

Engineering Data

Two-way Cassette VRF IDU

AC 50Hz



MDV-D22Q2/N1(B)

MDV-D45Q2/N1(B)

MDV-D28Q2/N1(B)

MDV-D56Q2/N1(B)

MDV-D36Q2/N1(B)

MDV-D71Q2/N1(B)

Two-way Cassette

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1 Specifications

Model			MDV-D22Q2/N1(B)	MDV-D28Q2/N1(B)	MDV-D36Q2/N1(B)
Power supply			1 phase, 220-240V, 50Hz		
Cooling	Capacity	kW	2.2	2.8	3.6
	Input	W	57	57	60
Heating	Capacity	kW	2.6	3.2	4
	Input	W	57	57	60
Indoor fan motor	Type		AC		
	Quantity		1		
Indoor coil	Number of rows		1		
	Tube pitchxrow pitch	mm	21×13.37		
	Fin spacing	mm	1.5		
	Fin type		Hydrophilic Aluminum		
	Diameter & type	mm	Φ7, inner-groove tube		
	Dimensions (LxHxW)	mm	882×210×13.37		
	Number of circuits		4		
Refrigerant type			R410A		
Indoor air flow (H/M/L)		m3/h	654/530/410	654/530/410	725/591/458
Sound pressure level (H/M/L)		dB(A)	33/29/24	36/32/29	36/32/29
Indoor unit	Dimension (WxHxD)	mm	1172×299×591		
	Packing (WxHxD)	mm	1355×400×675		
	Net/Gross weight	kg	34/42.5		
Panel	Dimension (WxHxD)	mm	1430×53×680		
	Packing (WxHxD)	mm	1525×130×765		
	Net/Gross weight	kg	10.5/15		
Pipe connections	Liquid pipe	mm	Φ 6.35		
	Gas pipe	mm	Φ 12.7		
	Drain pipe	mm	OD Φ32		

Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured in a semi-anechoic chamber.

Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

Model			MDV-D45Q2/N1(B)	MDV-D56Q2/N1(B)	MDV-D71Q2/N1(B)
Power supply			1 phase, 220-240V, 50Hz		
Cooling	Capacity	kW	4.5	5.6	7.1
	Input	W	92	108	154
Heating	Capacity	kW	5	6.3	8
	Input	W	92	108	154
Indoor fan motor	Type		AC		
	Quantity		1		
Indoor coil	Number of rows		2		
	Tube pitch x row pitch	mm	21×13.37		
	Fin spacing	mm	1.5		
	Fin type		Hydrophilic Aluminum		
	Diameter & type	mm	Φ7, inner-groove tube		
	Dimensions (LxHxW)	mm	882×210×26.74		
	Number of circuits		6		
Refrigerant type			R410A		
Indoor air flow (H/M/L)		m ³ /h	850/670/550	980/800/670	1200/1000/770
Sound pressure level (H/M/L)		dB(A)	39/35/30	39/35/30	44/40/34
Indoor unit	Dimension (WxHxD)	mm	1172×299×591		
	Packing (WxHxD)	mm	1355×400×675		
	Net/Gross weight	kg	36/44.5		
Panel	Dimension (WxHxD)	mm	1430×53×680		
	Packing (WxHxD)	mm	1525×130×765		
	Net/Gross weight	kg	10.5/15		
Pipe connections	Liquid pipe	mm	Φ 6.35	Φ9.53	Φ9.53
	Gas pipe	mm	Φ 12.7	Φ15.9	Φ15.9
	Drain pipe	mm	OD Φ32		

Notes:

1. Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
2. Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
3. Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
4. Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured in a semi-anechoic chamber.

Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

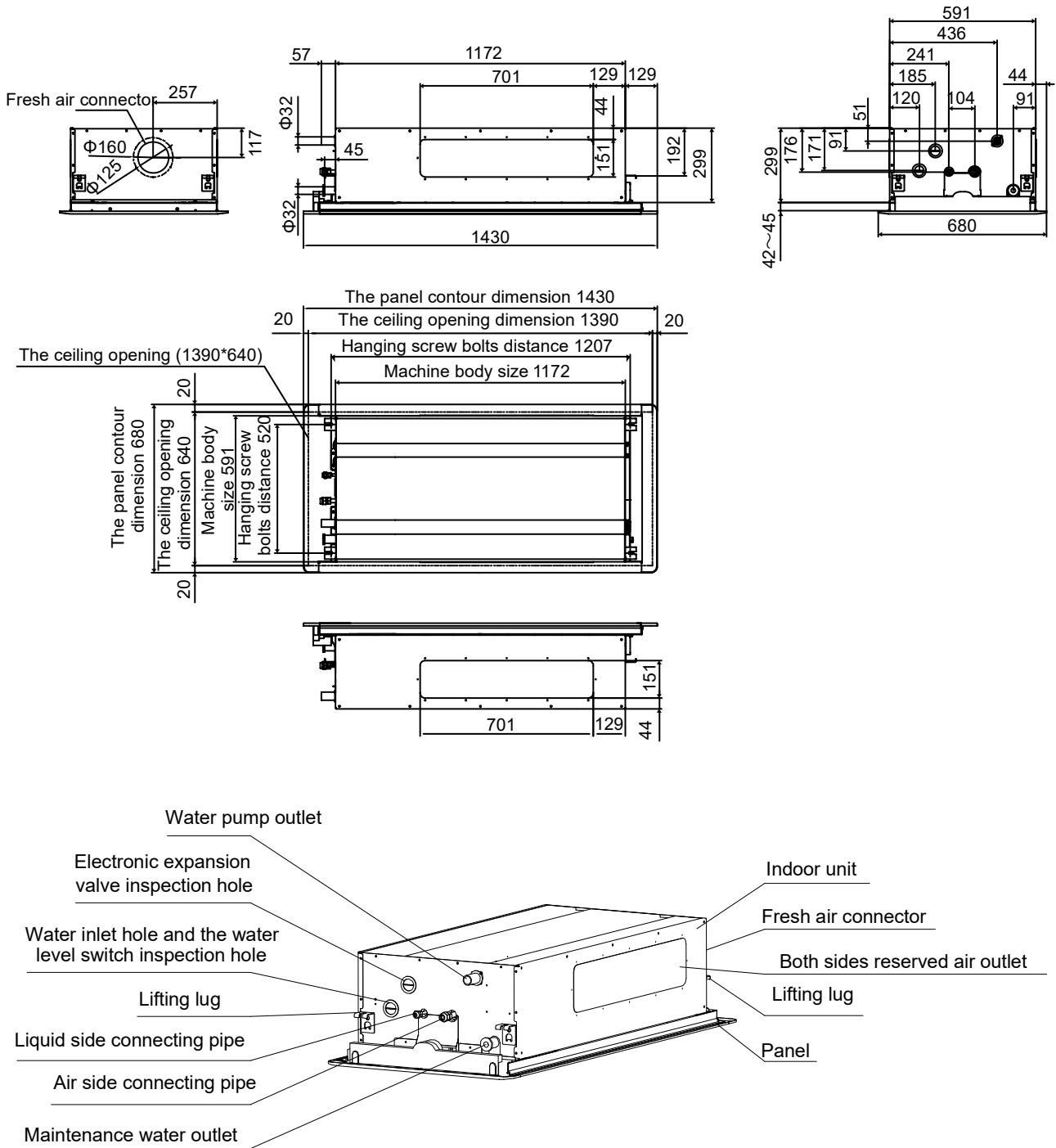
The 2nd Generation AC Series VRF Indoor Units



2 Dimensions

2.1 Unit Dimensions

Figure 2.1: Two-way Cassette dimensions (unit: mm)



3 Unit Placement

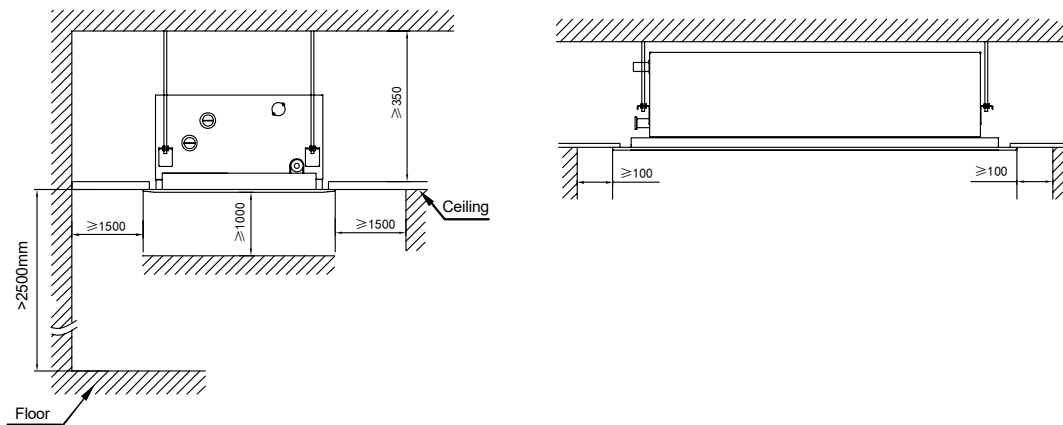
3.1 Placement Considerations

Unit placement should take account of the following considerations:

- Units should not be installed in the following locations:
 - Where exposure to direct radiation from a high-temperature heat source or to interference from a source of electromagnetic radiation may occur.
 - Where dust or dirt may affect heat exchangers.
 - Where exposure to oil or to corrosive or harmful gases, such as acidic or alkaline gases, may occur.
 - Where exposure to salinity may occur, such as seaside locations.
 - Where highly flammable materials are present.
 - Where exposure to oily air may occur, such as a kitchen.
 - Where exposure to very high humidity may occur, such as a laundry.
- Units should be installed in positions where:
 - The ceiling is horizontal and is able to bear the unit's weight.
 - There are no obstructions that could impede the airflow into and out of the unit.
 - The airflow out of the unit can reach throughout the room.
 - There is sufficient space for access during installation, servicing and maintenance.
 - The refrigerant piping and drain piping can be easily connected to the refrigerant piping and drain piping systems.
 - Short-circuit ventilation (where outlet air returns quickly to a unit's air inlet) will not occur.

3.2 Space Requirements

Figure 3.1: Two-way Cassette space requirements (unit: mm)

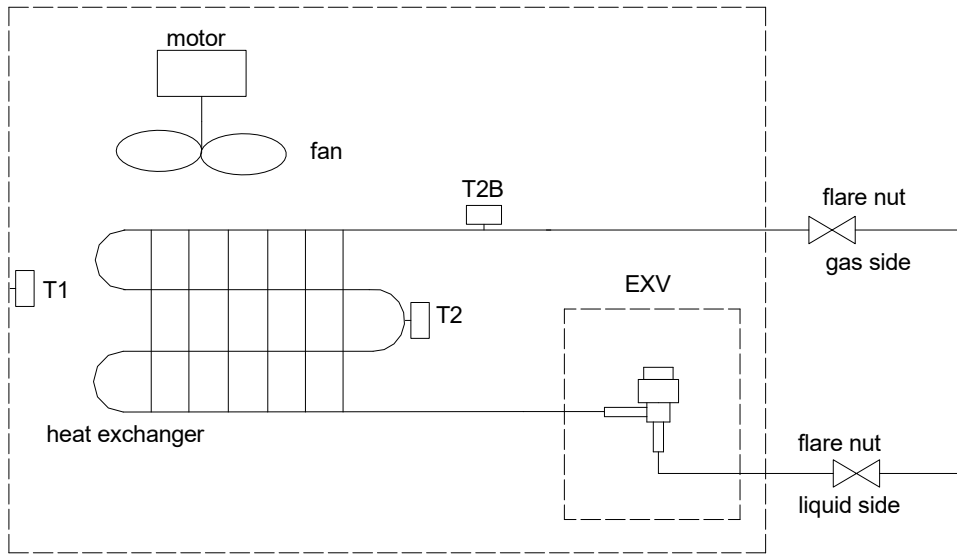


Notes:

1. The centerline of the maintenance hole should be in the same position as the centerline of the indoor unit.

4 Piping Diagram

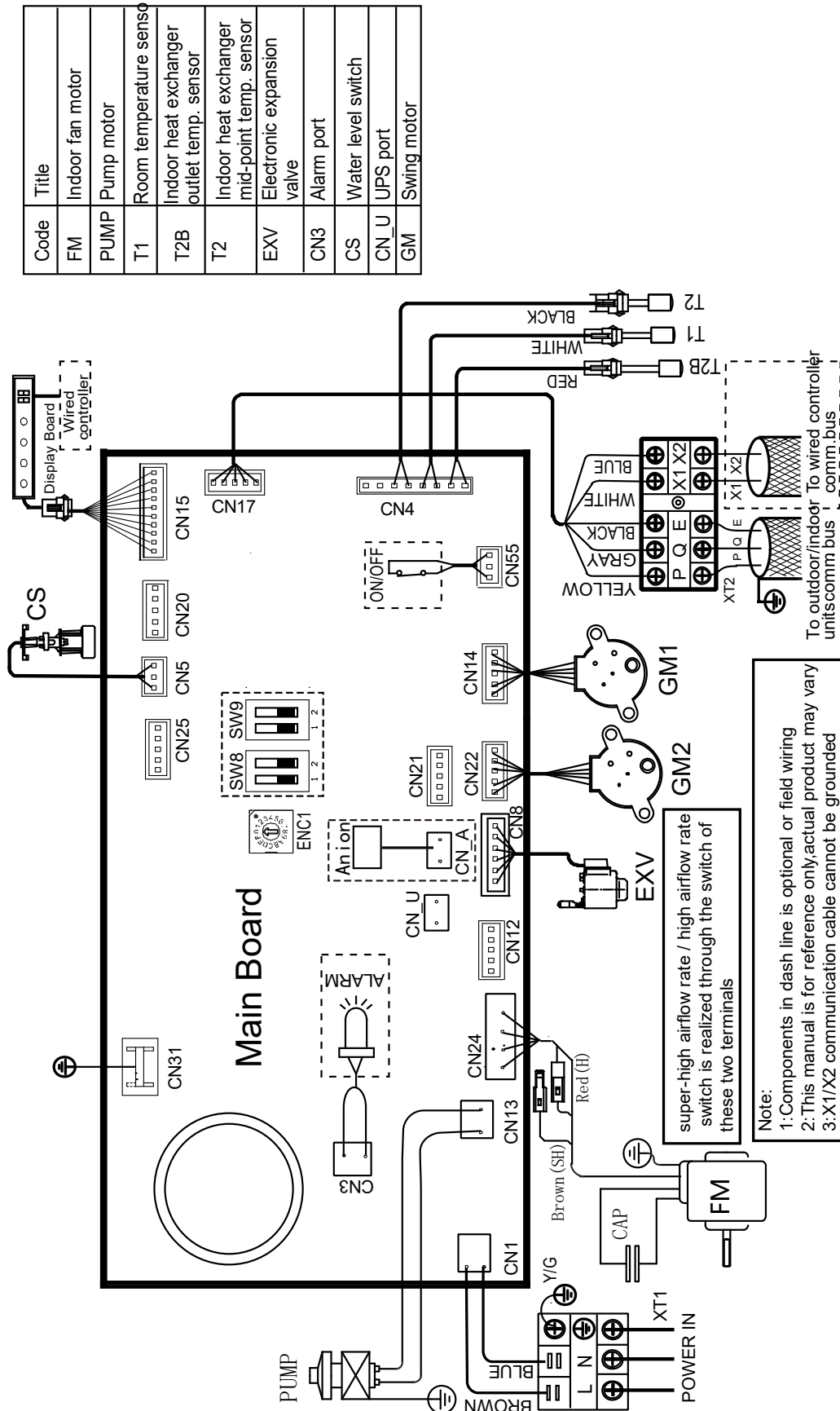
Figure 4.1: Two-way Cassette piping diagram



Legend	
T1	Indoor ambient temperature sensor
T2	Indoor heat exchanger mid-point temperature sensor
T2B	Indoor heat exchanger outlet temperature sensor

5 Wiring Diagram

Figure 5.1: Two-way Cassette piping diagram wiring diagram



Notes for installers and service engineers **Caution**

- All installation, servicing and maintenance must be carried out by competent and suitably qualified, certified and accredited professionals and in accordance with all applicable legislation.
- Units should be grounded in accordance with all applicable legislation. Metal and other conductive components should be insulated in accordance with all applicable legislation.
- Power supply wiring should be securely fastened at the power supply terminals – loose power supply wiring would represent a fire risk.
- After installation, servicing or maintenance, the electric control box cover should be closed. Failing to close the electric control box cover risks fire or electric shock.
- Switch ENC1 (indoor unit capacity setting) is factory-set and its setting should normally not be changed. The only circumstances in which a switch ENC1 might need to be set in the field is when replacing a main PCB. When replacing a main PCB, ensure that the capacity setting on switch ENC1 on the new PCB is consistent with the unit capacity given on the unit's nameplate.

6 Capacity Tables

6.1 Cooling Capacity Table

Table 6.1: Two-way Cassette cooling capacity

Model	Indoor air temp. (°C WB/DB)													
	14/20		16/23		18/26		19/27		20/28		22/30		24/32	
	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
MDV-D22Q2/N1(B)	2.0	2.0	2.1	2.1	2.2	2.0	2.2	1.9	2.3	1.9	2.3	1.7	2.4	1.7
MDV-D28Q2/N1(B)	2.5	2.5	2.7	2.6	2.8	2.5	2.8	2.4	2.9	2.4	2.9	2.2	3.0	2.1
MDV-D36Q2/N1(B)	3.2	3.2	3.4	3.3	3.6	3.3	3.6	3.1	3.7	3.0	3.8	2.9	3.9	2.7
MDV-D45Q2/N1(B)	4.0	4.0	4.3	4.0	4.5	3.9	4.5	3.8	4.6	3.7	4.7	3.5	4.8	3.3
MDV-D56Q2/N1(B)	5.0	5.0	5.3	5.0	5.6	4.9	5.6	4.7	5.7	4.6	5.8	4.3	6.0	4.1
MDV-D71Q2/N1(B)	6.3	6.3	6.7	6.3	7.0	6.2	7.1	6.0	7.2	5.8	7.4	5.5	7.6	5.2

Abbreviations:

TC: Total capacity (kW)

SC: Sensible capacity (kW)

Notes:

1. Shaded cells indicate rating condition

6.2 Heating Capacity Table

Table 7.1: Two-way Cassette heating capacity

Model	Indoor air temp. (°C DB)					
	16°CDB	18°CDB	20°CDB	21°CDB	22°CDB	24°CDB
	SHC	SHC	SHC	SHC	SHC	SHC
MDV-D22Q2/N1(B)	2.8	2.8	2.6	2.5	2.4	2.3
MDV-D28Q2/N1(B)	3.4	3.4	3.2	3.1	3.0	2.8
MDV-D36Q2/N1(B)	4.2	4.2	4.0	3.8	3.8	3.5
MDV-D45Q2/N1(B)	5.3	5.3	5.0	4.8	4.7	4.4
MDV-D56Q2/N1(B)	6.7	6.6	6.3	6.1	5.9	5.5
MDV-D71Q2/N1(B)	8.5	8.4	8.0	7.8	7.5	7.0

Abbreviations :

TC: Total capacity (kW)

Notes:

1. Shaded cells indicate rating condition

7 Electrical Characteristics

Table 7.1: Two-way Cassette electrical characteristics

Model name	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
MDV-D22Q2/N1(B)	50	220-240	198	264	0.47	15	0.1	0.38
MDV-D28Q2/N1(B)	50	220-240	198	264	0.47	15	0.1	0.38
MDV-D36Q2/N1(B)	50	220-240	198	264	0.52	15	0.1	0.42
MDV-D45Q2/N1(B)	50	220-240	198	264	0.59	15	0.1	0.47
MDV-D56Q2/N1(B)	50	220-240	198	264	0.9	15	0.1	0.72
MDV-D71Q2/N1(B)	50	220-240	198	264	1.3	15	0.1	1.04

Abbreviations:

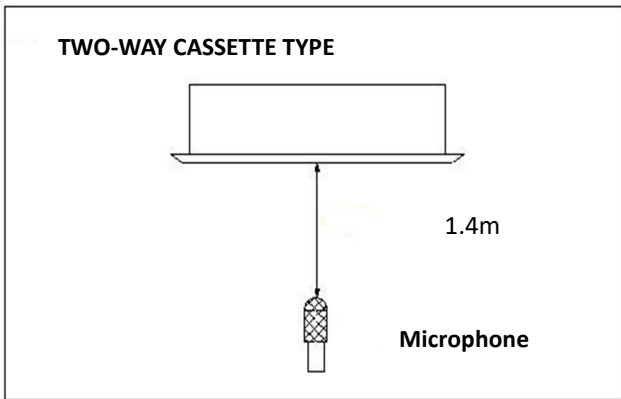
MCA: Minimum Circuit Amps

MFA: Maximum Fuse Amps

FLA: Full Load Amps

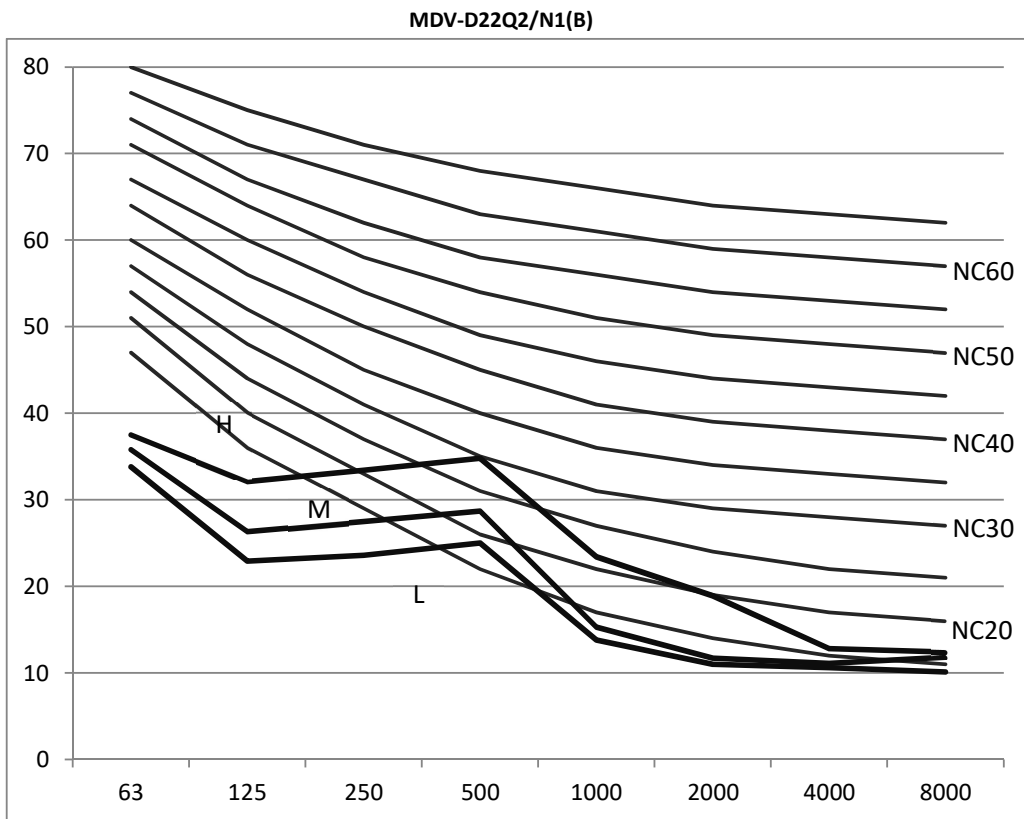
8 Sound Levels

8.1 Test Condition



8.2 Test Value

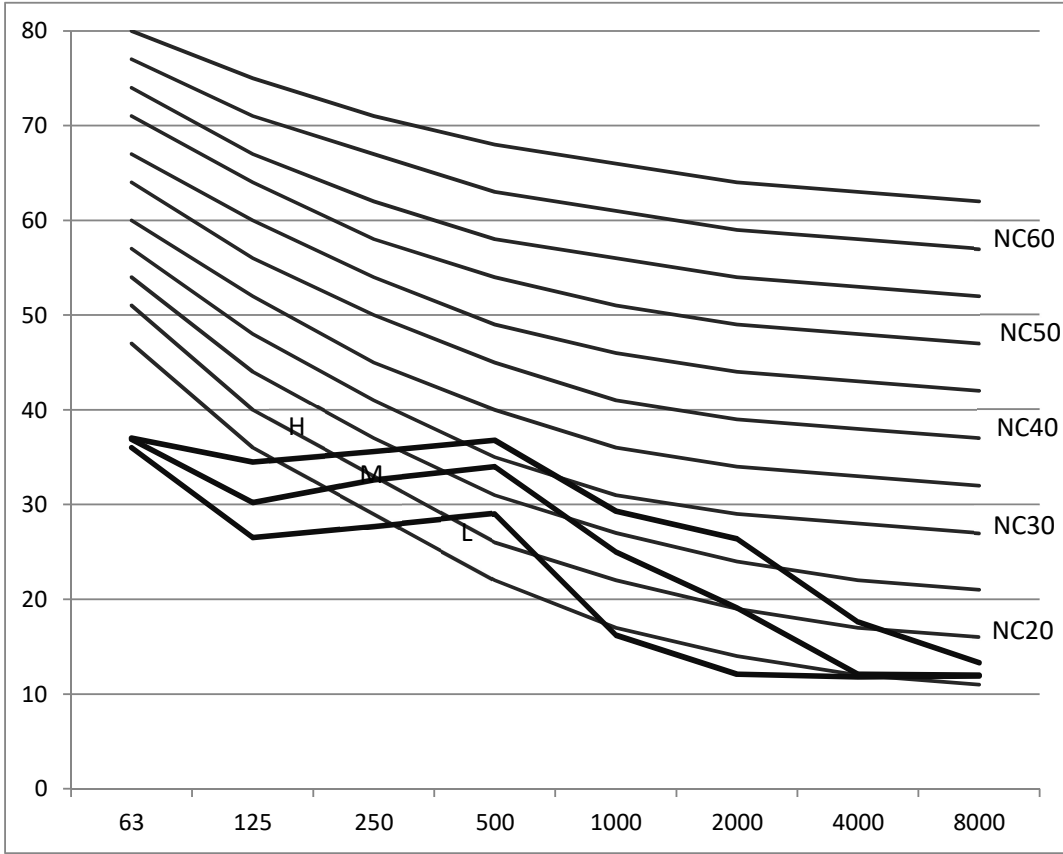
Model	Sound test value dB(A)		
	H	M	L
MDV-D22Q2/N1(B)	33	29	24
MDV-D28Q2/N1(B)	36	32	29
MDV-D36Q2/N1(B)	36	32	29
MDV-D45Q2/N1(B)	39	35	30
MDV-D56Q2/N1(B)	39	35	30
MDV-D71Q2/N1(B)	44	40	34



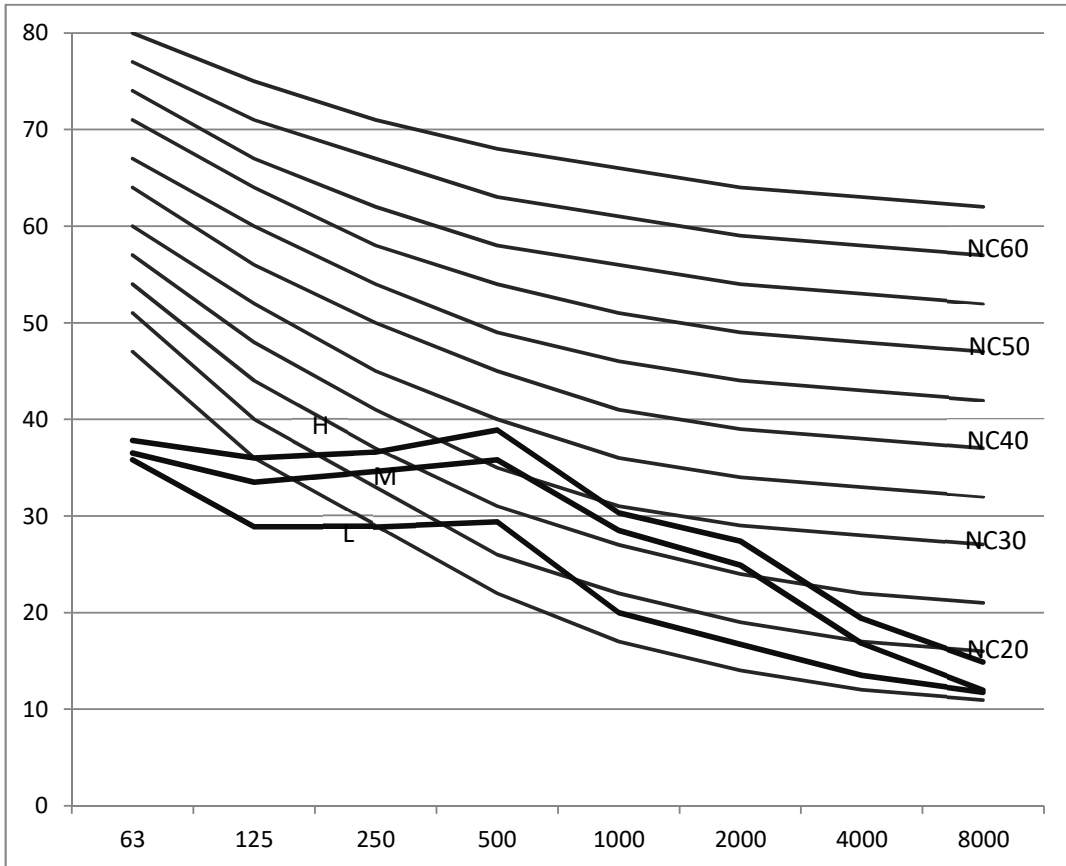
The 2nd Generation AC Series VRF Indoor Units



MDV-D28Q2/N1, MDV-D36Q2/N1(B)



MDV-D45Q2/N1, MDV-D56Q2/N1 (B)



MDV-D71Q2/N1(B)

