



# Service manual

## MIV V4+ Indoor units

### Floor Standing

MVF22A-VA1

MVB22A-VA1

MVF28A-VA1

MVB28A-VA1

MVF36A-VA1

MVB36A-VA1

MVF45A-VA1

MVB45A-VA1

MVF56A-VA1

MVB56A-VA1

MVF71A-VA1

MVB71A-VA1

MVF80A-VA1

MVB80A-VA1



# Floor Standing

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## 1. Feature

### 1.1 Exposed & Concealed type



Air intake from front (F4 series)



Air intake from below (F5 series)

### 1.2 Lower noise

Flat shape air outlet, three speeds adjustment. Smoother airflow with less turbulence.

Adoption of the built-in Fujikoki brand electrical expansion valve, ensures precise flow control, as well as lower modulation noise when EXV operating.

### 1.3 Easy Installation

Floor standing types can be hung on the wall or installed on the floor. The former can make cleaning and maintenance much more easily. Running the piping from the back allows the unit to be hung on walls. Cleaning under the unit, where dust tends to accumulate, is considerably easier.

### 1.4 Easy maintenance

Filter is equipped as standard accessory; and it can be removed and cleaned easily due to Midea's sophisticated design as well as the removable blades.

Streamlined appearance makes it much more harmonious with the decoration. All metal parts are made of commercial grade galvanized steel, providing maximum protection against corrosion.

### 1.5 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. Specifications

Model			MVF22A-VA1	MVF28A-VA1	MVF36A-VA1	
			MVB22A-VA1	MVB28A-VA1	MVB36A-VA1	
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz			
Cooling	Capacity	kW	2.2	2.8	3.6	
	Input	W	40	46	55	
	Rated current	A	0.18	0.19	0.22	
Heating	Capacity	kW	2.4	3.2	4.0	
	Input	W	40	46	46	
	Rated current	A	0.18	0.19	0.22	
Indoor fan motor	Model		YSK20-4A	YSK20-4A	YSK20-6	
	Type		AC motor			
	Brand		Welling	Welling	Yongan	
	Input	W	40	42	49	
	Capacitor	μF	0.8	1	1.2	
	Speed (h/m/l)	r/min	870/745/660	935/810/720	750/645/500	
Indoor coil	Number of rows		2	2	3	
	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		Hydrophilic aluminum			
	Tube outside diameter and		Φ9.52 Inner grooved tube			
	Coil length×height×width		mm	568×254×44	568×254×44	768×254×66
	Number of circuits			3	3	3
Indoor air flow (H/M/L)		m <sup>3</sup> /h	530/456/400	569/485/421	624/522/375	
Indoor external static pressure (H)		Pa	12	12	12	
Indoor noise level (Hi/Mid/Lo)	F4	dB(A)	36/33/29	36/33/29	37/34/30	
	F5		36/33/29	36/33/29	37/34/30	
Indoor unit	Dimension (W×H×D)	F4	mm	1000×569×225	1000×569×225	1200×596×225
		F5		1000×677×220	1000×677×220	1200×677×220
	Packing (W×H×D)	F4	mm	1089×683×312	1089×683×312	1289×683×312
		F5		1182×683×312	1182×683×312	1382×683×312
	Net/Gross weight	F4	kg	30/35	30/35	36/44
		F5		30/38	30/38	35.5/41
Refrigerant type			R410A			
Throttle		Type	EXV (Built-in)			
		Model	D20MISZ-1R(L)			
Design pressure		MPa	4.4/2.6			
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7	
Connecting wiring	Power wiring	mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)			
	Signal wiring	mm <sup>2</sup>	3×0.75			
Drainage water pipe diameter		mm	ODΦ25			
Controller			Wireless remote controller (RM05/BG(T)E-A)			

**Notes:** 1. Nominal cooling capacities are based on the following conditions: return air temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent ref. Piping: 8m(horizontal)

2. Nominal heating capacities are based on the following conditions: return air temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent ref. Piping: 8m(horizontal)

Model			MVF45A-VA1	MVF56A-VA1
			MVB45A-VA1	MVB56A-VA1
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz	
Cooling	Capacity	kW	4.5	5.6
	Input	W	49	88
	Rated current	A	0.22	0.43
Heating	Capacity	kW	5.0	6.3
	Input	W	49	88
	Rated current	A	0.22	0.43
Indoor fan motor	Model		YSK20-6	YSK28-4E
	Type		AC motor	
	Brand		Yongan	Welling
	Input	W	49	95
	Capacitor	μF	2	2.5
	Speed (h/m/l)	r/min	820/745/600	915/770/660
Indoor coil	Number of rows		3	2
	Tube pitch(a) x row pitch(b)	mm	25.4×22	25.4×22
	Fin spacing	mm	1.8	1.8
	Fin type		Hydrophilic aluminum	
	Tube outside diameter and	mm	Φ9.52 Inner grooved tube	
	Coil length×height×width	mm	768×254×66	1068×254×44
	Number of circuits		3	4
Indoor air flow (H/M/L)		m <sup>3</sup> /h	660/542/440	1150/970/830
Indoor external static pressure (H)		Pa	12	12
Indoor noise level (H/M/L)		F4	dB(A)	37/34/30
		F5		37/34/30
Indoor unit	Dimension (W×H×D)	F4	mm	1200×596×225
		F5		1500×596×225
	Packing (W×H×D)	F4	mm	1200×677×220
		F5		1500×677×220
	Net/Gross weight	F4	kg	1289×683×312
		F5		1589×683×312
Refrigerant type			R410A	
Throttle		Type	EXV (Built-in)	
		Model	D20MISZ-1R(L)	
Design pressure		MPa	4.4/2.6	
Refrigerant piping	Liquid side/ Gas	mm	Φ6.35/Φ12.7	Φ9.53/Φ15.9
Connecting wiring	Power wiring	mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)	
	Signal wiring	mm <sup>2</sup>	3×0.75	
Drainage water pipe diameter		mm	ODΦ25	
Controller			Wireless remote controller (RM05/BG(T)E-A)(Standard)	

**Notes:** 1. Nominal cooling capacities are based on the following conditions: return air temperature : 27°CDB, 19°CWB, outdoor temperature:35°CDB,equivalent ref. Piping: 8m(horizontal)

2. Nominal heating capacities are based on the following conditions: return air temperature: 20°CDB,outdoor temperature: 7°CDB,6°CWB,equivalent ref. Piping: 8m(horizontal)

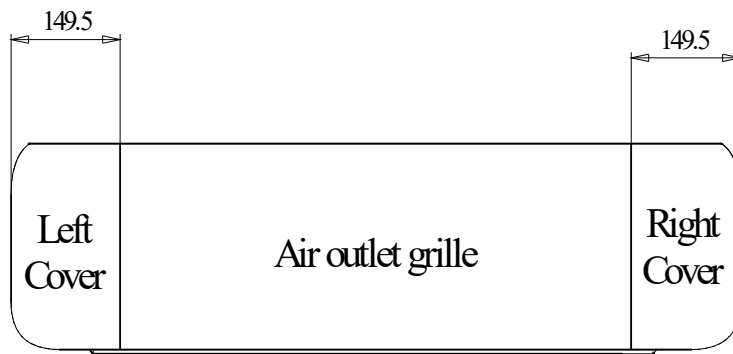
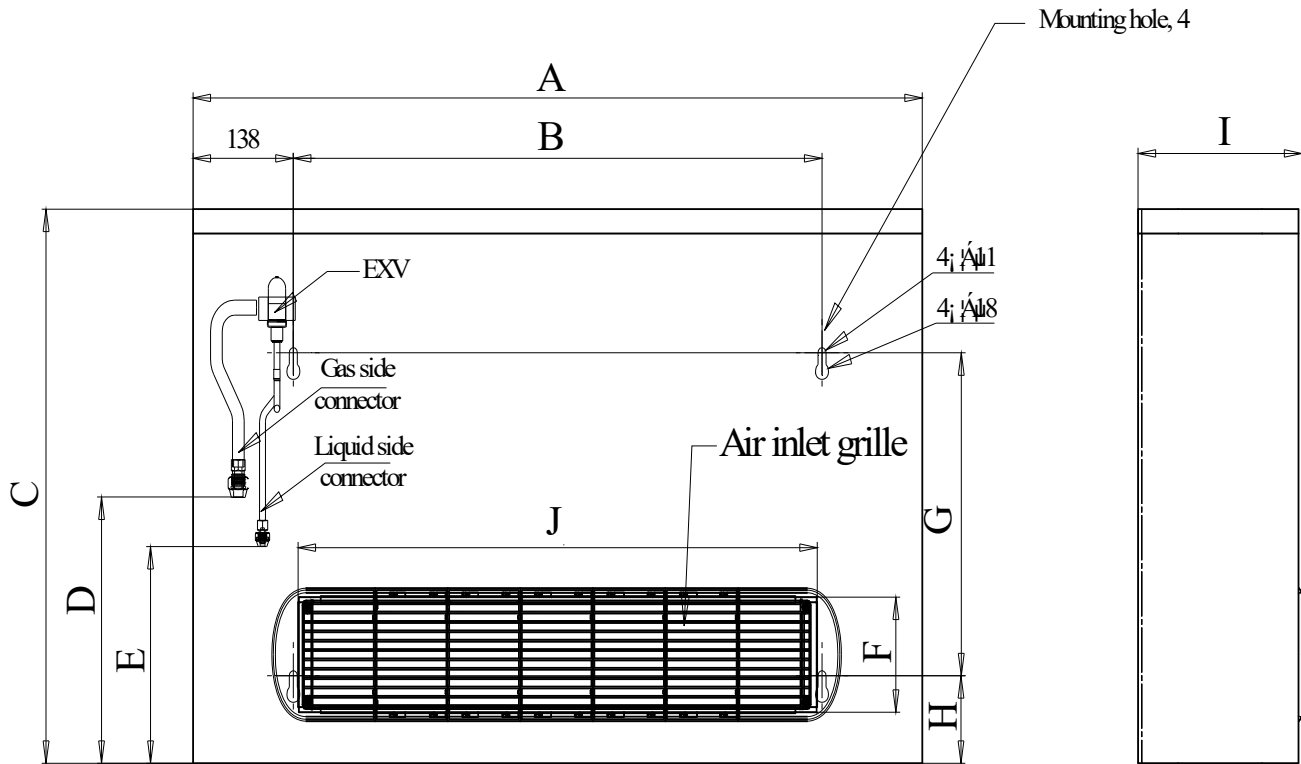
Model			MVF71A-VA1	MVF80A-VA1	
			MVB71A-VA1	MVB80A-VA1	
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	7.1	8.0	
	Input	W	130	130	
	Rated current	A	0.63	0.63	
Heating	Capacity	kW	8.0	9.0	
	Input	W	130	130	
	Rated current	A	0.63	0.63	
Indoor fan motor	Model		YSK74-4E	YSK74-4E	
	Type		AC motor		
	Brand		Yongan	Yongan	
	Input	W	138.5	138.5	
	Capacitor	μF	3	3	
	Speed (h/m/l)	r/min	1120/1020/880	1120/1020/880	
Indoor coil	Number of rows		2	3	
	Tube pitch(a)x row pitch(b)		mm	25.4×22	25.4×22
	Fin spacing		mm	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside diameter and type		mm	Φ9.52 inner grooved tube	
	Coil length×height×width		mm	1068×254×44	1068×254×66
	Number of circuits			4	3
Indoor air flow (H/M/L)		m <sup>3</sup> /h	1380/1100/870		
Indoor external static pressure (H)		Pa	12		
Indoor noise level (H/M/L)		F4	44/39/33		
		F5	44/39/33		
Indoor unit	Dimension (W×H×D)	F4	1500×596×225		
		F5	1500×677×220		
	Packing (W×H×D)	F4	1589×683×312		
		F5	1682×683×312		
	Net/Gross weight	F4	41/46.5		
		F5	42/51		
Refrigerant type			R410A		
Throttle		Type	EXV (Built-in)		
		Model	D20MISZ-1R(L)		
Design pressure		MPa	4.4/2.6		
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9	
Connecting wiring	Power wiring	mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	mm <sup>2</sup>	3×0.75		
Drainage water pipe diameter		mm	ODΦ25		
Controller			Wireless remote controller (RM05/BG(T)E-A)		

**Notes:** 1. Nominal cooling capacities are based on the following conditions: return air temperature : 27°CDB, 19°CWB, outdoor temperature:35°CDB, equivalent ref. Piping: 8m(horizontal)

2. Nominal heating capacities are based on the following conditions: return air temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent ref. Piping: 8m(horizontal)

### 3. Dimensions

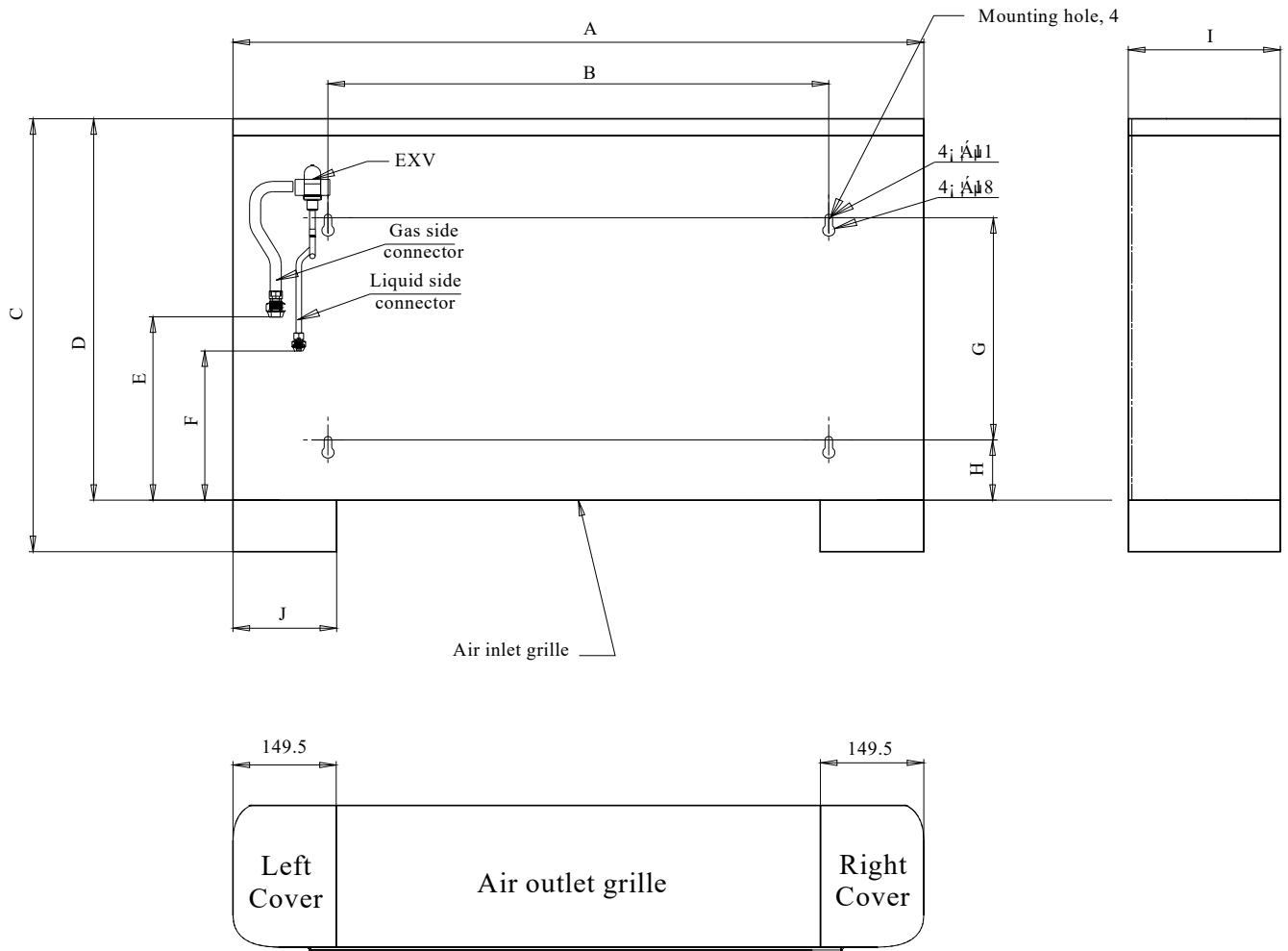
#### 3.1 Exposed Floor-standing (air inlet from front)



Unit: mm

MODEL (MVF-A-VA1)	A	B	C	D	E	F	G	H	I
22	1000	725	596	284	232	112	345	94	225
28									
36	1200	925	596	310	258	112	345	100	225
45									
56	1500	1225	596	310	258	112	345	100	225
71									
80									

**3.2 Exposed Floor-standing (air inlet from bottom)**



Unit: mm

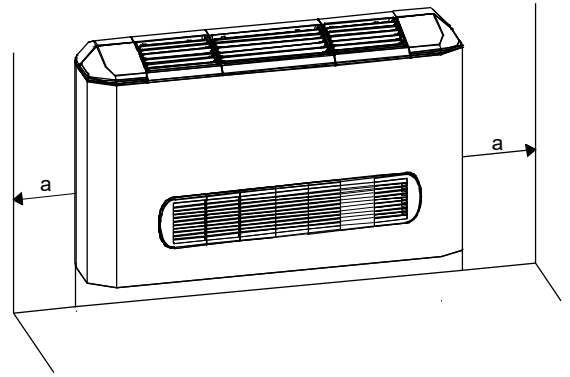
MODEL (MVB-A-VA1)	A	B	C	D	E	F	G	H	I	J
22	1000	725	677	592	284	232	345	94	220	150
28										
36	1200	925	677	592	310	258	345	100	220	150
45										
56	1500	1225	677	592	310	258	345	100	220	150
71										
80										



### 4. Service Spaces

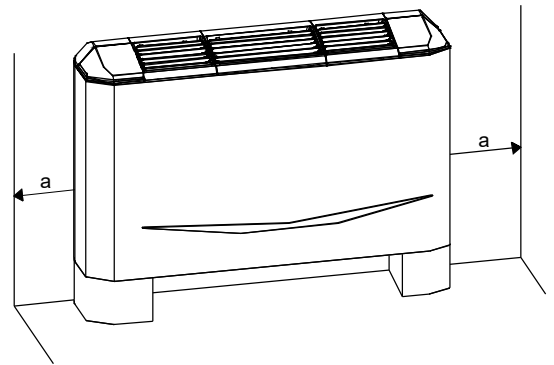
#### F4 series

Vertical unit with casing , with air intake from front and air outlet on top, for installation on a wall or on feet on the floor.



#### F5 series

Vertical unit with casing , with air intake from below and air outlet on top, for installation on a wall or on feet on the floor.

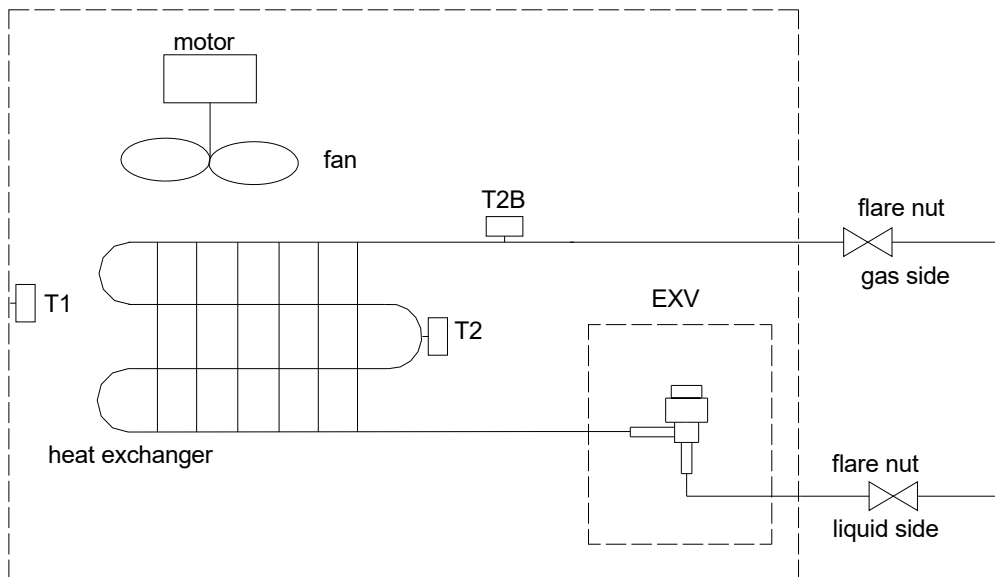


**Required clearance for above 2 versions:**

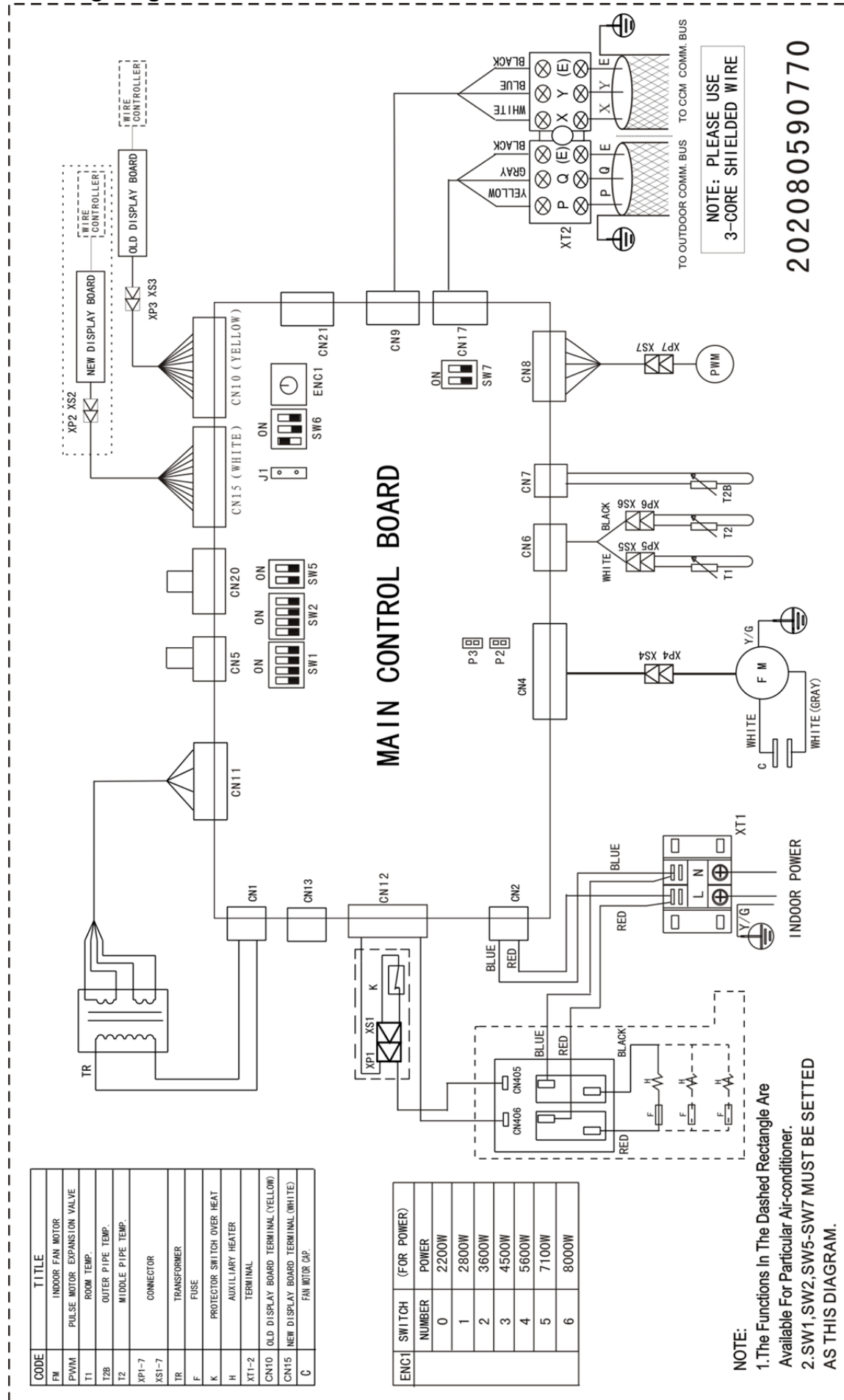
Model	F4	F5
a (mm)	≥150	≥150
b (mm)	-	(with bottom feet)

Additionally, it is required to keep 20mm between the rear and wall; 600mm between the front face and the obstacle. 1700mm vertical distance between the top of unit(outlet) and the upper obstacle.

## 5. Piping Diagrams



### 6. Wiring Diagrams



## 7. Capacity Tables

7.1 Cooling TC: total capacity SC: sensible capacity

WB: wet-bulb temperature DB: dry-bulb temperature

Indoor Unit size (kW)	Outdoor temperature (DB)	Indoor temperature (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
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2.2	10.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.6	1.6	2.9	1.5
	12.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.6	1.6	2.8	1.5
	14.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.6	1.6	2.8	1.5
	16.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.6	1.6	2.8	1.5
	18.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.6	1.6	2.8	1.4
	20.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.6	1.6	2.7	1.4
	21.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.6	1.6	2.7	1.4
	23.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.5	1.5	2.7	1.4
	25.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.5	1.5	2.6	1.4
	27.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.5	1.5	2.6	1.4
	29.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.4	1.4	2.5	1.4
	31.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.4	1.4	2.5	1.4
	33.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.4	1.4	2.4	1.4
	35.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.3	1.3	2.4	1.4
	37.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.3	1.6	2.3	1.3	2.3	1.4
	39.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.3	2.3	1.4
42.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.3	2.3	1.4	
44.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.3	2.3	1.4	
46.0	1.5	1.3	1.8	1.4	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.3	2.3	1.4	
2.8	10.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.3	2.0	3.7	2.0
	12.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.3	2.0	3.6	2.0
	14.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.3	2.0	3.6	2.0
	16.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.3	2.0	3.5	1.9
	18.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.3	2.0	3.5	1.9
	20.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.3	2.0	3.4	1.9
	21.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.3	2.0	3.4	1.9
	23.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.3	2.0	3.4	1.9
	25.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.2	1.9	3.3	1.9
	27.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.2	1.9	3.3	1.9
	29.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.1	1.8	3.2	1.8
	31.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.1	1.8	3.2	1.7
	33.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	3.0	1.9	3.1	1.8	3.1	1.7
	35.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	2.9	1.9	3.0	1.8	3.1	1.7
	37.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	2.9	1.9	3.0	1.8	3.0	1.7
	39.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	2.9	1.9	3.0	1.9	3.0	1.7
42.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	2.9	1.9	3.0	1.9	3.0	1.7	
44.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	2.9	1.9	3.0	1.9	3.0	1.7	
46.0	1.9	1.6	2.3	1.8	2.6	1.9	2.8	1.9	2.9	1.9	3.0	1.9	3.0	1.7	
3.6	10.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.3	2.4	4.7	2.5
	12.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.3	2.4	4.7	2.5
	14.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.3	2.4	4.6	2.4
	16.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.3	2.4	4.5	2.4
	18.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.3	2.4	4.5	2.4
	20.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.3	2.4	4.4	2.3
	21.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.3	2.4	4.4	2.3
	23.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.1	2.3	4.3	2.2
	25.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.1	2.3	4.2	2.2
	27.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.0	2.2	4.2	2.2
	29.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.0	2.2	4.1	2.2
	31.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.2	2.6	4.1	2.2
	33.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.2	2.6	3.9	2.1
	35.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.8	2.5	4.2	2.6	3.9	2.1
	37.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.7	2.4	3.8	2.3	3.9	2.1
	39.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.7	2.4	3.8	2.3	3.8	2.1
42.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.7	2.4	3.8	2.3	3.8	2.1	
44.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.7	2.4	3.8	2.3	3.8	2.1	
46.0	2.5	1.9	2.9	2.1	3.4	2.3	3.6	2.4	3.7	2.4	3.8	2.3	3.8	2.1	
4.5	10.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.3	3.4	5.9	3.0

	12.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.3	3.4	5.9	3.0
	14.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.3	3.4	5.8	3.0
	16.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.3	3.4	5.6	2.9
	18.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.3	3.4	5.7	3.0
	20.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.3	3.4	5.7	3.0
	21.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.3	3.4	5.6	3.0
	23.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.3	3.4	5.5	3.0
	25.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.2	3.0	5.4	2.9
	27.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.1	3.0	5.2	2.8
	29.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.1	2.9	5.2	2.8
	31.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	5.0	2.9	5.1	2.7
	33.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	4.9	2.8	5.1	2.7
	35.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	4.8	2.8	5.0	2.7
	37.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.8	3.0	4.8	2.9	4.9	2.6
	39.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.6	2.8	4.7	2.8	4.8	2.6
	42.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.6	2.8	4.7	2.8	4.8	2.6
44.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.6	2.8	4.7	2.8	4.8	2.6	
46.0	3.1	2.4	3.7	2.6	4.2	2.8	4.5	2.9	4.6	2.8	4.7	3.1	4.8	2.6	
5.6	10.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	7.3	3.5
	12.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	7.2	3.5
	14.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	7.1	3.5
	16.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	7.0	3.4
	18.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	6.8	3.4
	20.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	6.7	3.3
	21.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	6.6	3.3
	23.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	6.6	3.3
	25.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.6	3.6	6.5	3.2
	27.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.4	3.5	6.4	3.2
	29.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.3	3.5	6.4	3.3
	31.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.2	3.4	6.2	3.2
	33.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.2	3.4	6.2	3.2
	35.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	6.0	3.3	6.0	3.1
	37.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.9	3.5	5.9	3.2	6.0	3.1
	39.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.7	3.4	5.8	3.2	6.0	3.1
42.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.7	3.4	5.8	3.2	6.0	3.1	
44.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.7	3.4	5.8	3.2	6.0	3.1	
46.0	3.9	2.7	4.6	3.0	5.3	3.3	5.6	3.4	5.7	3.7	5.8	3.2	6.0	3.1	
7.1	10.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	9.2	4.6
	12.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	9.1	4.5
	14.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	9.0	4.5
	16.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	8.9	4.4
	18.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	8.7	4.3
	20.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	8.5	4.2
	21.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	8.4	4.2
	23.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	8.3	4.1
	25.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.4	4.5	8.2	4.1
	27.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.4	8.1	4.3	8.2	4.1
	29.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.5	8.0	4.3	8.1	4.1
	31.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.5	7.9	4.3	7.8	4.0
	33.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.5	7.8	4.2	7.8	4.0
	35.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.5	4.5	7.6	4.1	7.7	3.9
	37.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.4	4.4	7.5	4.1	7.6	4.0
	39.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.2	4.3	7.4	4.1	7.6	4.0
42.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.2	4.3	7.4	4.1	7.6	4.0	
44.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.2	4.3	7.4	4.1	7.6	4.0	
46.0	4.9	3.6	5.8	4.0	6.7	4.3	7.1	4.5	7.2	4.3	7.4	4.1	7.6	4.0	
8.0	10.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.4	5.6
	12.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.2	5.5
	14.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.2	5.5
	16.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.0	5.4
	18.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.8	5.3
	20.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.6	5.2
	21.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.4	5.1
	23.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.4	5.1
25.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.3	5.0	

	27.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.1	5.3	9.2	5.1
	29.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	9.0	5.3	9.1	5.0
	31.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.9	5.2	8.8	4.8
	33.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.8	5.2	8.8	4.8
	35.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.6	5.1	8.6	4.8
	37.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.3	5.4	8.4	5.0	8.6	4.9
	39.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.1	5.3	8.3	5.0	8.6	4.9
	42.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.1	5.3	8.3	5.0	8.6	4.9
	44.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.1	5.3	8.3	5.0	8.6	4.9
	46.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.1	5.3	8.3	5.0	8.6	4.9

**7.2 Heating**

**TC:** total capacity

**WB:** wet-bulb temperature    **DB:** dry-bulb temperature

Indoor Unit size (kW)	Outdoor temperature (□)		Indoor temperature (□ DB)					
			16.00	18.00	20.00	21.00	22.00	24.00
	WB	DB	TC	TC	TC	TC	TC	TC
2.2	-20	-19.8	1.46	1.46	1.46	1.46	1.46	1.46
	-19	-18.8	1.56	1.56	1.56	1.56	1.56	1.56
	-17	-16.7	1.64	1.64	1.64	1.64	1.64	1.64
	-15	-14.7	1.69	1.69	1.69	1.69	1.69	1.69
	-13.00	-12.60	1.79	1.79	1.79	1.79	1.79	1.79
	-11.00	-10.50	1.82	1.85	1.85	1.85	1.85	1.85
	-10.00	-9.50	1.90	1.90	1.90	1.90	1.90	1.90
	-9.10	-8.50	1.95	1.95	1.95	1.95	1.95	1.95
	-7.60	-7.00	1.98	1.98	1.98	1.98	1.98	1.98
	-5.60	-5.00	2.05	2.05	2.05	2.05	2.05	2.05
	-3.70	-3.00	2.16	2.16	2.16	2.16	2.16	2.16
	-0.70	0.00	2.31	2.31	2.31	2.31	2.31	2.18
	2.20	3.00	2.44	2.44	2.44	2.44	2.39	2.18
	4.10	5.00	2.52	2.52	2.52	2.52	2.39	2.18
	6.00	7.00	2.60	2.60	2.60	2.52	2.39	2.18
	7.90	9.00	2.68	2.68	2.60	2.52	2.39	2.18
9.80	11.00	2.76	2.76	2.60	2.52	2.39	2.18	
11.80	13.00	2.86	2.81	2.60	2.52	2.39	2.18	
13.70	15.00	2.94	2.81	2.60	2.52	2.39	2.18	
2.8	-20	-19.8	1.79	1.79	1.79	1.79	1.79	1.79
	-19	-18.8	1.92	1.92	1.92	1.92	1.92	1.92
	-17	-16.7	2.02	2.02	2.02	2.02	2.02	2.02
	-15	-14.7	2.02	2.02	2.02	2.02	2.02	2.02
	-13.00	-12.60	2.14	2.14	2.14	2.14	2.14	2.14
	-11.00	-10.50	2.24	2.24	2.24	2.24	2.24	2.24
	-10.00	-9.50	2.34	2.34	2.34	2.34	2.34	2.34
	-9.10	-8.50	2.40	2.40	2.40	2.40	2.40	2.40
	-7.60	-7.00	2.43	2.43	2.43	2.43	2.43	2.43
	-5.60	-5.00	2.53	2.53	2.53	2.53	2.53	2.53
	-3.70	-3.00	2.66	2.66	2.66	2.66	2.66	2.66
	-0.70	0.00	2.85	2.85	2.85	2.85	2.85	2.69
	2.20	3.00	3.01	3.01	3.01	3.01	2.94	2.69
	4.10	5.00	3.10	3.10	3.10	3.10	2.94	2.69
	6.00	7.00	3.20	3.20	3.20	3.10	2.94	2.69
	7.90	9.00	3.30	3.30	3.20	3.10	2.94	2.69
9.80	11.00	3.39	3.39	3.20	3.10	2.94	2.69	
11.80	13.00	3.52	3.46	3.20	3.10	2.94	2.69	
13.70	15.00	3.62	3.46	3.20	3.10	2.94	2.69	
3.6	-20	-19.8	2.24	2.24	2.24	2.24	2.24	2.24
	-19	-18.8	2.40	2.40	2.40	2.40	2.40	2.40
	-17	-16.7	2.52	2.52	2.52	2.52	2.52	2.52
	-15	-14.7	2.60	2.60	2.60	2.60	2.60	2.60
	-13.00	-12.60	2.68	2.68	2.68	2.68	2.68	2.68
	-11.00	-10.50	2.80	2.80	2.80	2.80	2.80	2.80
	-10.00	-9.50	2.92	2.92	2.92	2.92	2.92	2.92
	-9.10	-8.50	3.00	3.00	3.00	3.00	3.00	3.00
	-7.60	-7.00	3.04	3.04	3.04	3.04	3.04	3.04
	-5.60	-5.00	3.16	3.16	3.16	3.16	3.16	3.16
	-3.70	-3.00	3.32	3.32	3.32	3.32	3.32	3.32
	-0.70	0.00	3.56	3.56	3.56	3.56	3.56	3.36
	2.20	3.00	3.76	3.76	3.76	3.76	3.68	3.36
	4.10	5.00	3.88	3.88	3.88	3.88	3.68	3.36
	6.00	7.00	4.00	4.00	4.00	3.88	3.68	3.36
	7.90	9.00	4.12	4.12	4.00	3.88	3.68	3.36
9.80	11.00	4.24	4.24	4.00	3.88	3.68	3.36	
11.80	13.00	4.40	4.32	4.00	3.88	3.68	3.36	
13.70	15.00	4.52	4.32	4.00	3.88	3.68	3.36	
4.5	-20	-19.8	2.80	2.80	2.80	2.80	2.80	2.80
	-19	-18.8	3.00	3.00	3.00	3.00	3.00	3.00

	-17	-16.7	3.15	3.15	3.15	3.15	3.15	3.15
	-15	-14.7	3.25	3.25	3.25	3.25	3.25	3.25
	-13.00	-12.60	3.35	3.35	3.35	3.35	3.35	3.35
	-11.00	-10.50	3.50	3.50	3.50	3.50	3.50	3.50
	-10.00	-9.50	3.65	3.65	3.65	3.65	3.65	3.65
	-9.10	-8.50	3.75	3.75	3.75	3.75	3.75	3.75
	-7.60	-7.00	3.80	3.80	3.80	3.80	3.80	3.80
	-5.60	-5.00	3.95	3.95	3.95	3.95	3.95	3.95
	-3.70	-3.00	4.15	4.15	4.15	4.15	4.15	4.15
	-0.70	0.00	4.45	4.45	4.45	4.45	4.45	4.20
	2.20	3.00	4.70	4.70	4.70	4.70	4.60	4.20
	4.10	5.00	4.85	4.85	4.85	4.85	4.60	4.20
	6.00	7.00	5.00	5.00	5.00	4.85	4.60	4.20
	7.90	9.00	5.15	5.15	5.00	4.85	4.60	4.20
	9.80	11.00	5.30	5.30	5.00	4.85	4.60	4.20
	11.80	13.00	5.50	5.40	5.00	4.85	4.60	4.20
	13.70	15.00	5.65	5.40	5.00	4.85	4.60	4.20
5.6	-20	-19.8	3.53	3.53	3.53	3.53	3.53	3.53
	-19	-18.8	3.78	3.78	3.78	3.78	3.78	3.78
	-17	-16.7	3.97	3.97	3.97	3.97	3.97	3.97
	-15	-14.7	4.10	4.10	4.10	4.10	4.10	4.10
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29	
7.90	9.00	6.49	6.49	6.30	6.11	5.80	5.29	
9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29	
11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29	
13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29	
7.1	-20	-19.8	4.48	4.48	4.48	4.48	4.48	4.48
	-19	-18.8	4.80	4.80	4.80	4.80	4.80	4.80
	-17	-16.7	5.04	5.04	5.04	5.04	5.04	5.04
	-15	-14.7	5.20	5.20	5.20	5.20	5.20	5.20
	-13.00	-12.60	5.36	5.36	5.36	5.36	5.36	5.36
	-11.00	-10.50	5.60	5.60	5.60	5.60	5.60	5.60
	-10.00	-9.50	5.84	5.84	5.84	5.84	5.84	5.84
	-9.10	-8.50	6.00	6.00	6.00	6.00	6.00	6.00
	-7.60	-7.00	6.08	6.08	6.08	6.08	6.08	6.08
	-5.60	-5.00	6.32	6.32	6.32	6.32	6.32	6.32
	-3.70	-3.00	6.64	6.64	6.64	6.64	6.64	6.64
	-0.70	0.00	7.12	7.12	7.12	7.12	7.12	6.72
	2.20	3.00	7.52	7.52	7.52	7.52	7.36	6.72
	4.10	5.00	7.76	7.76	7.76	7.76	7.36	6.72
6.00	7.00	8.00	8.00	8.00	7.76	7.36	6.72	
7.90	9.00	8.24	8.24	8.00	7.76	7.36	6.72	
9.80	11.00	8.48	8.48	8.00	7.76	7.36	6.72	
11.80	13.00	8.80	8.64	8.00	7.76	7.36	6.72	
13.70	15.00	9.04	8.64	8.00	7.76	7.36	6.72	
8.0	-20	-19.8	5.04	5.04	5.04	5.04	5.04	5.04
	-19	-18.8	5.40	5.40	5.40	5.40	5.40	5.40
	-17	-16.7	5.67	5.67	5.67	5.67	5.67	5.67
	-15	-14.7	5.85	5.85	5.85	5.85	5.85	5.85
	-13.00	-12.60	6.03	6.03	6.03	6.03	6.03	6.03
	-11.00	-10.50	6.30	6.30	6.30	6.30	6.30	6.30
	-10.00	-9.50	6.57	6.57	6.57	6.57	6.57	6.57
	-9.10	-8.50	6.75	6.75	6.75	6.75	6.75	6.75
-7.60	-7.00	6.84	6.84	6.84	6.84	6.84	6.84	
-5.60	-5.00	7.11	7.11	7.11	7.11	7.11	7.11	



	-3.70	-3.00	7.47	7.47	7.47	7.47	7.47	7.47
	-0.70	0.00	8.01	8.01	8.01	8.01	8.01	7.56
	2.20	3.00	8.46	8.46	8.46	8.46	8.28	7.56
	4.10	5.00	8.73	8.73	8.73	8.73	8.28	7.56
	6.00	7.00	9.00	9.00	9.00	8.73	8.28	7.56
	7.90	9.00	9.27	9.27	9.00	8.73	8.28	7.56
	9.80	11.00	9.54	9.54	9.00	8.73	8.28	7.56
	11.80	13.00	9.90	9.72	9.00	8.73	8.28	7.56
	13.70	15.00	10.17	9.72	9.00	8.73	8.28	7.56

## 8. Electrical Characteristics

Model	Indoor Unit				Power Supply		IFM	
	Hz	Voltage	Min.	Max.	MCA	MFA	KW	FLA
MVF22A-VA1	50	220-240V	198	254	0.25	5	0.042	0.2
MVB22A-VA1	50	220-240V	198	254	0.25	5	0.042	0.2
MVF28A-VA1	50	220-240V	198	254	0.25	5	0.042	0.2
MVB28A-VA1	50	220-240V	198	254	0.25	5	0.042	0.2
MVF36A-VA1	50	220-240V	198	254	0.3	5	0.049	0.24
MVB36A-VA1	50	220-240V	198	254	0.3	5	0.049	0.24
MVF45A-VA1	50	220-240V	198	254	0.4	5	0.06	0.3
MVB45A-VA1	50	220-240V	198	254	0.4	5	0.06	0.3
MVF56A-VA1	50	220-240V	198	254	0.6	5	0.095	0.48
MVB56A-VA1	50	220-240V	198	254	0.6	5	0.095	0.48
MVF71A-VA1	50	220-240V	198	254	0.8	5	0.138	0.62
MVB71A-VA1	50	220-240V	198	254	0.8	5	0.138	0.62
MVF80A-VA1	50	220-240V	198	254	0.8	5	0.138	0.62
MVB80A-VA1	50	220-240V	198	254	0.8	5	0.138	0.62

**Remark:**

MCA: Min. Current Amps. (A)

MFA: Max. Fuse Amps. (A)

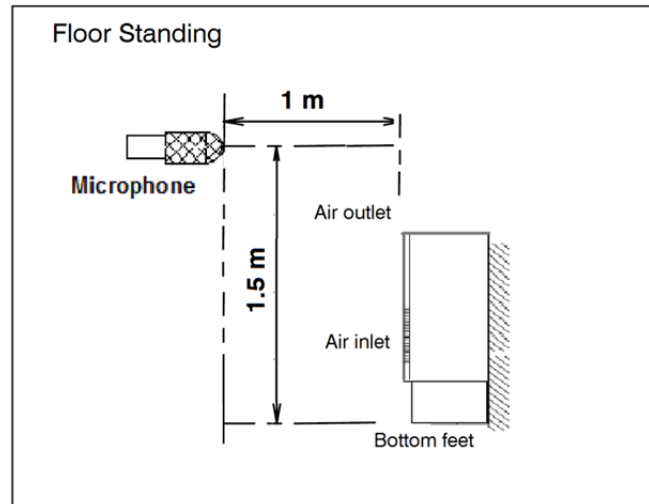
KW: Fan Motor Rated Output (kW)

FLA: Full Load Amps. (A)

IFM:Indoor Fan Motor

## 9. Sound Levels

### 9.1 Test condition



Note:

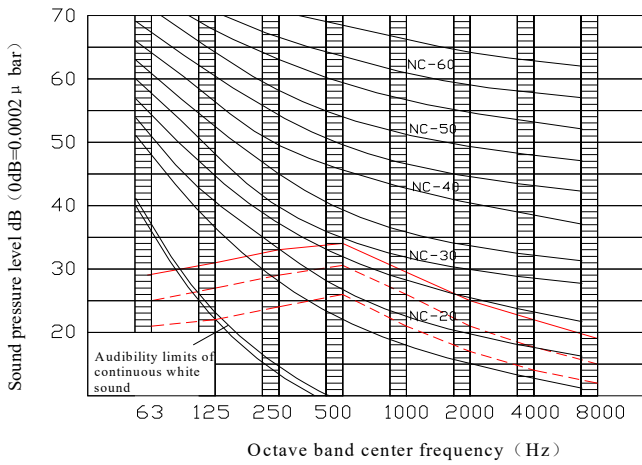
- 1, during actual operation, these values are normally somewhat higher as a result of ambient conditions.
- 2, Semi-anechoic chamber conversion value, measured at a point 1m in front of the unit at a height of 1.5m.

### 9.2 Test value

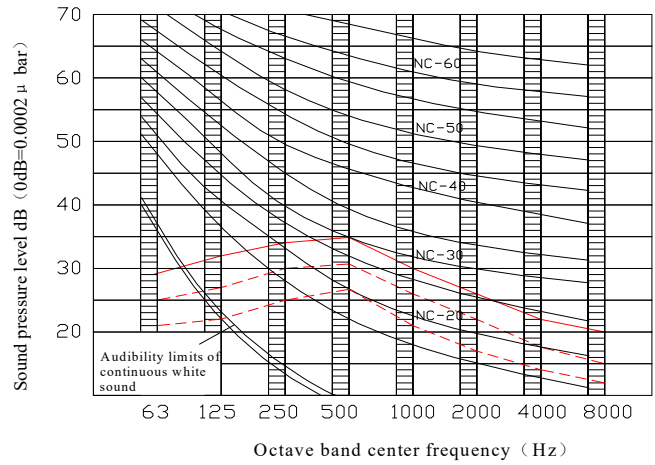
Model	Sound test value dB(A)		
	H	M	L
MVF22A-VA1	36	33	29
MVB22A-VA1	36	33	29
MVF28A-VA1	36	33	29
MVB28A-VA1	36	33	29
MVF36A-VA1	37	34	30
MVB36A-VA1	37	34	30
MVF45A-VA1	37	34	30
MVB45A-VA1	37	34	30
MVF56A-VA1	41	35	31
MVB56A-VA1	41	35	31
MVF71A-VA1	44	39	33
MVB71A-VA1	44	39	33
MVF80A-VA1	44	39	33
MVB80A-VA1	44	39	33

### 9.3 Octave Band Level

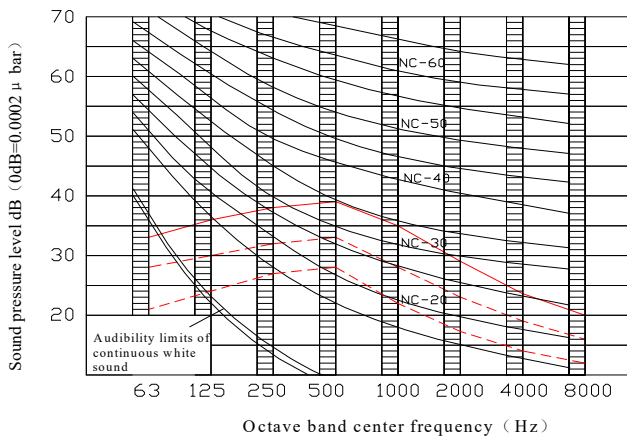
MVF22A-VA1 MVB22A-VA1  
MVF28A-VA1 MVB28A-VA1



MVF36A-VA1 MVB36A-VA1  
MVF45A-VA1 MVB45A-VA1



MVF56A-VA1 MVB56A-VA1



MVF71A-VA1 MVB71A-VA1  
MVF80A-VA1 MVB80A-VA1

