Midea

Part 2 Outdoor Unit Engineering Data

1 Specifications	8
2 Dimensions	9
3 Installation Space Requirements	9
4 Piping Diagrams	11
5 Wiring Diagrams	13
6 Electrical Characteristics	15
7 Operating Limits	16
8 Sound Levels	17
9 Accessories	17



1 Specifications

Table 2-1.1: Model specifications

Sale Model			MDV-V235WN1(AU)-A		
Power supply			220-240V~ 50Hz		
	Capacity kW		20 (10-20)		
Cooling ¹	Input	kW	4.95		
	EER		4.04		
	Capacity	kW	23.5 (12-23.5)		
Heating ²	Input	kW	5.3		
	СОР		4.43		
Connected indoor unit	Maximum quantity		6		
	Туре		DC inverter		
Comprossor	Quantity		1		
compressor	Oil type		VG74		
	Start-up method		Soft start		
	Туре		Propeller		
Fan	Motor type		DC		
	Quantity		1		
	Drive type		Direct		
Defrigorant	Туре		R410A		
Kenngerant	Factory charge	kg	4.8		
Dine connections	Gas pipe		19.1		
Pipe connections	Liquid pipe	mm	9.52		
Sound pressure level(cooling/heating) ³ dB(A)		dB(A)	59/59		
	Dimension(W x H x D)	mm	1120×1558×528		
Outdoor Unit	Packing (W x H x D)	mm	1270×1720×565		
	Net/Gross weight	kg	124/140		
Ambient temp.	Cooling (DB)	°C	-5~55		
operation range	Heating (WB)	°C	-15~27		

Notes:

1. Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.

2. Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.

3. 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.



2 Dimensions



3 Installation Space Requirements



Midea



4 Piping Diagrams

Figure 2-4.1: Piping diagram



Key components:

1. Oil separator:

Separates oil from gas refrigerant pumped out of the compressor and quickly returns it to the compressor. Separation efficiency is up to 99%.

2. Gas-liquid separator:

Stores liquid refrigerant and oil to protect compressor from liquid hammering.

3. Electronic expansion valve (EEV):

Controls refrigerant flow and reduces refrigerant pressure.

4. Four-way valve:

Controls refrigerant flow direction. Closed in cooling mode and open in heating mode. When closed, the heat exchanger functions as a condenser; when open, the heat exchanger functions as an evaporator.

5. High and low pressure switches:

Regulate system pressure. When system pressure rises above the upper limit or falls below the lower limit, the high or low pressure switches turn off, stopping the compressor. After 5 minutes, the compressor restarts.





5 Wiring Diagrams

Figure 2-5.1: Wiring diagram





Code	Name
XT1	Terminal block
XT2	Terminal block
CH1-CH7	Magnetic ring
COMP.	Compressor
CT1	Current transformer
EEV1/EEV2	Electronic expansion valve
FAN1	DC fan
FAN2	DC fan
HEAT1	Crankcase heater
H-PRO	High pressure switch
L-PR0	Low pressure switch
STF1	Four-way valve
SV5/SV6	Solenoid valve
T3	Heat exchanger temperature sensor
T4	Outdoor ambient temperature sensor
T5	Discharge temperature sensor
TF	Radiator temperature sensor
TL	Refrigerant cooling pipe temperature sensor

ENC2		"POWER"-Outdoor unit capacity	
ENC3		"NET-ADD"-Outdoor unit Network Address (Valid at 0-7, default is 0)	
SW1	Ø	Press SW1 to enter the forced cooling function; Press it again to exit the forced cooling function.	
SW2	þ	Spot check button	
	OFF 123	S1-1 is ON, Forced implementation of old indoor unit protocol S1-1 is OFF, Automatically adapting to indoor unit protocol(default)	
S1	ON OFF	S1-2 is ON, Clearing of indoor unit address S1-2 is OFF, Automatic addressing(default)	
	ON OFF	S1-3 is OFF,Automatically judging EXV control mode of OD U(default) S1-3 is ON,ODU EXV of forced dischargetemperature control	
	O N OFF 1 2 3 4	First on priority (default)	
	O N OFF 1 2 3 4	Cooling only priority	
	O N OFF 1 2 3 4	Automatic selection of priority mode	
S2	O N OFF 1 2 3 4	Heating only	
	ON OFF 1234	Cooling only	
	O N OFF 1 2 34	Heating priority	
	ON 52 OFF 1234	First priority+ not detecting hydraulic module	
		S2-4 is OFF,not quiet mode(default) S2-4 is ON,quiet mode	



6 Electrical Characteristics

Table 2-6.1: Outdoor unit electrical characteristics

Power Supply ¹					Compressor		OFM				
Model		Volto	Min.	Max.		TOCA3	ваго4	MCC5		1444	EL A
	п2	Voits	volts	volts	IVICA-	TUCA		IVISC ³	KLA	KVV	FLA
MDV-V235WN1(AU)-A	50Hz	220-240	198	264	33	33	40	-	30.5	0.1+0.1	0.71+0.71

Abbreviations:

MCA: Minimum Circuit Amps; TOCA: Total Over-current Amps; MFA: Maximum Fuse Amps; MSC: Maximum Starting Current (A); RLA: Rated Load Amps; FLA: Full Load Amps

Notes:

- 1. Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits. Maximum allowable voltage variation between phases is 2%.
- 2. Select wire size based on the value of MCA.
- 3. TOCA indicates the total overcurrent amps value of each OC set.
- 4. MFA is used to select overcurrent circuit breakers and residual-current circuit breakers.
- 5. MSC indicates the maximum current on compressor start-up in amps.
- 6. RLA is based on the following conditions: indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB.



7 Operating Limits

Table 2-8.1: Operating limits

Mode	Outdoor temperature	Room temperature		
Cooling operation	-5℃~55℃	17°C~32°C		
Heating operating	-20°C~27°C	15℃~27℃		
	≪80%			
	Condensate might form on the unit's surface if the humidity is above 80%			

Notes:

- 1. If the unit is running outside the above condition, protective device will start, and even then the units take place abnormality running.
- 2. These figures base on the operation conditions between indoor units and outdoor units: Equivalent pipe length is 5m, and height difference is 0m.

Precaution:

1. The indoor relative humidity should be lower than 80%. If the air conditioner works in an environment with a relative humidity higher than mentioned above, the surface of the air conditioner may condensate. In this case, it is recommended to set the air speed of the indoor unit to high.



8 Sound Levels

Table 2-9.1: Sound pressure level

Model	dB(A)	Height (m)
MDV-V235WN1(AU)-A	59	1

Notes:

1. Sound pressure level is measured at a position 1m in front of the unit and Hm above the floor in a semi-anechoic chamber. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.





9 Accessories

Table 2-10.1: Standard accessories

Name	Qty.	Outline	Function
Owner's and installation manual	1		
Water outlet pipe	1		To drainage
Matching resistor	2	ٹے ا	To improve communication stability
Magnet ring	1	L I I	1
Drain pipe	1		1
L-shaped pipe connection	1		1