	35	45
	Equivalent	40	40	50
2 Longest piping length after first branch		20	20	20
3 Largest level difference between IDU sand ODU	ODU up	10	20	30
	ODU down	10	10	20
4 Largest level difference between IDUs		10	10	10



HIGH EFFICIENCY

Full DC Inverter Technology for Outdoor Components

The Atom T Mini VRF uses full DC inverter compressor and fan motor to achieve high precision stepless speed adjustment according to system operation, and ensures that the system is always in optimum condition, operating more efficiently, more consistently and with less noise.

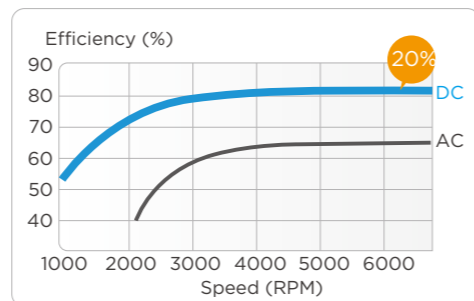
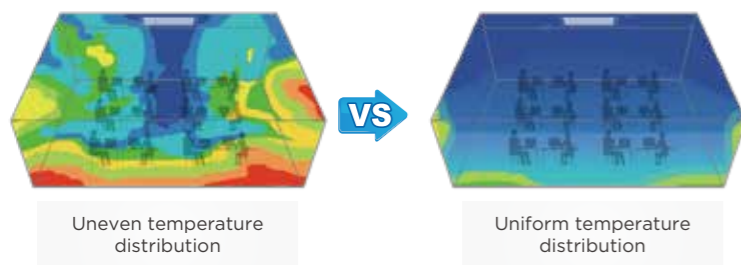


Full DC Inverter for Indoor Components

All power devices such as indoor fan motor, drain pump and electric control board are fully DC, which increases electrical efficiency by 20% and results in more accurate temperature control, a more constant indoor temperature and higher energy efficiency.



20%
Efficiency improvements



HIGH RELIABILITY

Preheating and Drying Up

Drying up mode is used to dry the floor after installation. Preheating mode is designed for the first heating during seasonal heating. The water temperature of floor heating loops would be increased gradually in order to protect the floor from warped or even rupture.



Holiday Away

If user leaves, heat pump runs in heating mode and/or DHW mode with lower water temperature to prevent water system from freezing. Disinfection is available before user returns home to ensure the water security.



Safety

The water tank is made of SUS316L stainless steel with excellent corrosion resistance to ensure long-term stable operation of the system. Rotatable electric control box with explosion proof design improves electric safety and maintenance convenience.



ENHANCED COMFORT

Multiple Priority Modes

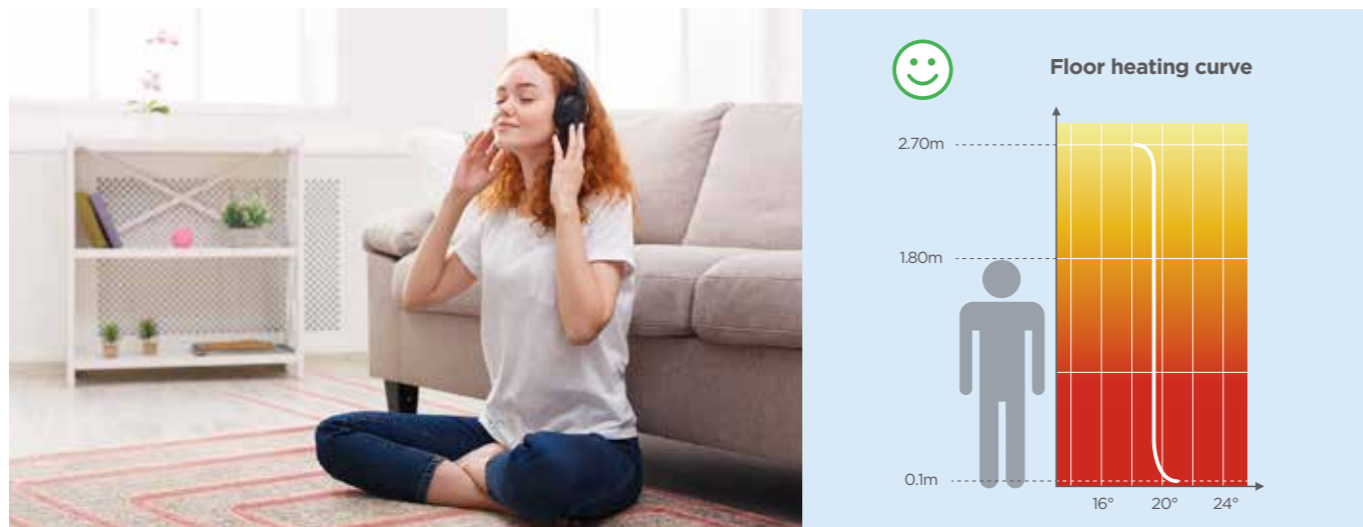
7 priority mode options provide more freedom and convenience to match the customer needs.



Note: DHW priority switch set by the DHW Kit wired controller or Hydraulic Module wired controller.

Floor Heating Function

When ATOM T VRF is connected to Floor Heating, the temperature gradually decreases from the bottom to the top to avoid disturbances like hot air blowing down, making it more comfortable.



QUICK INSTALLITON, EASY INSTALLITON

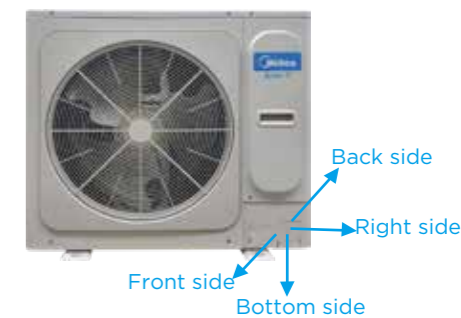
Space Saving

One Mini VRF outdoor unit can connect 1 to 9 indoor units, which greatly saves the installation space of outdoor units and retains buildings' original aesthetics. compared to the traditional split AC. It is very suitable for use in residential and light commercial scenarios, such as villas, restaurants, small and medium-sized supermarkets, etc.



Flexible Pipe Connection

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



Easy Transportation

ATOM T Mini VRF can be transported by elevator which makes installation dramatically easy, and effectively reduces time and labor thanks to the small size.



SMART CONTROL

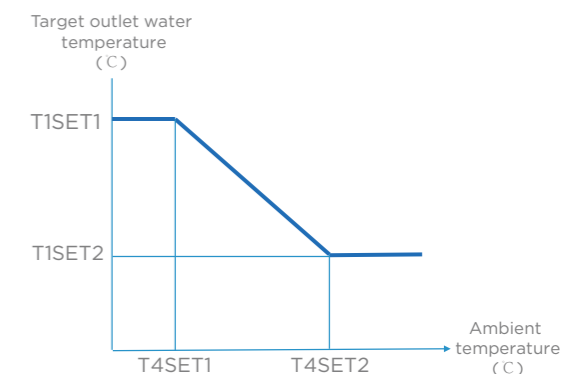
Smart Grid

Heat pump adjusts the operation mode according to different grid signals to realize energy saving. When the electric price is low or even free, heat pump takes DHW priority. When the electric price is high, DHW-related functions are limited. When the electric price is normal, heat pump operates according to users' requirement.



Climate Curve

Water temperature automatically changes as ambient temperature changes. It is convenient and energy-saving for end users. 32 fixed climate curves and 1 customized curve are available, which meets the diversified requirement.



Specifications

Outdoor Unit

ODU Model			MDV-V80WHN8(At)	MDV-V100WHN8(At)	MDV-V120WHN8(At)	MDV-V140WHN8(At)	MDV-V160WHN8(At)
Power supply			220-240V- 50Hz				
Cooling ¹	Capacity	kW	7.2	9	12.3	14	15.5
		kBtu/h	24	30	41	47	52
Heating ²	Capacity	kW	7.2	9	12.3	14	15.5
		kBtu/h	24	30	41	47	52
SEER			5.7	5.7	7.5	6.9	6.6
SCOP			4	3.95	4.4	4.6	4.4
Connected indoor unit of ODU capacity			50%-130% (50%-100%) of ODU capacity				
Maximum IDU quantity			4	6	7	8	9
Refrigerant type			R32				
Sound pressure level ⁴		dB(A)	54	55	57	56	56
Sound power level (cooling/heating)		dB(A)	66/66	68/68	71/71	70/71	70/72
Outdoor Unit	Dimension (WxHxD)	mm	910x712x426	910x712x426	950x840x440	950x840x440	950x840x440
	Packing (WxHxD)	mm	1045x810x485	1045x810x485	1025x940x510	1025x940x510	1025x940x510
	Net/Gross weight	kg	49/53	52.5/56.5	62.5/73	77.5/88	77.5/88
Ambient temp.	Cooling	°C	-15-46	-15-55			
Operation range	Heating	°C	-20-27				

Notes:

1. The cooling conditions: indoor temp: 27°CDB (80.6°F), 19°CWB (66.2°F) outdoor temp: 35°CDB (95°F).
2. The heating conditions: indoor temp: 20°CDB (68°F), 15°CWB (44.6°F) outdoor temp.: 7°CDB (42.8°F).
3. If the system is connected to a hydraulic module, the connected ratio in the system is 50-100%.
4. Sound level: Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
5. The above data may be changed without notice for future improvement on quality and performance.

Hydraulic Module

Outdoor unit model			MDV-V80WHN8(At)	MDV-V100WHN8(At)	MDV-V120WHN8(At)	MDV-V140WHN8(At)	MDV-V160WHN8(At)
Hydraulic module			SMK-D160N8(At)				
Connected indoor unit			50%-100% of ODU capacity(VRF IDU)+hydraulic module				
Heat capacity(W35)		kW	7.2	9	12.3	14	15.5
COP (W35)			3.8	4.2	3.9	4.1	4
Heat capacity(W45)		kW	7	8.8	12.1	13.8	15.3
COP (W45)			2.9	3.2	3	3.1	3
Heat capacity(W55)		kW	6.8	8.5	11.5	13	13.5
COP (W55)			2.25	2.4	2.45	2.15	2.15
Engry class(W55)			A+				
Outdoor Unit	Dimension(WxHxD)	mm	420x790x270				
	Packing (WxHxD)	mm	525x1050x360				
	Net/Gross weight	kg	44/49				
Sound power level		dB(A)	40	43	43	44	44
Set temperature range ¹	Heating	°C	25-60				
	DHW	°C	25-60				
Backup heater		kW	3				

Notes:

1. Maximum temperature 60°C is only available with IBH/AHS support.
2. The above data may be changed without notice for future improvement on quality and performance.

Specifications

All in One Hydraulic Module

Outdoor unit model		MDV-V80WHN8(At)	MDV-V100WHN8(At)	MDV-V80WHN8(At)	MDV-V100WHN8(At)	MDV-V120WHN8(At)	MDV-V140WHN8(At)	MDV-V160WHN8(At)	
All in one hydraulic module model		SMKT-D100/190CGN8(At)			SMKT-D160/240CGN8(At)				
Connected indoor unit		50%-100% of ODU capacity(VRF IDU)+all in one hydraulic module							
Heat capacity(W35)		kW	7.2	9	7.2	9	12.3	14	15.5
COP (W35)			3.8	4.2	3.8	4.2	3.9	4.1	4
Heat capacity(W45)		kW	7	8.8	7	8.8	12.1	13.8	15.3
COP (W45)			2.9	3.2	2.9	3.2	3	3.1	3
Heat capacity(W55)		kW	6.8	8.5	6.8	8.5	11.5	13	13.5
COP (W55)			2.25	2.4	2.25	2.4	2.45	2.15	2.15
Engry class(W55)			A+	A+	A+	A+	A+	A+	A+
Outdoor Unit	Dimension(WxHxD)	mm	600x1683x600			600x1943x600			
	Packing (WxHxD)	mm	730x1920x730			730x2180x730			
	Net/Gross weight	kg	143/164			160/181			
DHW	Domestic hot water heating	ENI6147	L			XL			
	Energy class		A						
	COP		2.71	2.66	2.98	2.9	2.75	2.5	2.5
DHW tank	Type		Stainless steel						
	Water volume		190			240			
	Maximum water pressure	bar	10						
Sound power level		dB(A)	40	43	43	43	43	43	43
Set temperature range ¹	Heating	°C	25-60						
	DHW	°C	25-60						
Backup heater		kW	3						

Notes:

1. Maximum temperature 60°C is only available with IBH/AHS support.
2. The above data may be changed without notice for future improvement on quality and performance.

Outdoor Unit and DHW Kit

ODU Model			MDV-V120WHN8 (At)					
DHW Kit Model			MHWK-120HN8					
Power supply			220-240V- 50Hz					
ODU	Cooling Capacity ¹	kW	12.3					
		kBtu/h	41					
	Heating Capacity ²	kW	12.3					
		kBtu/h	41					
	Connected indoor unit of ODU capacity			50%-130% of ODU capacity				
	Maximum IDU quantity			7				
	Refrigerant type			R32				
DHW Kit	Dimension(WxHxD)		mm	950x840x440				
	Packing (WxHxD)		mm	1025x940x510				
	Net/Gross weight		kg	62.5/73				
	Resistance class			IP X4				
	Dimension(WxHxD)		mm	375x312x129				
DHW Kit	Packing (WxHxD)		mm	490x490x235				
	Net/Gross weight		kg	5.0/7.4				
	Set temperature range		°C	30-60°C				

Notes:

1. The cooling conditions: indoor temp: 27°CDB (80.6°F), 19°CWB (66.2°F) outdoor temp: 35°CDB (95°F).
2. The heating conditions: indoor temp: 20°CDB (68°F), 15°CWB (44.6°F) outdoor temp.: 7°CDB (42.8°F).
3. Maximum temperature 60°C is only available with IBH/AHS support.
4. The above data may be changed without notice for future improvement on quality and performance.