

Engineering Data

V8 Series VRF



220-240V ~ 50Hz

MV8M-80WV2N1

MV8M-100WV2N1

MV8M-120WV2N1

MV8M-140WV2N1

MV8M-160WV2N1

1.3 Outdoor Units

Table 1-1.5: Outdoor unit capacity range

Capacity(kW)	Model Name
7.2	MV8M-80WV2N1
9.0	MV8M-100WV2N1
12.3	MV8M-120WV2N1
14.0	MV8M-140WV2N1
15.5	MV8M-160WV2N1

2.3 Outdoor Units

Table 1-2.4: outdoor unit appearance



3.2 Outdoor Units

M V8 M - 140 W V2 N1
① ② ③ ④ ⑤ ⑥ ⑦

Legend		
No.	Code	Remarks
1	M	Midea MV8M-120WV2RN1
2	V8	The 8 th generation VRF
3	M	Mini VRF
3	140	Capacity index (the capacity in kW multiplied by 10)
4	W	Unit category (W: VRF outdoor unit)
5	V2	Type (V2: All DC inverter)
6	-	Power supply omit: 220-240V, ~, 50Hz H: 220-240V, 3N~, 50/60Hz
7	N1	Refrigerant type (N1: R410A)

4 Combination Ratio

$$\text{Combination ratio} = \frac{\text{Sum of capacity indexes of the indoor units}}{\text{Capacity index of the outdoor units}}$$

Table 1-5.1: Indoor and outdoor unit combination ratio limitations

Type	Minimum combination ratio	Maximum combination ratio		
		Standard indoor units only	Fresh air processing units only	Fresh air processing units and standard indoor units together
V8 Series outdoor units	50%	130% ^{1,2,3} or 160% ^{1,2,3}	100%	100% ⁴

Notes:

1. All the indoor units connected should be indoor units with ø5mm size copper tube heater exchanger. This limitation is to avoid too big indoor unit exchanger cause reliability and performance problem.
2. If all indoor units in system are V8 Series the total combination ratio must not exceed 160%. If there are non V8 series indoor unit in system the total combination ratio must not exceed 130%
3. Piping between farthest indoor unit and first indoor branch joint should less than 40m.
4. When fresh air processing units are installed together with standard indoor units, the total capacity of the fresh air processing units must not exceed 30% of the total capacity of the outdoor units and the total combination ratio must not exceed 100%.

V8 Mini R410A VRF 50Hz



Table 1-5.2: Combinations of indoor and outdoor units

Outdoor unit capacity		Sum of capacity indexes of connected indoor units (standard indoor units only)	Sum of capacity indexes of connected indoor units (fresh air processing units and standard indoor units together)	Maximum number of connected indoor units
model	Capacity index			
80	72	36 to 93.6	36 to 72	5
100	90	45 to 117	45 to 90	6
120	123	61.5 to 159.9	61.5 to 123	8
140	140	70 to 182	70 to 140	10
160	155	77.5 to 201.5	77.5 to 155	11

1 Specifications

80-120 model

Table 2-1.1: 80-120 model specifications

Model			80	100	120
Model name			MV8M-80WV2N1	MV8M-100WV2N1	MV8M-120WV2N1
Power supply			220-240V, ~, 50Hz		
Cooling ¹	Capacity	kW	7.2	9.0	12.3
		kBtu/h	24	30	41
	Power input	kW	2.21	2.90	3.97
	EER		3.26	3.10	3.10
Heating ² (Rated)	Capacity	kW	7.2	9.0	12.3
		kBtu/h	24	30	41
	Power input	kW	1.80	2.37	3.00
	COP		4.00	3.80	4.10
Heating ² (Max)	Capacity	kW	9.0	10.8	14.0
		kBtu/h	30	36	47
	Power input	kW	2.50	3.18	3.78
	COP		3.60	3.40	3.70
SEER			5.40	5.40	7.20
η _{s,c}			/	/	285.0%
SCOP			3.80	3.80	4.90
η _{s,h}			/	/	193.0%
Connected indoor unit	Total capacity		50%-160% ⁵ of outdoor unit capacity		
	Maximum quantity		5	6	8
Compressor	Type		DC		
	Quantity		1		
	Oil type		RB75EA		
	Start-up method		Soft start		
Fan	Type		Propeller		
	Motor type		DC		
	Quantity		1		
	Motor output	kW	0.2		
	Static pressure	Pa	0-35		
	Airflow rate	m ³ /h	5200	5200	5000
	Drive type		Direct		
Refrigerant	Type		R410A		
	Factory charge	kg	3.1	3.1	4.1
Pipe connections ³	Liquid pipe	mm	Φ9.52		
	Gas pipe	mm	Φ15.9		
Sound pressure level ⁴		dB(A)	53	53	55
Sound power level ⁴		dB(A)	70	72	72
Net dimensions (W×H×D)		mm	1073x864x523		
Packed dimensions (W×H×D)		mm	1120x980x560		
Net weight		kg	80	80	94
Gross weight		kg	90	90	104
Ambient temp.	Cooling	°C	-15°C~52°C ⁶		
operation range	Heating	°C	-20~16.5 °C (WB)/-20~30 °C (DB)		

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5m with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those of the unit's stop valve. Refer to Part 3, "3 Refrigerant Piping Design" for installation dimensions of refrigerant pipe.
- Sound pressure level is measured at a position 1m in front of the unit and 1m above the floor in a semi-anechoic chamber.
- If there are non V8 series indoor units in system the total combination ratio must not exceed 130%
- Outdoor operating temperature under -5 °C in "cooling" mode, the startup capacity of IDUs must meet at least 30% of ODU capacity

V8 Mini R410A VRF 50Hz



140-160 model

Table 2-1.2: 140-160 model specifications

Model			140	160
Model name			MV8M-140WV2N1	MV8M-160WV2N1
Power supply			220-240V, ~, 50Hz	
Cooling ¹	Capacity	kW	14.0	15.5
		kBtu/h	47	52
	Power input	kW	5.19	5.96
	EER		2.70	2.60
Heating ² (Rated)	Capacity	kW	14.0	15.5
		kBtu/h	47	52
	Power input	kW	3.68	4.19
	COP		3.80	3.70
Heating ² (Max)	Capacity	kW	16.0	17.5
		kBtu/h	54	59
	Power input	kW	4.71	5.30
	COP		3.40	3.30
SEER			7.00	6.80
ηs,c			277.0%	269.0%
SCOP			4.80	4.80
ηs,h			189.0%	189.0%
Connected indoor unit	Total capacity		50%-160% ⁵ of outdoor unit capacity	
	Maximum quantity		10	11
Compressor	Type		DC	
	Quantity		1	
	Oil type		RB75EA	
	Start-up method		Soft start	
Fan	Type		Propeller	
	Motor type		DC	
	Quantity		1	
	Motor output	kW	0.2	
	Static pressure	Pa	0-35	
	Airflow rate	m ³ /h	5000	5000
	Drive type		Direct	
Refrigerant	Type		R410A	
	Factory charge	kg	4.1	4.1
Pipe connections ³	Liquid pipe	mm	Φ9.52	Φ9.52
	Gas pipe	mm	Φ15.9	Φ15.9
Sound pressure level ⁴		dB(A)	56	56
Sound power level ⁴		dB(A)	73	74
Net dimensions (W×H×D)		mm	1073x864x523	
Packed dimensions (W×H×D)		mm	1120x980x560	
Net weight		kg	94	94
Gross weight		kg	104	104
Ambient temp.	Cooling	°C	-15°C~52°C ⁶	
operation range	Heating	°C	-20~16.5 °C (WB)/-20~30 °C (DB)	

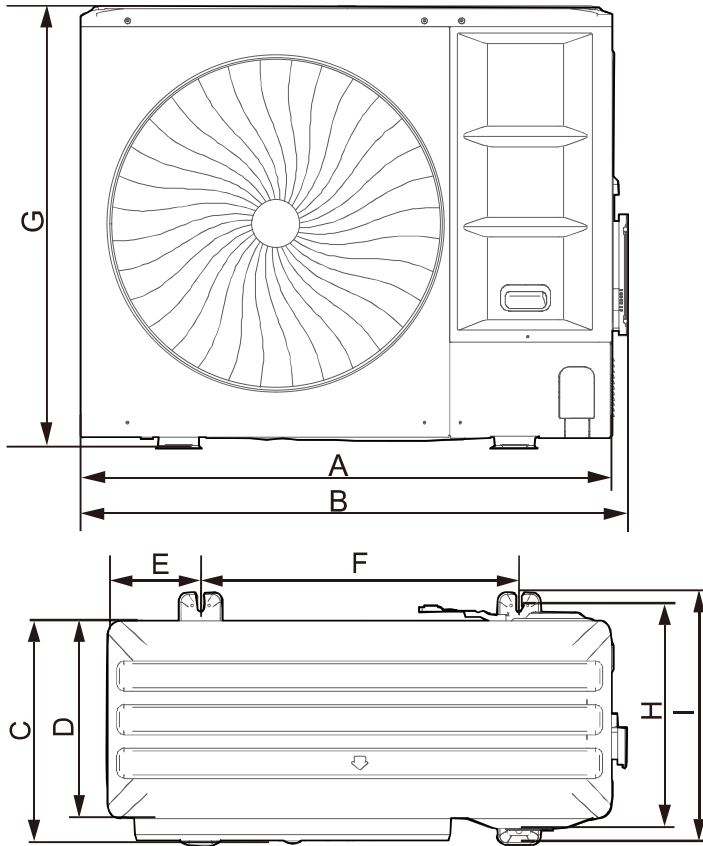
Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5m with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those of the unit's stop valve. Refer to Part 3, "3 Refrigerant Piping Design" for installation dimensions of refrigerant pipe.
- Sound pressure level is measured at a position 1m in front of the unit and 1m above the floor in a semi-anechoic chamber.
- If there are non V8 series indoor units in system the total combination ratio must not exceed 130%
- Outdoor operating temperature under -5 °C in "cooling" mode, the startup capacity of IDUs must meet at least 30% of ODU capacity

2 Dimensions

2.1 Single Units

80/100/120/140/160 model



Unit:mm

Model	A	B	C	D	E	F	G	H	I
80-160	1038	1073	454	409	191	656	864	463	523