

## Fresh air processing unit

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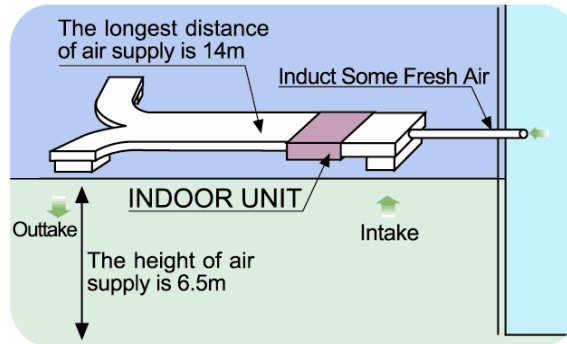
## 1. Features

### (1) 100% Fresh Air Processing Unit

Both fresh air treatment and heating and cooling can be achieved successfully in a single system. Indoor units and fresh air processing unit can be connected to the same refrigerant system, resulting in enhanced design flexibility and a significant reduction in total system costs.

### (2) High External Static Pressure

External static pressure of Indoor Unit can be up to 225Pa, which allows extensive duct work for flexible applications. So the cool air can be delivered to every indoor corner even in a super-high ceiling. The maximal distance of air supply is about 14m; the height of air supply is about 6.5m.



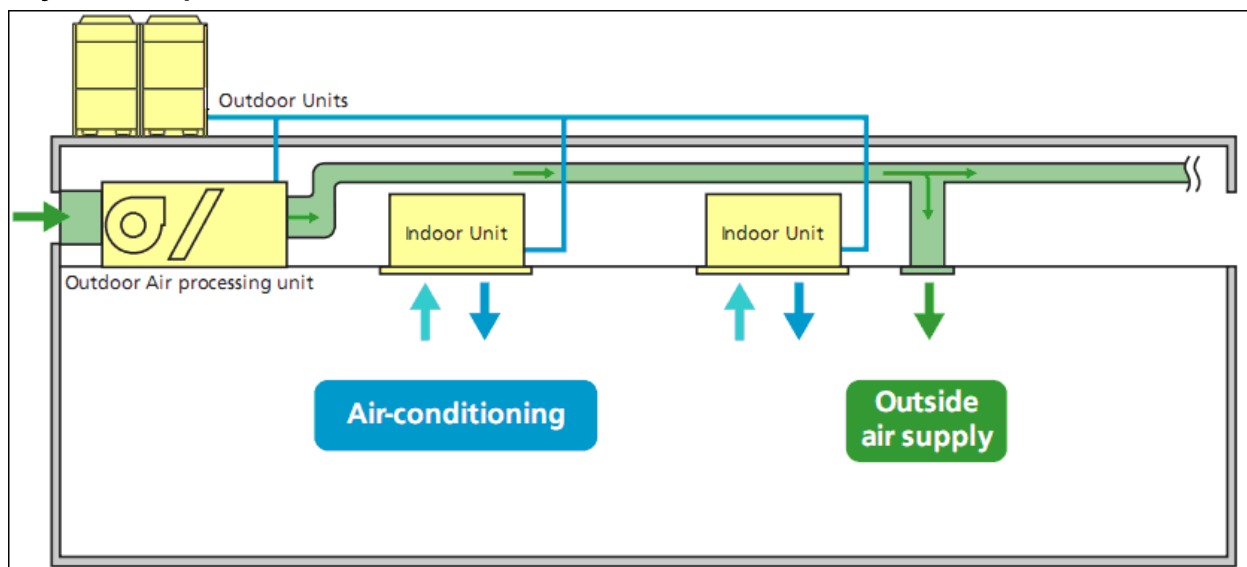
(3) Wired control and group control available.

(4) High capacity of cooling/heating and efficient.

(5) Innovative air supply, which provides homogeneous conditioning of the room temperature.

(6) Can be connected to all Midea VRV systems

### Layout Example:



### (7) Auto restart

When the indoor unit is powered off, it will auto restart when powered on again after 3 minutes and operate in the original state.

## 2. Specification

Sale Model			MDV-D125T1/N1-FA	MDV-D140T1/N1-FA
Power supply	V-Ph-Hz		220-240V-1Ph-50Hz	220-240V-1Ph-50Hz
Cooling Capacity	kW		12.5	14
Heating Capacity	kW		10.5	12
Rated current	A		2.4	2.4
Indoor fan motor	Model		YSK300-4C-1	YSK300-4C-1
	Type		Ac Motor	Ac Motor
	Brand		Yong An	Yong An
	Input	W	430	430
	Capacitor	uF	10	10
	Speed(H/m/l)	r/min	854/769/695	854/769/695
Indoor coil	Number of rows		4	4
	Tube pitch(a)x row pitch(b)	mm	25.4×22	25.4×22
	Fin spacing	mm	1.6	1.6
	Fin type (code)		hydrophilia arcuate fin aluminum foil	
	Tube outside dia. and type	mm	9.52	9.52
			Inner groove tube	Inner groove tube
	Coil length x height x width	mm	996×355.6×88	996×355.6×88
Number of circuits		7	7	
Indoor air flow (H/M/L)	m3/h	1700/1350/1050	1700/1350/1050	
Indoor external static pressure (H)	Pa	50(30~220)	50(30~220)	
Indoor noise level (Sound pressure)(H/M/L)	dB(A)	54/52/50	54/52/50	
Indoor unit	Dimension (W×H×D)	mm	1368×420×691	1368×420×691
	Packing (W×H×D)	mm	1436×440×768	1436×440×768
	Net/Gross weight	kg	69.5/76	69.5/76
Refrigerant type			R410A	R410A
Throttle	Type	Electrical expansive valve		
	Model	BD24FKS(L)		
Design pressure	MPa	4.2/2.0	4.2/2.0	
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connection wiring	Power wiring	mm <sup>2</sup>	2×2.5+1×2.0	2×2.5+1×2.0
	Signal wiring	mm <sup>2</sup>	3×0.75	3×0.75
Drainage pipe diameter	mm <sup>2</sup>		OD Φ25	OD Φ25
Controller		Wire controller KJR-29B1/BK-E		

### Notes:

- Nominal cooling capacities are based on the following conditions: outdoor air temperature: 33°C DB, 24°C WB, equivalent ref. piping: 8m (horizontal)
- Nominal heating capacities are based on the following conditions: outdoor temperature: 0°CDB, -1°CWB, and equivalent ref. Piping: 8m (horizontal)

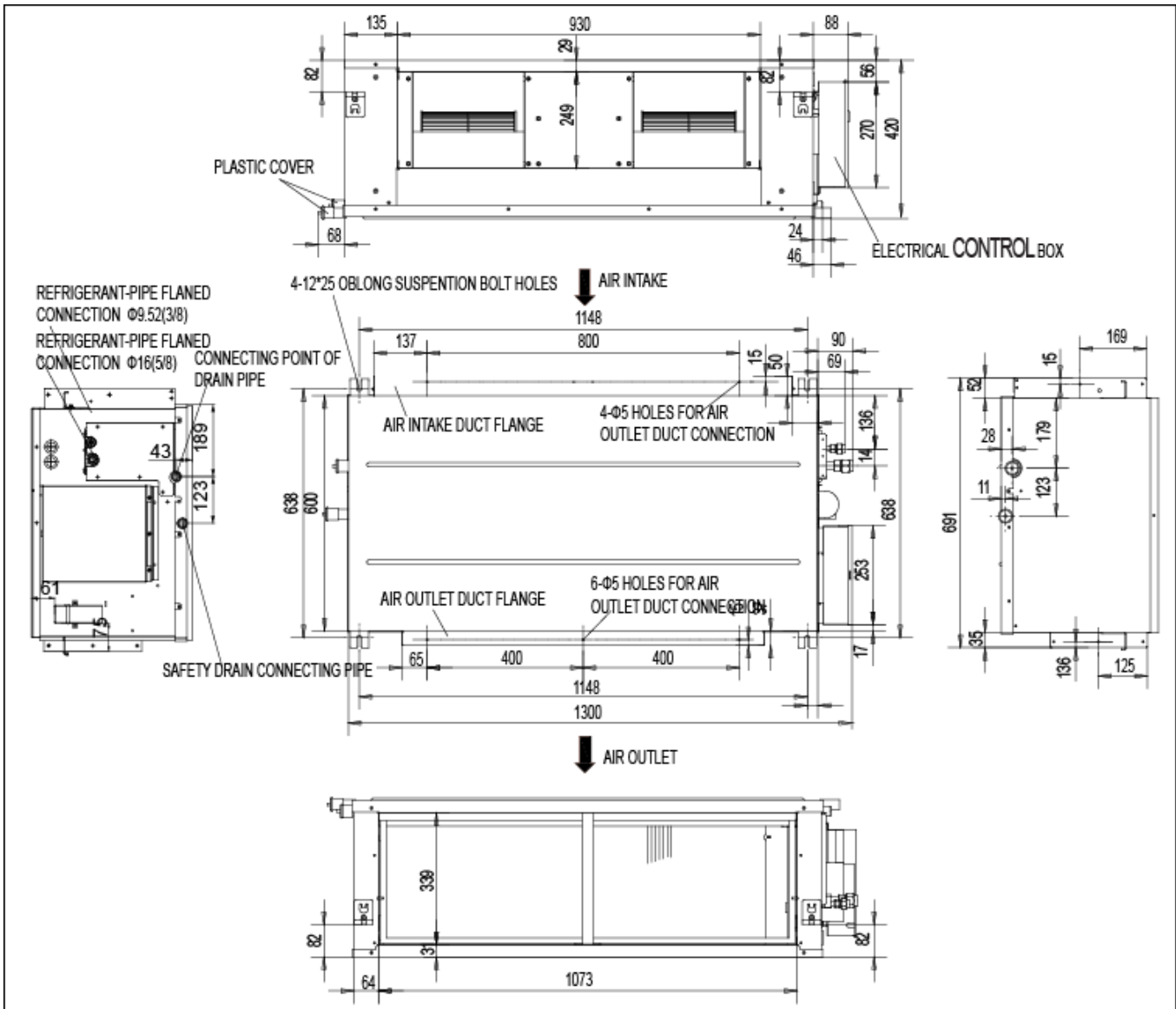
Sale Model		MDV-D200T1/N1-FA	MDV-D250T1/N1-FA	MDV-D280T1/N1-FA	
Power supply	220V-1Ph-50Hz	220V-1Ph-50Hz	220V-1Ph-50Hz	220V-1Ph-50Hz	
Cooling Capacity	kW	20.0	25.0	28.0	
Heating Capacity	kW	18.0	20.0	22.0	
Rated current	A	5.3	5.6	5.6	
Indoor fan motor	Model	YDK250-4X (×2)	YDK250-4X (×2)	YDK250-4X (×2)	
	Type	Ac Motor	Ac Motor	Ac Motor	
	Brand	Yong An	Yong An	Yong An	
	Input	W	1000(×2)	1063(×2)	1063(×2)
	Capacitor	uF	10(×2)	12(×2)	12(×2)
	Speed(h/m/l)	r/min	855/784/712 (×2)	900/815/747 (×2)	900/815/747 (×2)
Indoor coil	Number of rows		4	4	4
	Tube pitch(a)x row pitch(b)	mm	25.4×22	25.4×22	25.4×22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type (code)		hydrophilia arcuate fin aluminum foil		
	Tube outside dia. and type	mm	9.52	9.52	9.52
			Inner groove tube	Inner groove tube	Inner groove tube
	Coil length x height x width	mm	1125×512×88	1125×512×88	1125×512×88
	Number of circuits		20	20	20
Indoor air flow (H/M/L)	m <sup>3</sup> /h	3150/2650/2300	3300/2850/2500	3300/2850/2500	
Indoor external static pressure (H)	Pa	140(50~260)	140(50~260)	140(50~260)	
Indoor noise level (Sound pressure)(H/M/L)	dB(A)	54/53/51	55/54/52	55/54/52	
Indoor unit	Dimension (W×H×D)	mm	1443×470×810	1443×470×810	1443×470×810
	Packing (W×H×D)	mm	1509×522×964	1509×522×964	1509×522×964
	Net/Gross weight	kg	115/125	115/125	115/125
Refrigerant type		R410A	R410A	R410A	
Throttle	Type	Electrical expansive valve			
	Model	BD24FKS(L)			
Design pressure	MPa	4.2/2.0	4.2/2.0	4.2/2.0	
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connection wiring	Power wiring	mm <sup>2</sup>	3×4.0	3×4.0	3×4.0
	Signal wiring	mm <sup>2</sup>	3×1.0	3×1.0	3×1.0
Drainage pipe diameter	mm <sup>2</sup>	Φ32	Φ32	Φ32	
Controller		Wire controller KJR-29B1/BK-E			

**Notes:**

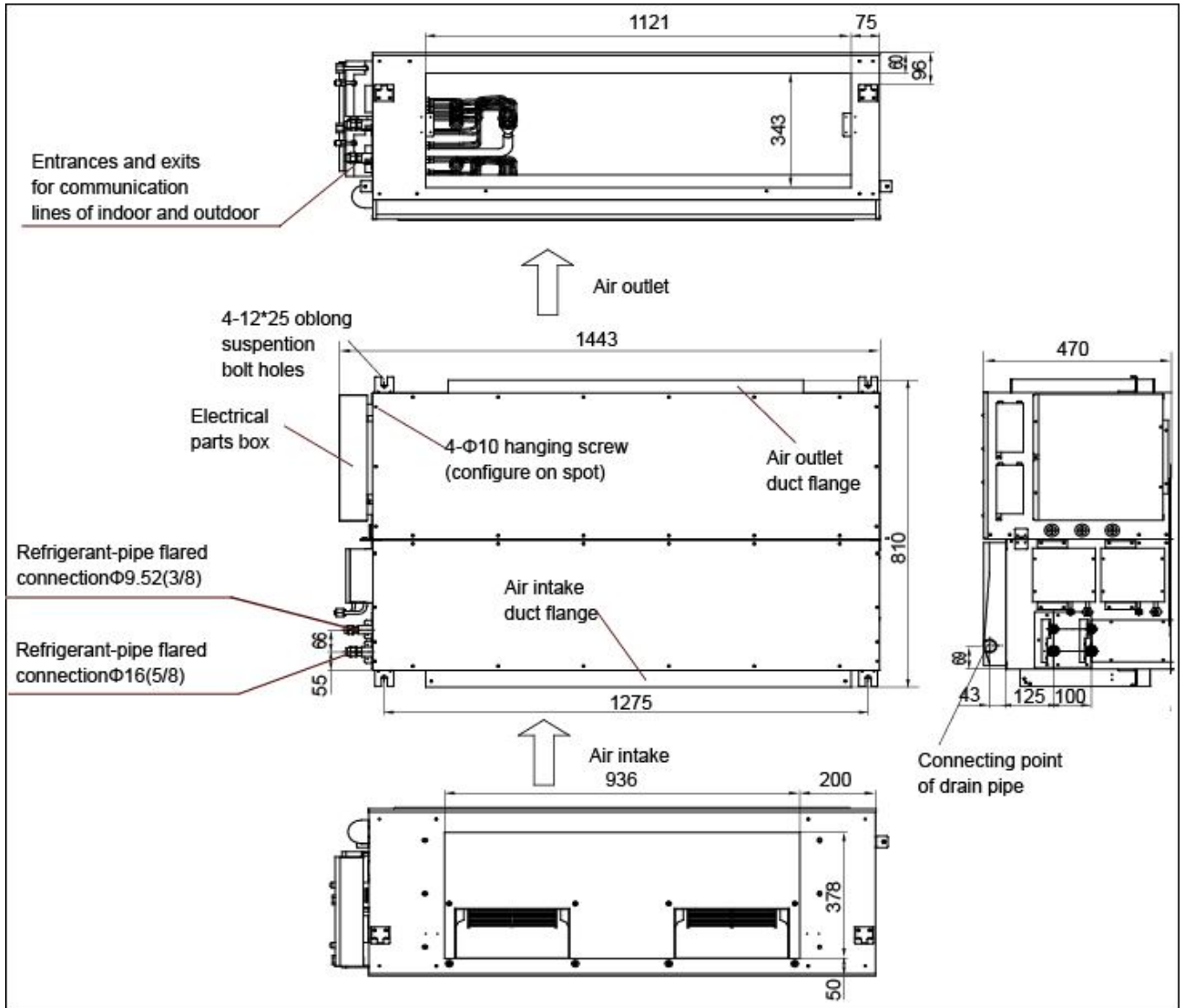
- Nominal cooling capacities are based on the following conditions: outdoor air temperature: 33°C DB, 24°C WB, equivalent ref. piping: 8m (horizontal)
- Nominal heating capacities are based on the following conditions: outdoor temperature: 0°CDB, -1°CWB, and equivalent ref. Piping: 8m (horizontal)

3. Dimensions

MDV-D125T1/N1-FA, MDV-D140T1/N1-FA

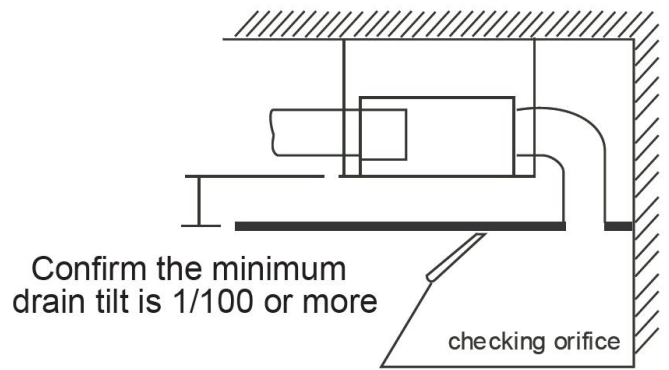
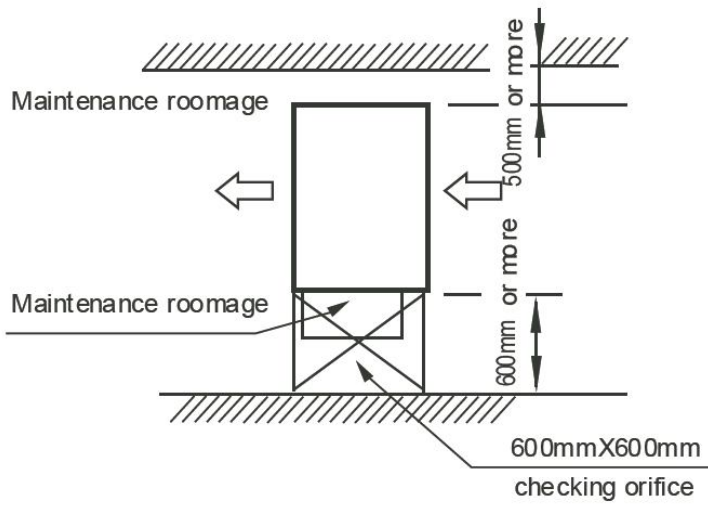


MDV-D200T1/N1-FA, MDV-D250T1/N1-FA, MDV-D280T1/N1-FA



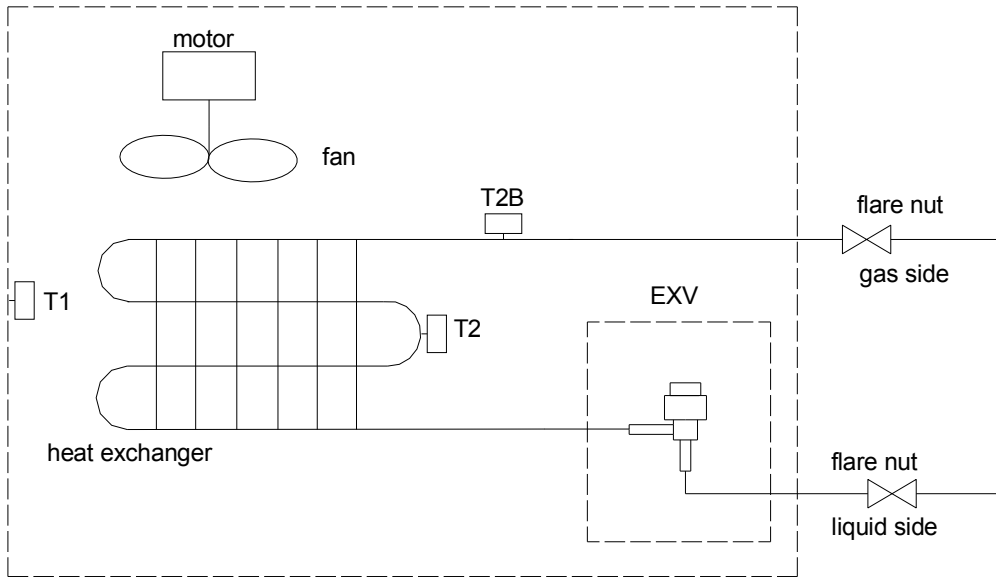
### 4. Service Spaces

Ensure enough space required for installation and maintenance.

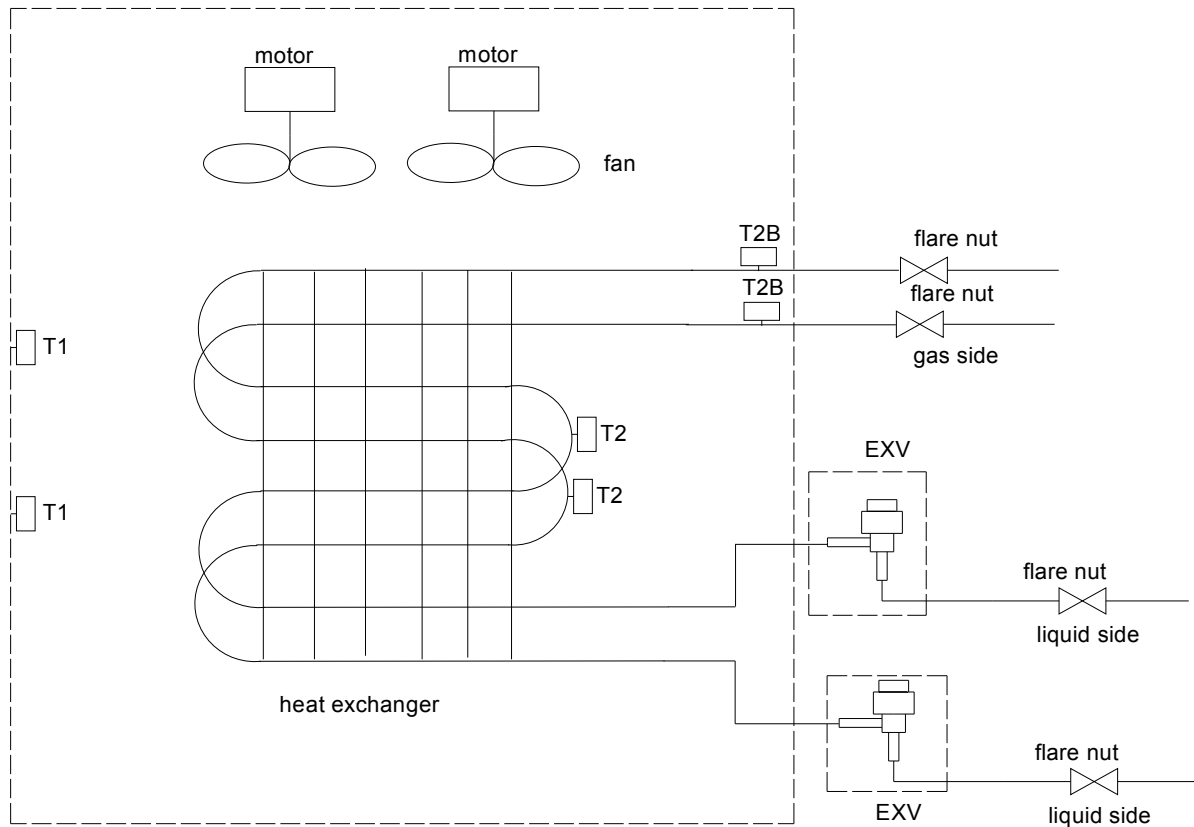


**5. Piping Diagrams**

MDV-D125T1/N1-FA, MDV-D140T1/N1-FA



MDV-D200T1/N1-FA, MDV-D250T1/N1-FA, MDV-D280T1/N1-FA





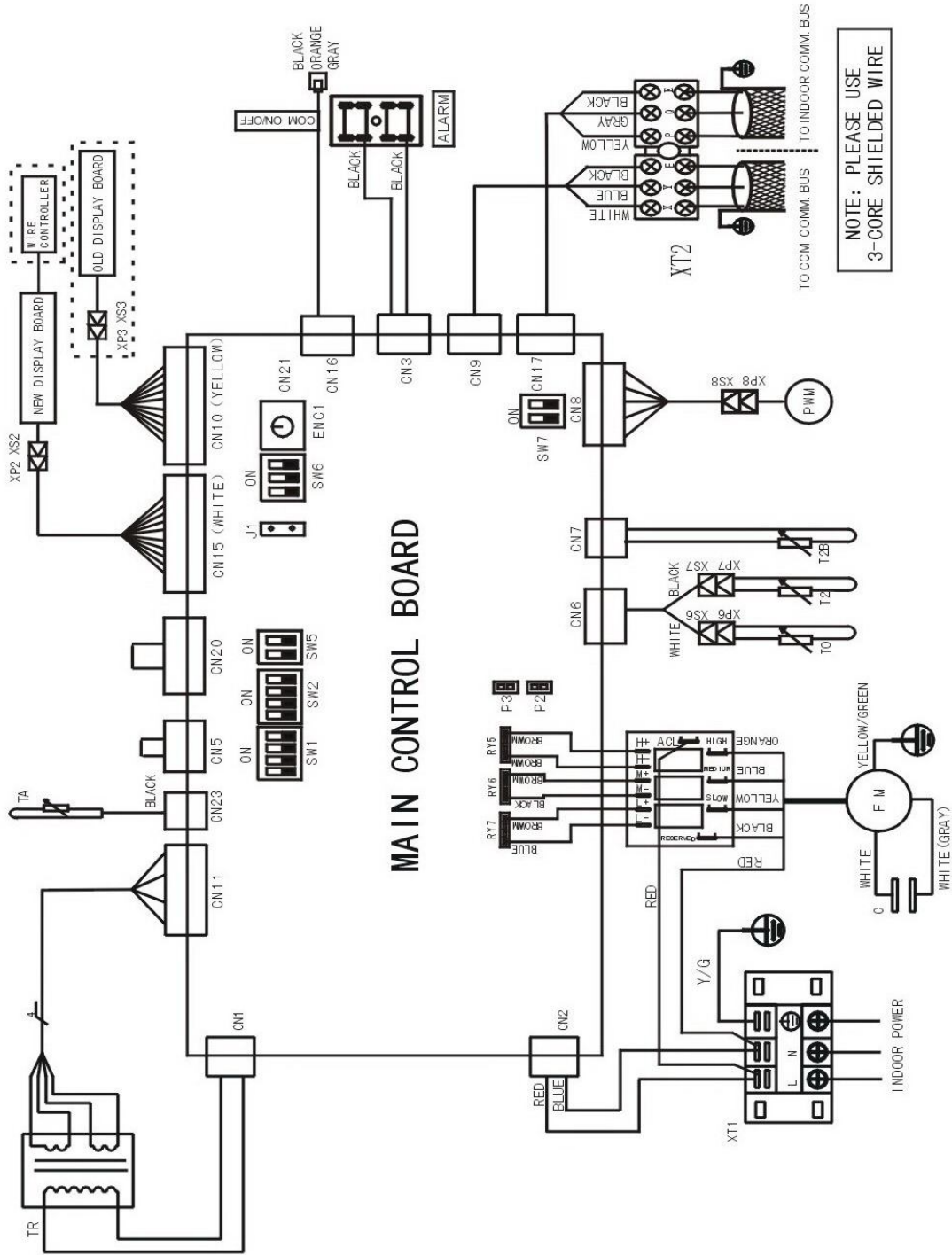
6. Wiring Diagrams

MDV-D125T1/N1-FA, MDV-D140T1/N1-FA

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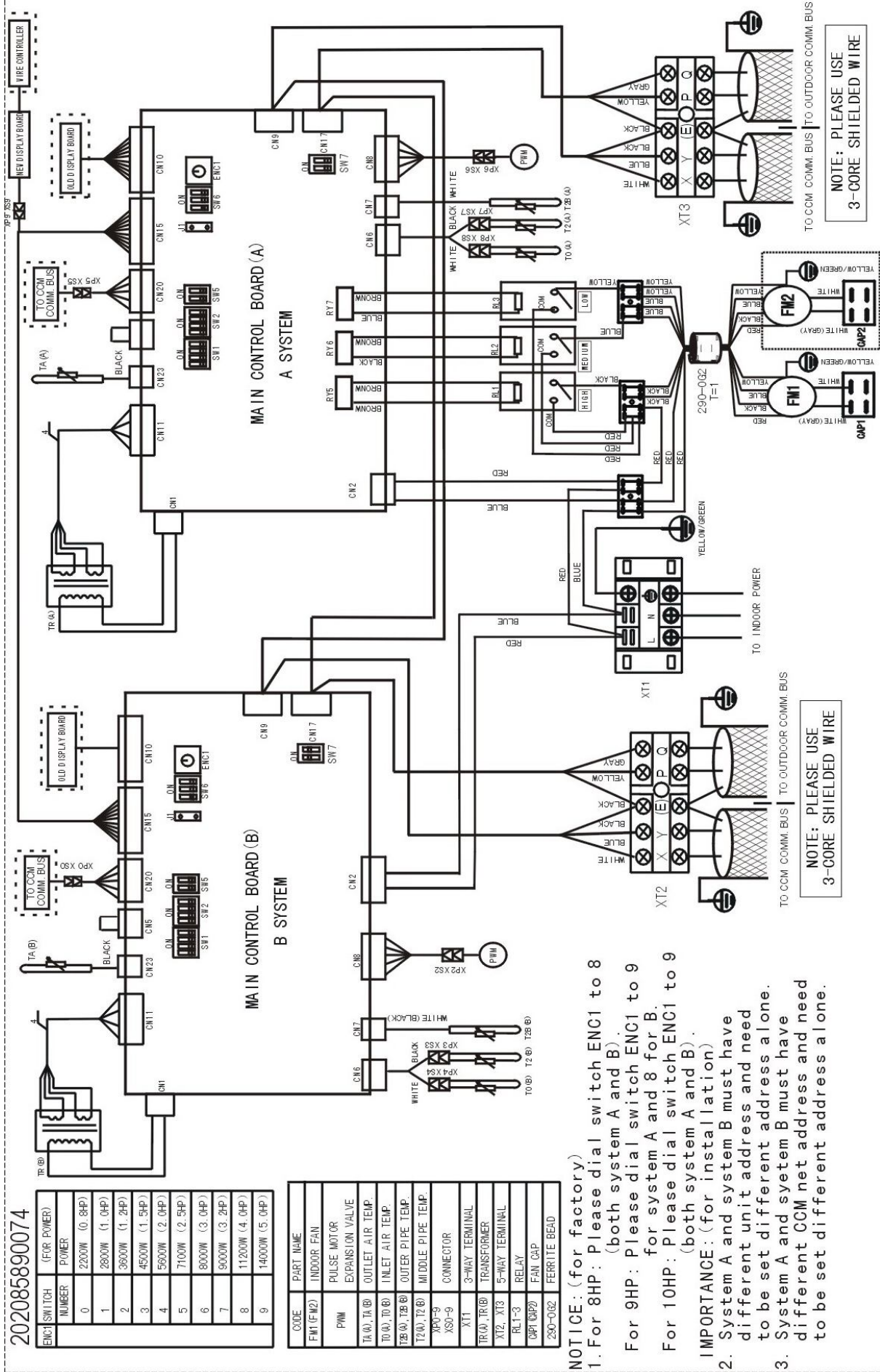
CODE	TITLE
FM	INDOOR FAN MOTOR
PWM	PULSE MOTOR EXPANSION VALVE
TA	OUTLET AIR TEMP.
TD	INLET AIR TEMP.
T2B	OUTER PIPE TEMP.
T2	MIDDLE PIPE TEMP.
XP1-8	CONNECTOR
XS1-8	TRANSFORMER
F	FUSE
K	PROTECTOR SWITCH OVER HEAT
H	AUXILIARY HEATER
XT1-3	TERMINAL
CN10	OLD DISPLAY BOARD TERMINAL (YELLOW)
CN15	NEW DISPLAY BOARD TERMINAL (WHITE)
CS	WATER LEVEL SWITCH
PUMP	PUMP MOTOR
GM	SWING MOTOR
C	FAN MOTOR CAP.

ENC1 SWITCH NUMBER	(FOR POWER)	POWER
0	2200W (0.8HP)	
1	2800W (1.0HP)	
2	3600W (1.2HP)	
3	4500W (1.5HP)	
4	5600W (2.0HP)	
5	7100W (2.5HP)	
6	8000W (3.0HP)	
7	9000W (3.2HP)	
8	11200W (4.0HP)	
9	14000W (5.0HP)	



MAIN CONTROL BOARD

MDV-D200T1/N1-FA, MDV-D250T1/N1-FA, MDV-D280T1/N1-FA



NOTE: PLEASE USE 3-CORE SHIELDED WIRE

NOTE: PLEASE USE 3-CORE SHIELDED WIRE

## 7. Capacity Tables

### 7.1 MDV-D125T1/N1-FA

TC: total capacity SC: sensible capacity WB: wet-bulb temperature DB: dry-bulb temperature

<b>COOLING</b>		<b>OUTDOOR TEMPERATURE DRY</b>					
Indoor Conditions		20°C DB 15°C WB	24°C DB 18°C WB	27°C DB 19°C WB	33°C DB 24°C WB	38°C DB 26°C WB	43°C DB 26°C WB
20°C DB 15°C WB	TC kW	14.75					
	SC kW	11.51					
24°C DB 18°C WB	TC kW		14.38				
	SC kW		10.06				
27°C DB 19°C WB	TC kW			13.75			
	SC kW			9.08			
33°C DB 24°C WB	TC kW				12.50		
	SC kW				7.50		
38°C DB 26°C WB	TC kW					10.63	
	SC kW					5.74	
43°C DB 26°C WB	TC kW						9.38
	SC kW						4.50

<b>HEATING</b>		<b>OUTDOOR CONDITIONS</b>					
Indoor Conditions		16°C DB 12°C WB	12°C DB 10°C WB	7°C DB 6°C WB	4°C DB 3°C WB	0°C DB -1°C WB	-5°C DB -6°C WB
16°C DB 12°C WB	Capacity kW	14.18					
12°C DB 10°C WB	Capacity kW		13.13				
7°C DB 6°C WB	Capacity kW			12.08			
4°C DB 3°C WB	Capacity kW				11.34		
0°C DB -1°C WB	Capacity kW					10.50	
-5°C DB -6°C WB	Capacity kW						8.93

**7.2 MDV-D140T1/N1-FA**

**TC:** total capacity    **SC:** sensible capacity    **WB:** wet-bulb temperature    **DB:** dry-bulb temperature

<b>COOLING</b>		<b>OUTDOOR TEMPERATURE DRY</b>					
<b>Indoor Conditions</b>		<b>20°C DB 15°C WB</b>	<b>24°C DB 18°C WB</b>	<b>27°C DB 19°C WB</b>	<b>33°C DB 24°C WB</b>	<b>38°C DB 26°C WB</b>	<b>43°C DB 26°C WB</b>
<b>20°C DB 15°C WB</b>	TC kW	16.52					
	SC kW	12.89					
<b>24°C DB 18°C WB</b>	TC kW		16.10				
	SC kW		11.27				
<b>27°C DB 19°C WB</b>	TC kW			15.40			
	SC kW			10.16			
<b>33°C DB 24°C WB</b>	TC kW				<b>14.00</b>		
	SC kW				<b>8.40</b>		
<b>38°C DB 26°C WB</b>	TC kW					11.90	
	SC kW					6.43	
<b>43°C DB 26°C WB</b>	TC kW						10.50
	SC kW						5.04

<b>HEATING</b>		<b>OUTDOOR CONDITIONS</b>					
<b>Indoor Conditions</b>		<b>16°C DB 12°C WB</b>	<b>12°C DB 10°C WB</b>	<b>7°C DB 6°C WB</b>	<b>4°C DB 3°C WB</b>	<b>0°C DB -1°C WB</b>	<b>-5°C DB -6°C WB</b>
<b>16°C DB 12°C WB</b>	Capacity kW	16.20					
	Capacity kW		15.00				
<b>7°C DB 6°C WB</b>	Capacity kW			<b>13.80</b>			
	Capacity kW				12.96		
<b>0°C DB -1°C WB</b>	Capacity kW					<b>12.00</b>	
	Capacity kW						10.20

**7.3 MDV-D200T1/N1-FA**

**TC:** total capacity    **SC:** sensible capacity    **WB:** wet-bulb temperature    **DB:** dry-bulb temperature

<b>COOLING</b>		<b>OUTDOOR TEMPERATURE DRY</b>					
<b>Indoor Conditions</b>		<b>20°C DB 15°C WB</b>	<b>24°C DB 18°C WB</b>	<b>27°C DB 19°C WB</b>	<b>33°C DB 24°C WB</b>	<b>38°C DB 26°C WB</b>	<b>43°C DB 26°C WB</b>
<b>20°C DB 15°C WB</b>	TC kW	23.60					
	SC kW	18.41					
<b>24°C DB 18°C WB</b>	TC kW		23.00				
	SC kW		16.10				
<b>27°C DB 19°C WB</b>	TC kW			22.00			
	SC kW			14.52			
<b>33°C DB 24°C WB</b>	TC kW				20.00		
	SC kW				12.00		
<b>38°C DB 26°C WB</b>	TC kW					17.00	
	SC kW					9.18	
<b>43°C DB 26°C WB</b>	TC kW						15.00
	SC kW						7.20

<b>HEATING</b>		<b>OUTDOOR CONDITIONS</b>					
<b>Indoor Conditions</b>		<b>16°C DB 12°C WB</b>	<b>12°C DB 10°C WB</b>	<b>7°C DB 6°C WB</b>	<b>4°C DB 3°C WB</b>	<b>0°C DB -1°C WB</b>	<b>-5°C DB -6°C WB</b>
<b>16°C DB 12°C WB</b>	Capacity kW	24.30					
	Capacity kW		22.50				
<b>7°C DB 6°C WB</b>	Capacity kW			20.70			
	Capacity kW				19.44		
<b>0°C DB -1°C WB</b>	Capacity kW					18.00	
	Capacity kW						15.30

**7.4 MDV-D250T1/N1-FA**

**TC:** total capacity    **SC:** sensible capacity    **WB:** wet-bulb temperature    **DB:** dry-bulb temperature

<b>COOLING</b>		<b>OUTDOOR TEMPERATURE DRY</b>					
Indoor Conditions		20°C DB 15°C WB	24°C DB 18°C WB	27°C DB 19°C WB	33°C DB 24°C WB	38°C DB 26°C WB	43°C DB 26°C WB
<b>20°C DB 15°C WB</b>	TC kW	29.50					
	SC kW	23.01					
<b>24°C DB 18°C WB</b>	TC kW		28.75				
	SC kW		20.13				
<b>27°C DB 19°C WB</b>	TC kW			27.50			
	SC kW			18.15			
<b>33°C DB 24°C WB</b>	TC kW				<b>25.00</b>		
	SC kW				15.00		
<b>38°C DB 26°C WB</b>	TC kW					21.25	
	SC kW					11.48	
<b>43°C DB 26°C WB</b>	TC kW						18.75
	SC kW						9.00

<b>HEATING</b>		<b>OUTDOOR CONDITIONS</b>					
Indoor Conditions		16°C DB 12°C WB	12°C DB 10°C WB	7°C DB 6°C WB	4°C DB 3°C WB	0°C DB -1°C WB	-5°C DB -6°C WB
<b>16°C DB 12°C WB</b>	Capacity kW	27.00					
	Capacity kW		25.00				
<b>7°C DB 6°C WB</b>	Capacity kW			<b>23.00</b>			
	Capacity kW				21.60		
<b>0°C DB -1°C WB</b>	Capacity kW					20.00	
	Capacity kW						17.00

**7.5 MDV-D280T1/N1-FA**

**TC:** total capacity    **SC:** sensible capacity    **WB:** wet-bulb temperature    **DB:** dry-bulb temperature

<b>COOLING</b>		<b>OUTDOOR TEMPERATURE DRY</b>					
<b>Indoor Conditions</b>		<b>20°C DB 15°C WB</b>	<b>24°C DB 18°C WB</b>	<b>27°C DB 19°C WB</b>	<b>33°C DB 24°C WB</b>	<b>38°C DB 26°C WB</b>	<b>43°C DB 26°C WB</b>
<b>20°C DB 15°C WB</b>	TC kW	33.04					
	SC kW	25.77					
<b>24°C DB 18°C WB</b>	TC kW		32.20				
	SC kW		22.54				
<b>27°C DB 19°C WB</b>	TC kW			30.80			
	SC kW			20.33			
<b>33°C DB 24°C WB</b>	TC kW				28.00		
	SC kW				16.80		
<b>38°C DB 26°C WB</b>	TC kW					23.80	
	SC kW					12.85	
<b>43°C DB 26°C WB</b>	TC kW						21.00
	SC kW						10.08

<b>HEATING</b>		<b>OUTDOOR CONDITIONS</b>					
<b>Indoor Conditions</b>		<b>16°C DB 12°C WB</b>	<b>12°C DB 10°C WB</b>	<b>7°C DB 6°C WB</b>	<b>4°C DB 3°C WB</b>	<b>0°C DB -1°C WB</b>	<b>-5°C DB -6°C WB</b>
<b>16°C DB 12°C WB</b>	Capacity kW	29.70					
	Capacity kW		27.50				
<b>7°C DB 6°C WB</b>	Capacity kW			25.30			
	Capacity kW				23.76		
<b>0°C DB -1°C WB</b>	Capacity kW					22.00	
	Capacity kW						18.70

**8. Electrical Characteristics**

Model	Indoor Unit				Power Supply		IFM	
	Hz	Voltage	Min.	Max.	MCA	MFA	KW	FLA
MDV-D125T1/N1-FA	50	220-240	198	254	2.4	5	0.3	2
MDV-D140T1/N1-FA	50	220-240	198	254	2.4	5	0.3	2
MDV-D200T11/N1-FA	50	220-240	198	254	5.3	5	0.25 (×2)	4.8
MDV-D250T1/N1-FA	50	220-240	198	254	5.6	5	0.25 (×2)	4.8
MDV-D280T1/N1-FA	50	220-240	198	254	5.6	5	0.25 (×2)	4.8

**Remark:**

MCA: Min. Current Amps. (A)

MFA: Max. Fuse Amps. (A)

KW: Fan Motor Rated Output (KW)

FLA: Full Load Amps. (A)

IFM: Indoor Fan Motor

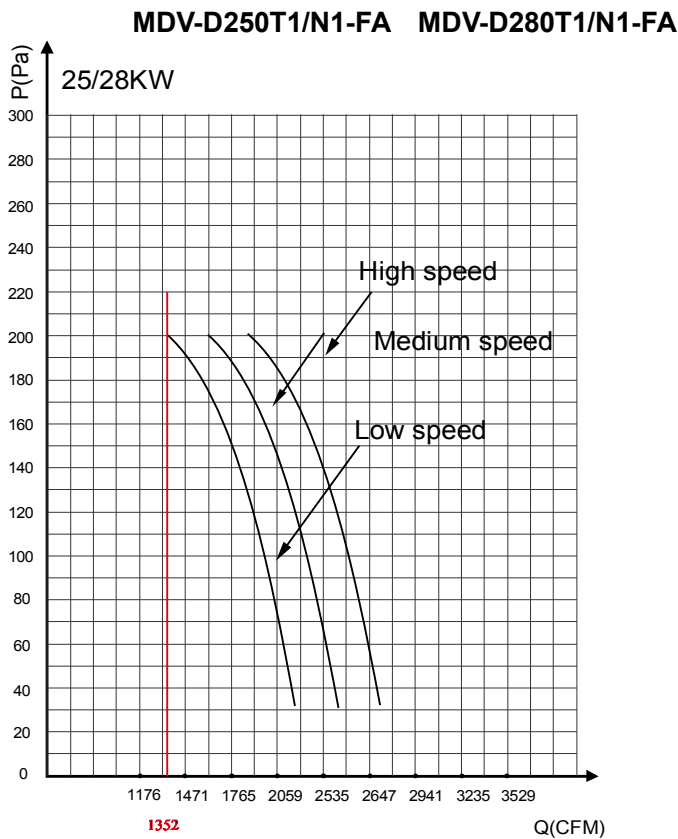
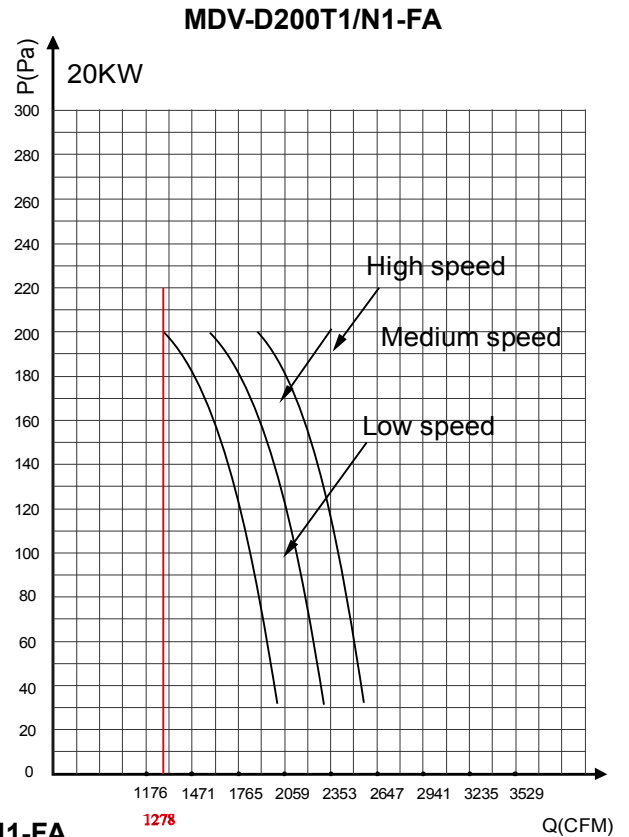
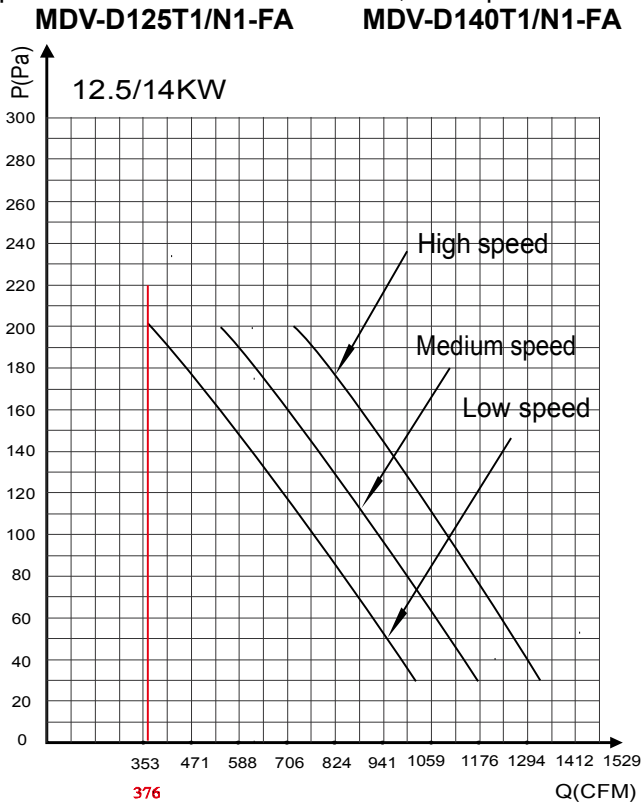


### 9. Fan Performance

#### How to Read the Diagram

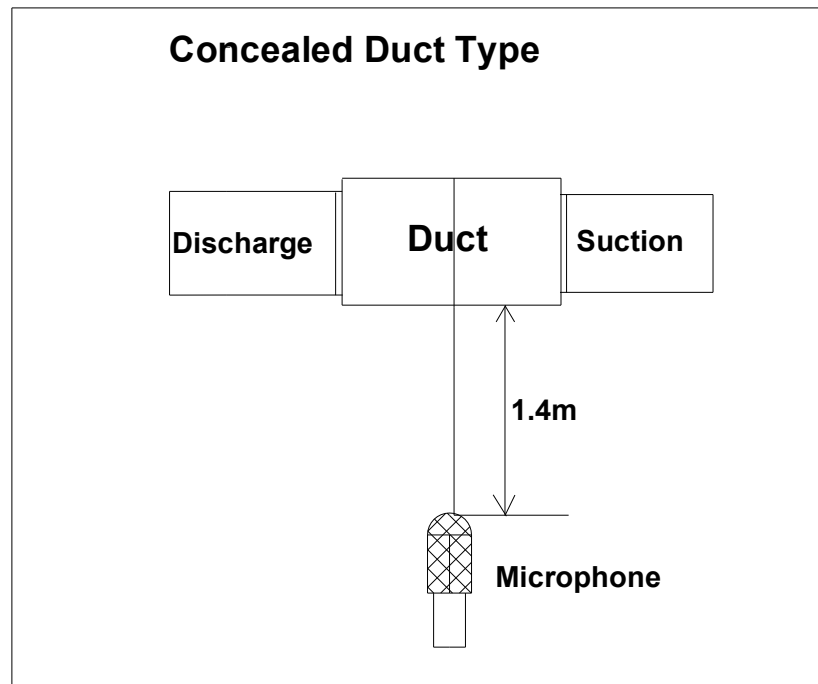
The vertical axis is the External Static Pressure (Pa) while the horizontal axis represents the Air Flow (CMH). The characteristic curve for the “H,” “M,” and “L” fan speed control, The nameplate values are shown based on the “H” air flow.

Therefore in the case of 140T1 Type, the air flow is 436 CFM , while the External Static Pressure is 185Pa at “L” position. And 789 CFM is 185Pa, at ‘H’ position.



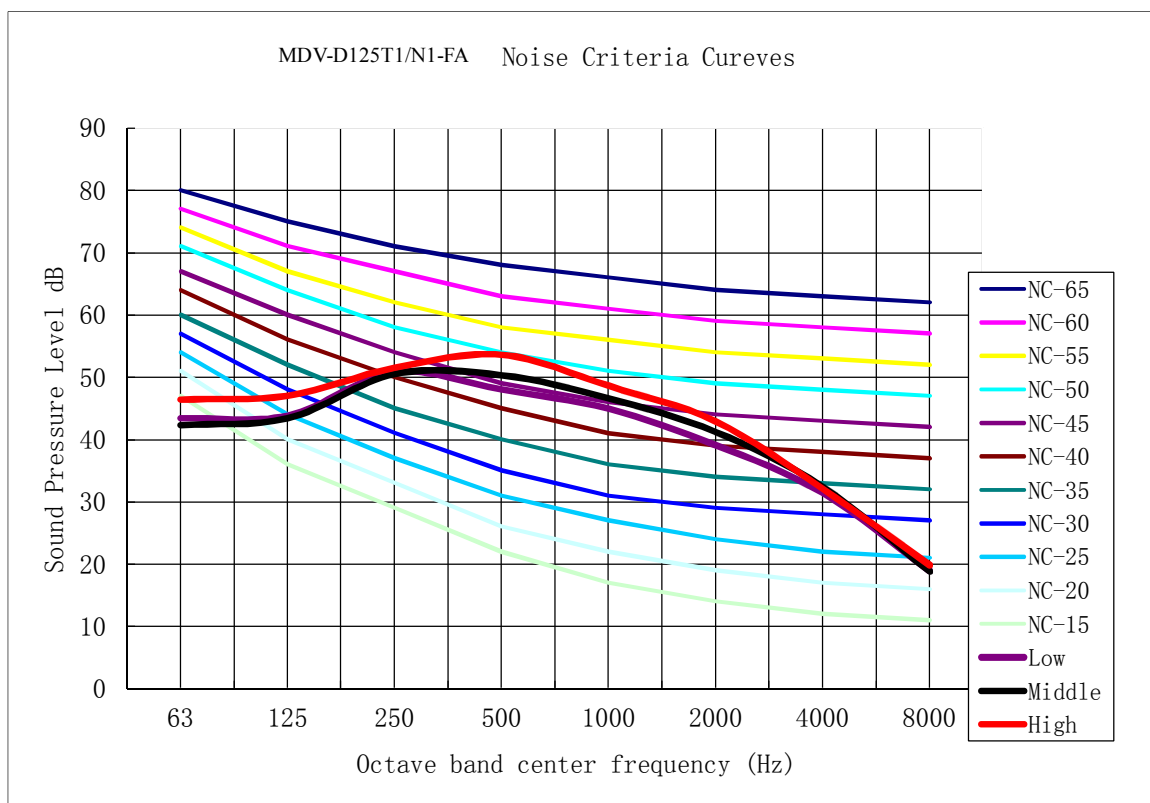
- If the external static pressure is too great (due to long extension of duct, for example), the air flow volume may drop too low at each air outlet.
- So there's a limit air flow volume line for each speed, which is the min. airflow of this duct unit. At this flow volume, the fan achieves the max. ESP and indoor evaporator may protect by low temp.
- As well, there's a limit airflow volume, which is the max. value at each speed. It requests the unit to connect duct for air-inlet and outlet, to prevent damage from the high temp. of motor/evaporator.

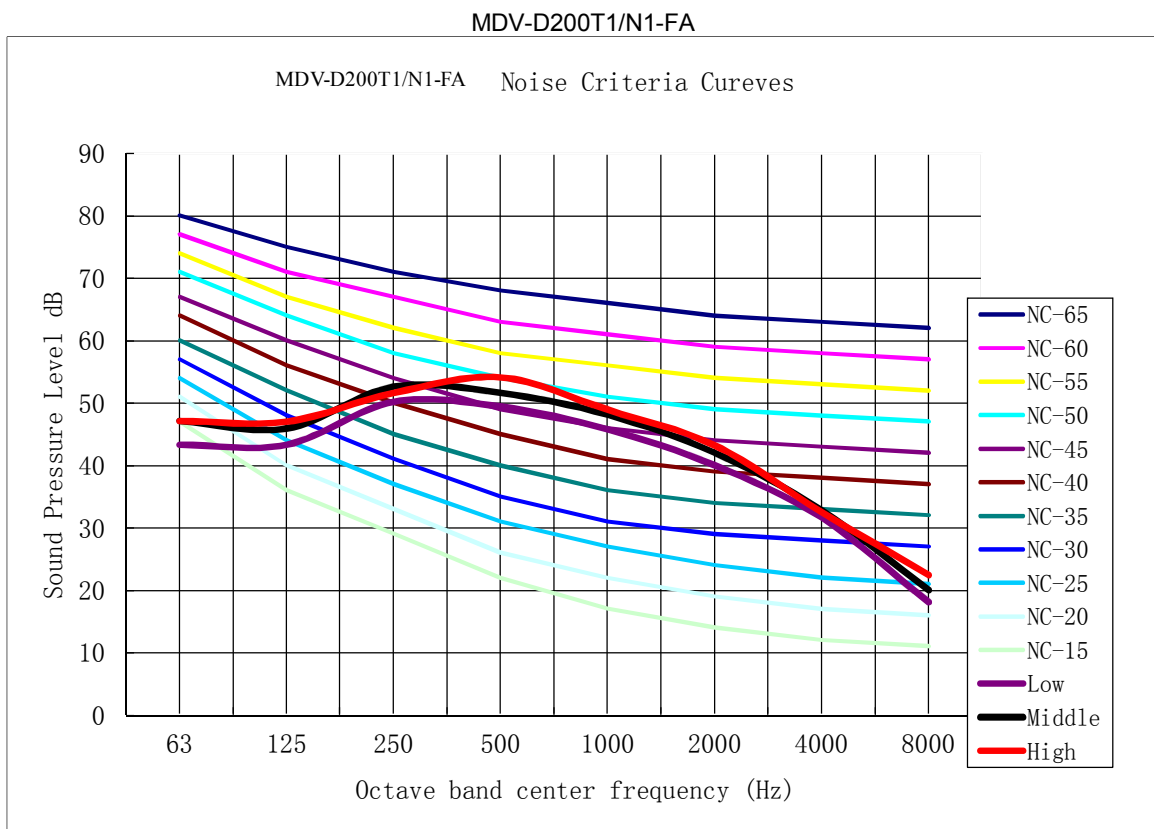
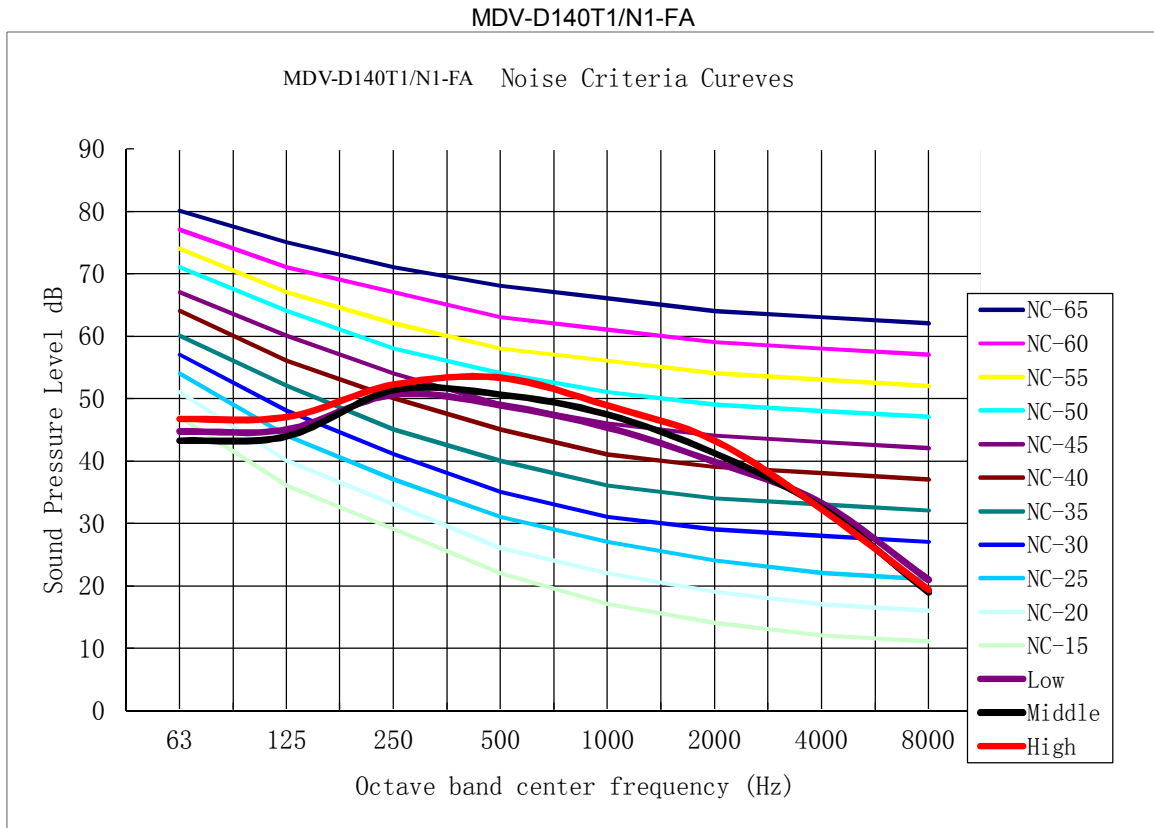
10. Sound Levels



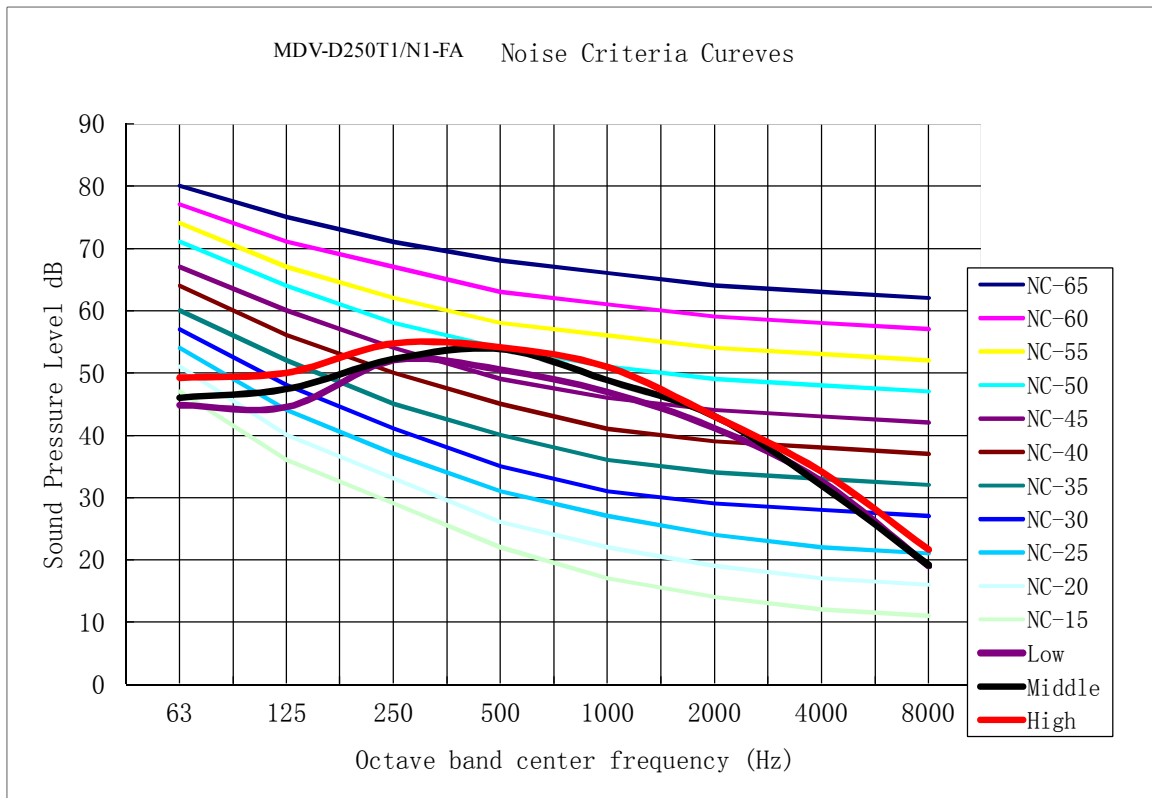
Unit Number	Model	Sound level under three speeds of fan (dB(A))		
		H	M	L
1	MDV-D125T1/N1-FA	54	52	50
2	MDV-D140T1/N1- FA	54	52	50
3	MDV-D200T1/N1-FA	54	53	51
4	MDV-D250T1/N1-FA	55	54	52
5	MDV-D280T1/N1-FA	55	54	52

MDV-D125T1/N1-FA

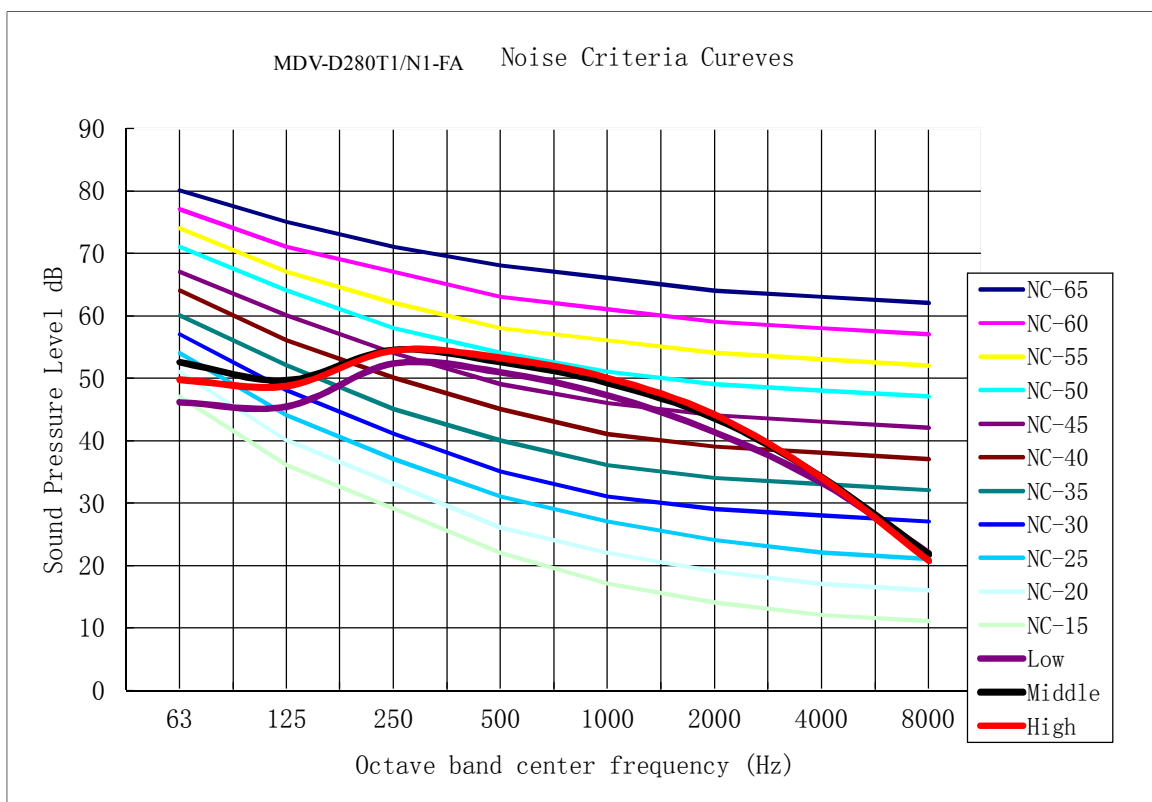




MDV-D250T1/N1-FA



MDV-D280T1/N1-FA



**11. Accessories**

<b>Name</b>	<b>Quantity</b>	<b>Function</b>
Installation manual	1	/
Pipe insulation material	2	Heat insulation
Accessory drain pipe	1	To connect drain pipe
Adhesive tape for seal	1	To connect drain pipe
Adhesive tape for seal	1	To connect refrigerant pipe
Wire controller(KJR-12B)	1	To control the air-conditioner
Connective pipe	2	To connect electrical restriction assembly
controller manual	1	/