

## **Exposed & Concealed Floor-standing Type**

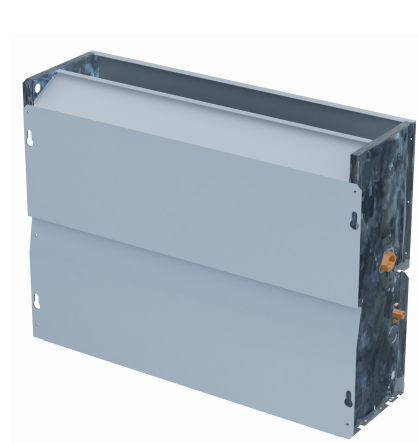
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## 1. Features



Exposed



Concealed+

### 1. Two intake directions: front and below.



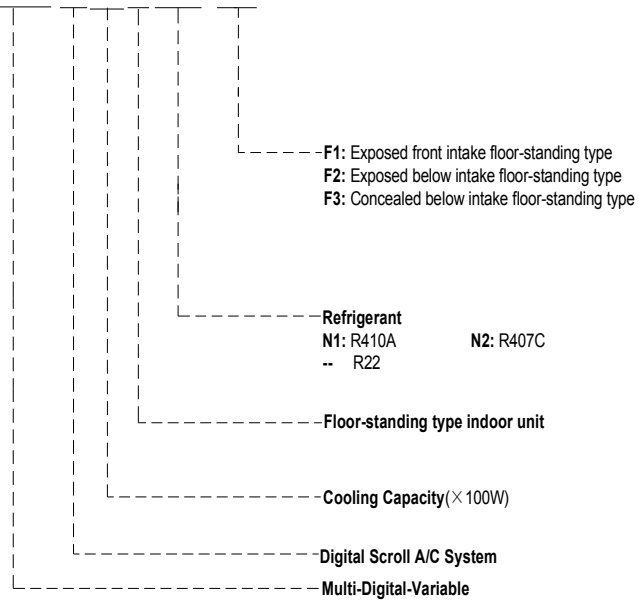
Exposed version with air intake from front(F1 series)

Exposed version with air intake from below(F2 series)

2. Built-in the electronic throttle kit
3. Three speeds
4. Low noise operation.
5. Easy installation and maintenance.
6. Air filter easily removed and cleaned
7. Removable blades for easy and effective cleaning
8. Streamlined appearances, flowing lines.
9. All metal parts are made of commercial grade galvanized steel, providing maximum protection against corrosion.

## 2.Nomenclature

### MDVi-D22Z/N1-F1



### 3.Specifications

Model			MDVi-D22Z/N1-F1	MDVi-D22Z/N1-F2	MDVi-D22Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	2.2	2.2	2.2
	Input	W	40	40	40
	Rated current	A	0.19	0.19	0.19
Heating	Capacity	kW	2.6	2.6	2.6
	Input	W	40	40	40
	Rated current	A	0.19	0.19	0.19
Indoor fan motor	Model		YSK20-4A	YSK20-4A	YSK20-4A
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	42/37/34	42/37/34	42/37/34
	Capacitor	μF	0.8	0.8	0.8
	Speed (hi/mid/lo)	r/min	935/810/720	935/810/720	935/810/720
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	Mm	25.4x22	25.4x22	25.4x22
	Fin spacing	Mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.5 innergroove tube	Φ9.5 innergroove tube	Φ9.5 innergroove tube
	Coil length x height x width	mm	568 x254 x44	568 x254 x44	568 x254 x44
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m <sup>3</sup> /h	530/456/400	530/456/400	530/456/400
Indoor external static pressure		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	37/35/33	37/35/33	37/35/33
Indoor unit	Dimension (WxHxD)	mm	1000×220×625	1000×220×625	840×212×544
	Packing (WxHxD)	mm	1089X722X312	1179X722X312	939X639X305
	Net/Gross weight	kg	30/35	30/38	26/29.5
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.4/Φ12.7	Φ6.4/Φ12.7	Φ6.4/Φ12.7
Connecting wiring	Power wiring	Nb×mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	Nb×mm <sup>2</sup>	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E) (standard)		
Operation temp		°C	17-30		

#### Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)



Model			MDVi-D28Z/N1-F1	MDVi-D28Z/N1-F2	MDVi-D28Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	2.8	2.8	2.8
	Input	W	46	46	46
	Rated current	A	0.2	0.2	0.2
Heating	Capacity	kW	3.2	3.2	3.2
	Input	W	46	46	46
	Rated current	A	0.2	0.2	0.2
Indoor motor fan	Model		YSK20-4A	YSK20-4A	YSK20-4A
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	42/37/34	42/37/34	42/37/34
	Capacitor	μF	1.0	1.0	1.0
	Speed (hi/mid/lo)	r/min	935/810/720	935/810/720	935/810/720
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.5 Inner groove tube	Φ9.5 Inner groove tube	Φ9.5 Inner groove tube
	Coil length x height x width	mm	568 x254 x44	568 x254 x44	568 x254 x44
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m <sup>3</sup> /h	569/485/421	569/485/421	569/485/421
Indoor external static pressure		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	37/35/33	37/35/33	37/35/33
Indoor unit	Dimension (WxHxD)	mm	1000×220×625	1000×220×625	840×212×544
	Packing (WxHxD)	mm	1089X722X312	1179X722X312	939X639X305
	Net/Gross weight	kg	30/35	30/38	26/29.5
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.4/Φ12.7	Φ6.4/Φ12.7	Φ6.4/Φ12.7
Connecting wiring	Power wiring	Nb×mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	Nb×mm <sup>2</sup>	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		°C	17-30		

**Notes:**

1. nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDVi-D36Z/N1-F1	MDVi-D36Z/N1-F2	MDVi-D36Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	3.6	3.6	3.6
	Input	W	35	35	35
	Rated current	A	0.15	0.15	0.15
Heating	Capacity	kW	4.0	4.0	4.0
	Input	W	35	35	35
	Rated current	A	0.15	0.15	0.15
Indoor motor fan	Model		YSK20-6	YSK20-6	YSK20-6
	Type		AC motor	AC motor	AC motor
	Brand		Yongan	Yongan	Yongan
	Input	W	49/40/34	49/40/34	49/40/34
	Capacitor	μF	1.2	1.2	1.2
	Speed (hi/mid/lo)	r/min	820/745/600	820/745/600	820/745/600
Indoor coil	Number of rows		3	3	3
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.5 innergroove tube	Φ9.5 innergroove tube	Φ9.5 innergroove tube
	Coil length x height x width	mm	768 x254 x66	768 x254 x66	768 x254 x66
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m <sup>3</sup> /h	624/522/375	624/522/375	624/522/375
Indoor external static pressure		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	39/37/35	39/37/35	39/37/35
Indoor unit	Dimension (WxHxD)	mm	1200×220×625	1200×220×625	1036×212×544
	Packing (WxHxD)	mm	1289X722X312	1379X722X312	1139X639X305
	Net/Gross weight	Kg	37/43	37/46	29.5/34
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.4/Φ12.7	Φ6.4/Φ12.7	Φ6.4/Φ12.7
Connecting wiring	Power wiring	Nb×mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	Nb×mm <sup>2</sup>	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		°C	17-30		

**Notes:**

- Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
- Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDVi-D45Z/N1-F1	MDVi-D45Z/N1-F2	MDVi-D45Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	4.5	4.5	4.5
	Input	W	49	49	49
	Rated current	A	0.22	0.22	0.22
Heating	Capacity	kW	5.0	5.0	5.0
	Input	W	49	49	49
	Rated current	A	0.22	0.22	0.22
Indoor fan motor	Model		YSK20-6	YSK20-6	YSK20-6
	Type		AC motor	AC motor	AC motor
	Brand		Yongan	Yongan	Yongan
	Input	W	49/40/34	49/40/34	49/40/34
	Capacitor	μF	1.2	1.2	1.2
	Speed (hi/mid/lo)	r/min	820/745/600	820/745/600	820/745/600
Indoor coil	Number of rows		3	3	3
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.5 innergroove tube	Φ9.5 innergroove tube	Φ9.5 innergroove tube
	Coil length x height x width	mm	768 x254 x66	768 x254 x66	768 x254 x66
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m <sup>3</sup> /h	660/542/440	660/542/440	660/542/440
Indoor external static pressure		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	39/37/35	39/37/35	39/37/35
Indoor unit	Dimension (WxHxD)	mm	1200×220×625	1200×220×625	1036×212×544
	Packing (WxHxD)	mm	1289X722X312	1379X722X312	1139X639X305
	Net/Gross weight	Kg	37/43	37/46	29.5/34
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.4/Φ12.7	Φ6.4/Φ12.7	Φ6.4/Φ12.7
Connecting wiring	Power wiring	Nb×mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	Nb×mm <sup>2</sup>	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		°C	17-30		

**Notes:**

- Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
- Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDVi-D56Z/N1-F1	MDVi-D56Z/N1-F2	MDVi-D56Z/N1-F3
Power supply		V-Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	5.6	5.6	5.6
	Input	W	88	88	88
	Rated current	A	0.38	0.38	0.38
Heating	Capacity	kW	6.3	6.3	6.3
	Input	W	88	88	88
	Rated current	A	0.38	0.38	0.38
Indoor fan motor	Model		YSK28-4E	YSK28-4E	YSK28-4E
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	95/77/67	95/77/67	95/77/67
	Capacitor	μF	2.5	2.5	2.5
	Speed (hi/mid/lo)	r/min	915/770/660	915/770/660	915/770/660
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.5 innergroove tube	Φ9.5 innergroove tube	Φ9.5 innergroove tube
	Coil length x height x width	mm	1068 x 254 x 44	1068 x 254 x 44	1068 x 254 x 44
	Number of circuits		4	4	4
Indoor air flow (H/M/L)		m <sup>3</sup> /h	1150/970/830	1150/970/830	1150/970/830
Indoor external static pressure		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	41/39/37	41/39/37	41/39/37
Indoor unit	Dimension (WxHxD)	mm	1500×220×625	1500×220×625	1336×212×544
	Packing (WxHxD)	mm	1589X722X312	1679X722X312	1439X639X305
	Net/Gross weight	kg	44/50	44/53	36/40
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.5/Φ15.9	Φ9.5/Φ15.9	Φ9.5/Φ15.9
Connecting wiring	Power wiring	Nb×mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	Nb×mm <sup>2</sup>	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		°C	17-30		

**Notes:**

- Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°C WB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
- Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model		MDVi-D71Z/N1-F1	MDVi-D71Z/N1-F2	MDVi-D71Z/N1-F3	
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	7.1	7.1	7.1
	Input	W	130	130	130
	Rated current	A	0.57	0.57	0.57
Heating	Capacity	kW	8.0	8.0	8.0
	Input	W	130	130	130
	Rated current	A	0.57	0.57	0.57
Indoor fan motor	Model		YSK74-4E	YSK74-4E	YSK74-4E
	Type		AC motor	AC motor	AC motor
	Brand		Yongan	Yongan	Yongan
	Input	W	138.5/119/97	138.5/119/97	138.5/119/97
	Capacitor	μF	3	3	3
	Speed (hi/mid/lo)	r/min	1120/1020/880	1120/1020/880	1120/1020/880
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.5 innergroove tube	Φ9.5 innergroove tube	Φ9.5 innergroove tube
	Coil length x height x width	mm	1068 x 254 x 44	1068 x 254 x 44	1068 x 254 x 44
	Number of circuits		4	4	4
Indoor air flow (H/M/L)		m <sup>3</sup> /h	1380/1100/870	1380/1100/870	1380/1100/870
Indoor external static pressure		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	43/41/38	43/41/38	43/41/38
Indoor unit	Dimension (WxHxD)	mm	1500×220×625	1500×220×625	1336×212×545
	Packing (WxHxD)	mm	1589X722X312	1679X722X312	1439X639X305
	Net/Gross weight	kg	44/50	44/53	36/40
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.5/Φ15.9	Φ9.5/Φ15.9	Φ9.5/Φ15.9
Connecting wiring	Power wiring	Nb×mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	Nb×mm <sup>2</sup>	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		°C	17-30		

**Notes:**

- Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
- Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

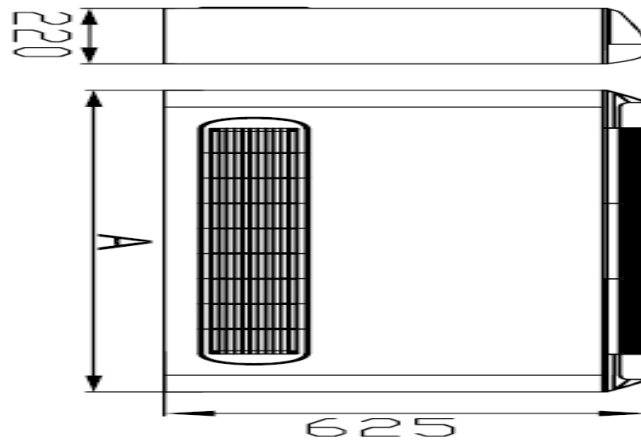
Model			MDVi-D80Z/N1-F1	MDVi-D80Z/N1-F2	MDVi-D80Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	8.0	8.0	8.0
	Input	W	130	130	130
	Rated current	A	0.56	0.56	0.56
Heating	Capacity	kW	9.0	9.0	9.0
	Input	W	130	130	130
	Rated current	A	0.56	0.56	0.56
Indoor fan motor	Model		YSK74-4E	YSK74-4E	YSK74-4E
	Type		AC motor	AC motor	AC motor
	Brand		Yongan	Yongan	Yongan
	Input	W	138.5/119/97	138.5/119/97	138.5/119/97
	Capacitor	μF	3	3	3
	Speed (hi/mid/lo)	r/min	1120/1020/880	1120/1020/880	1120/1020/880
Indoor coil	Number of rows		3	3	3
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.5 innergroove tube	Φ9.5 innergroove tube	Φ9.5 innergroove tube
	Coil length x height x width	mm	1068×66×254	1068×66×254	1068×66×254
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m <sup>3</sup> /h	1332/1212/1023	1332/1212/1023	1332/1212/1023
Indoor external static pressure		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	43/41/38	43/41/38	43/41/38
Indoor unit	Dimension (WxHxD)	mm	1500×220×625	1500×220×625	1336×212×545
	Packing (WxHxD)	mm	1589X722X312	1679X722X312	1439X639X305
	Net/Gross weight	kg	44/50	44/53	36/40
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.5/Φ15.9	Φ9.5/Φ15.9	Φ9.5/Φ15.9
	Power wiring	Nb×mm <sup>2</sup>	3×2.5(L≤20m); 3×3.5(L≤50m)		
Connecting wiring	Signal wiring	Nb×mm <sup>2</sup>	3×1.0	3×1.0	3×1.0
	Drainage water pipe dia.	mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		°C	17-30		

**Notes:**

- Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
- Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

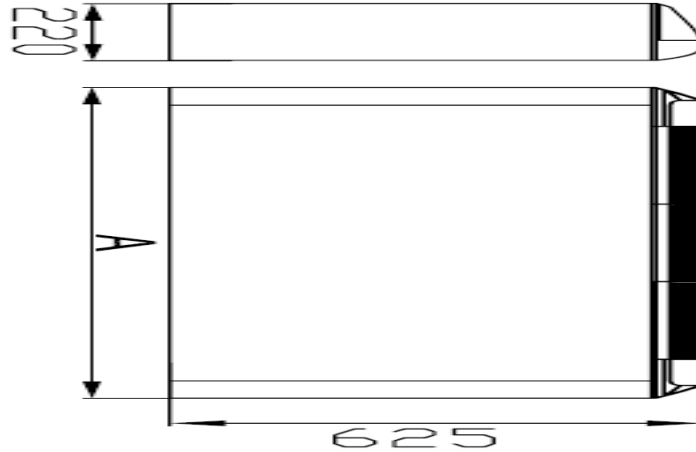
### 4.Dimensions

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



No	Model	A (mm)
1	MDVi-D22Z/N1-F1	1000
2	MDVi-D28Z/N1-F1	1000
3	MDVi-D36Z/N1-F1	1200
4	MDVi-D45Z/N1-F1	1200
5	MDVi-D56Z/N1-F1	1500
6	MDVi-D71Z/N1-F1	1500
7	MDVi-D80Z/N1-F1	1500

#### 4.2 Exposed Floor-standing(air inlet from below)



No	Model	A (mm)
1	MDVi-D22Z/N1-F2	1000
2	MDVi-D28Z/N1-F2	1000
3	MDVi-D36Z/N1-F2	1200
4	MDVi-D45Z/N1-F2	1200
5	MDVi-D56Z/N1-F2	1500
6	MDVi-D71Z/N1-F2	1500
7	MDVi-D80Z/N1-F2	1500

### 4.3 Concealed Floor-standing



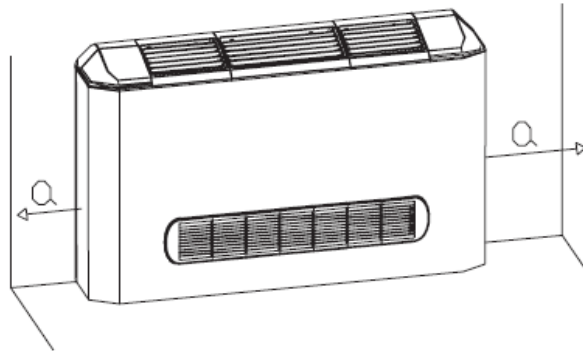
No	Model	A (mm)
1	MDVi-D22Z/N1-F3	840
2	MDVi-D28Z/N1-F3	840
3	MDVi-D36Z/N1-F3	1036
4	MDVi-D45Z/N1-F3	1036
5	MDVi-D56Z/N1-F3	1336
6	MDVi-D71Z/N1-F3	1336
7	MDVi-D80Z/N1-F3	1336



## 5. Service Space

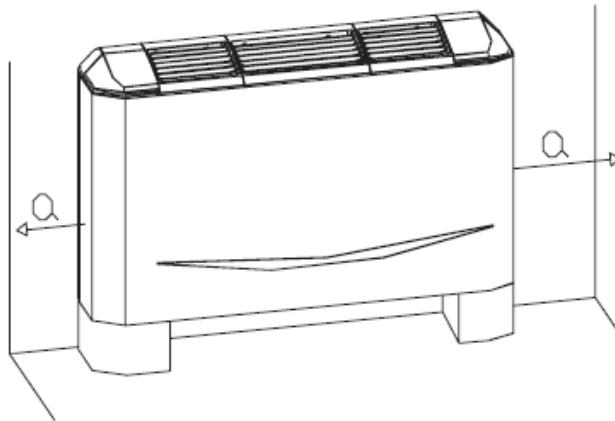
### Version I

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.



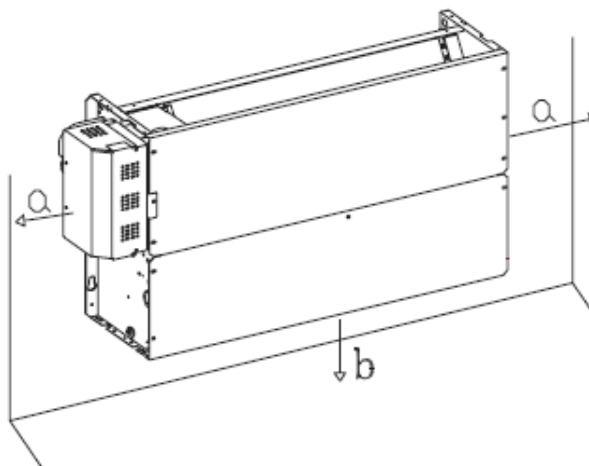
### Version II

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.



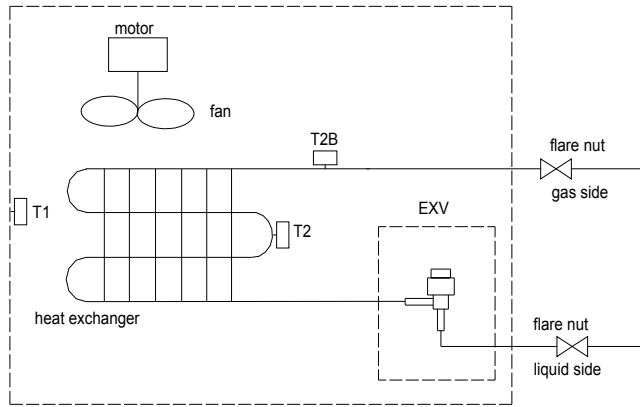
### Version III

Vertical unit for building-in, with air intake from below and air delivery at the top, for installation on a wall.

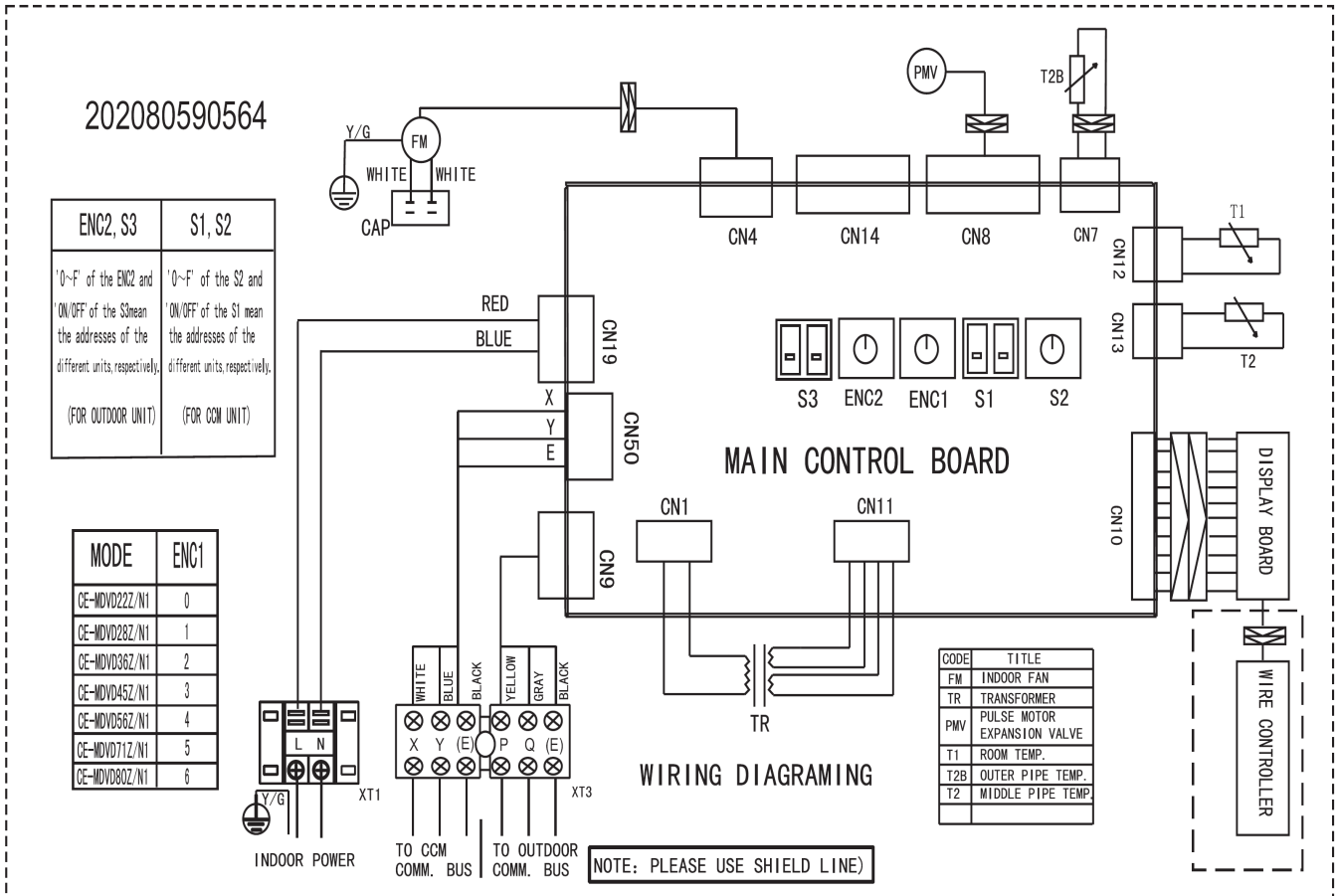


Version	Version I	Version II	Version III
a(mm)	≥150	≥150	≥200
b(mm)	/	/	≥80

### 6. Piping Diagram



# 7. Wiring Diagram



## 8. Capacity Tables

### 8.1 Cooling

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

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

Indoor Unit size (kW)	Outdoor temperature (°C DB)	Indoor temperature (°C WB/DB)													
		2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	25.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	27.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	29.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.5
	31.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.4
	33.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.0	2.4
	35.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	4.0	2.4
	37.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	3.9	2.3
4.5	39.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.7	3.9	2.4
	10.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	12.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	14.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.8	3.3
	16.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	18.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	20.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.5	3.2
	21.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.4	3.1
	23.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.4	3.1
	25.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.3	3.0
	27.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.3	3.0
	29.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.1	2.9
	31.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	5.1	3.0
	33.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.9	2.9
	35.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.8	2.8
37.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9	
39.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9	
5.6	10.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7
	33.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
39.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5	
7.1	10.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.2	4.9
	12.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.1	4.8
	14.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.0	4.8
	16.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.9	4.7
	18.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.7	4.7

Indoor Unit size (kW)	Outdoor temperature (°C DB)	Indoor temperature (°C WB/DB)													
		5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.5	4.6
	21.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.4	4.5
	23.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.3	4.5
	25.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.2	4.4
	27.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.1	4.9	8.2	4.4
	29.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.0	4.8	8.1	4.5
	31.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.9	4.7	7.8	4.4
	33.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.8	4.7	7.8	4.4
	35.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.6	4.6	7.7	4.3
	37.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.5	4.5	7.6	4.3
39.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.2	4.6	7.4	4.4	7.6	4.3	
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	

### 8.2 Heating

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

Indoor Unit size (kW)	Outdoor temperature (°C)		Indoor temperature (°C DB)					
			16.00	18.00	20.00	21.00	22.00	24.00
	WB	DB	TC	TC	TC	TC	TC	TC
2.20	-15.00	-14.70	1.64	1.64	1.64	1.64	1.64	1.64
	-13.00	-12.60	1.74	1.74	1.74	1.74	1.74	1.74
	-11.00	-10.50	1.82	1.82	1.82	1.82	1.82	1.82
	-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	2.93	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	
2.80	-15.00	-14.70	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	2.93	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	
3.60	-15.00	-14.70	2.52	2.52	2.52	2.52	2.52	2.52
	-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

Indoor Unit size (kW)	Outdoor temperature (°C)		Indoor temperature (°C DB)					
	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	2.93	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
4.50	-15.00	-14.70	3.15	3.15	3.15	3.15	3.15	3.15
	-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	2.93	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
	5.60	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97
-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	2.93	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
7.10		-15.00	-14.70	5.04	5.04	5.04	5.04	5.04
	-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



Indoor Unit size (kW)	Outdoor temperature		Indoor temperature (°C DB)					
	-3.70 (°C)	-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	2.93	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
8.00	-15.00	-14.70	5.67	5.67	5.67	5.67	5.67	5.67
	-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	2.93	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	

### 9. Electric Characteristics

Model	Indoor Unit				Power Supply		IFM	
	Hz	Voltage	Min.	Max.	MCA	MFA	KW	FLA
MDVi-D22Z/N1-F1	50	220-240V	198	254	0.25	15	0.02	0.2
MDVi-D22Z/N1-F2	50	220-240V	198	254	0.25	15	0.02	0.2
MDVi-D22Z/N1-F3	50	220-240V	198	254	0.25	15	0.02	0.2
MDVi-D28Z/N1-F1	50	220-240V	198	254	0.25	15	0.02	0.2
MDVi-D28Z/N1-F2	50	220-240V	198	254	0.25	15	0.02	0.2
MDVi-D28Z/N1-F3	50	220-240V	198	254	0.25	15	0.02	0.2
MDVi-D36Z/N1-F1	50	220-240V	198	254	0.3	15	0.02	0.24
MDVi-D36Z/N1-F2	50	220-240V	198	254	0.3	15	0.02	0.24
MDVi-D36Z/N1-F3	50	220-240V	198	254	0.3	15	0.02	0.24
MDVi-D45Z/N1-F1	50	220-240V	198	254	0.4	15	0.02	0.3
MDVi-D45Z/N1-F2	50	220-240V	198	254	0.4	15	0.02	0.3
MDVi-D45Z/N1-F3	50	220-240V	198	254	0.4	15	0.02	0.3
MDVi-D56Z/N1-F1	50	220-240V	198	254	0.6	15	0.028	0.48
MDVi-D56Z/N1-F2	50	220-240V	198	254	0.6	15	0.028	0.48
MDVi-D56Z/N1-F3	50	220-240V	198	254	0.6	15	0.028	0.48
MDVi-D71Z/N1-F1	50	220-240V	198	254	0.8	15	0.07	0.62
MDVi-D71Z/N1-F2	50	220-240V	198	254	0.8	15	0.07	0.62
MDVi-D71Z/N1-F3	50	220-240V	198	254	0.8	15	0.07	0.62
MDVi-D80Z/N1-F1	50	220-240V	198	254	0.8	15	0.07	0.62
MDVi-D80Z/N1-F2	50	220-240V	198	254	0.8	15	0.07	0.62
MDVi-D80Z/N1-F3	50	220-240V	198	254	0.8	15	0.07	0.62

**Remark:**

MCA: Min. Current Amps. (A)

MFA: Max. Fuse Amps. (A)

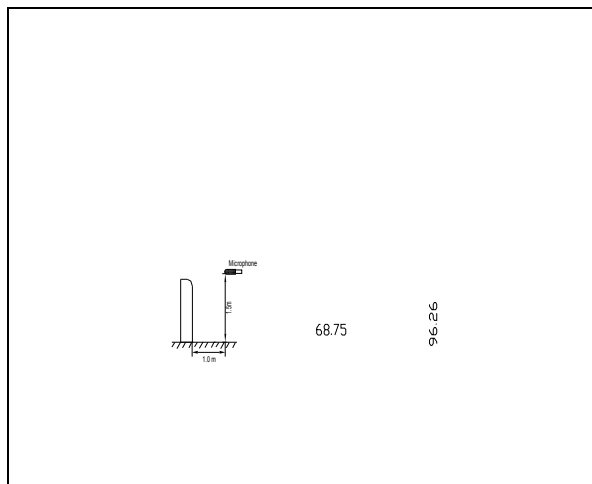
KW: Fan Motor Rated Output (kW)

FLA: Full Load Amps. (A)

IFM: Indoor Fan Motor

## 10. Sound Levels

### 10.1 Test condition

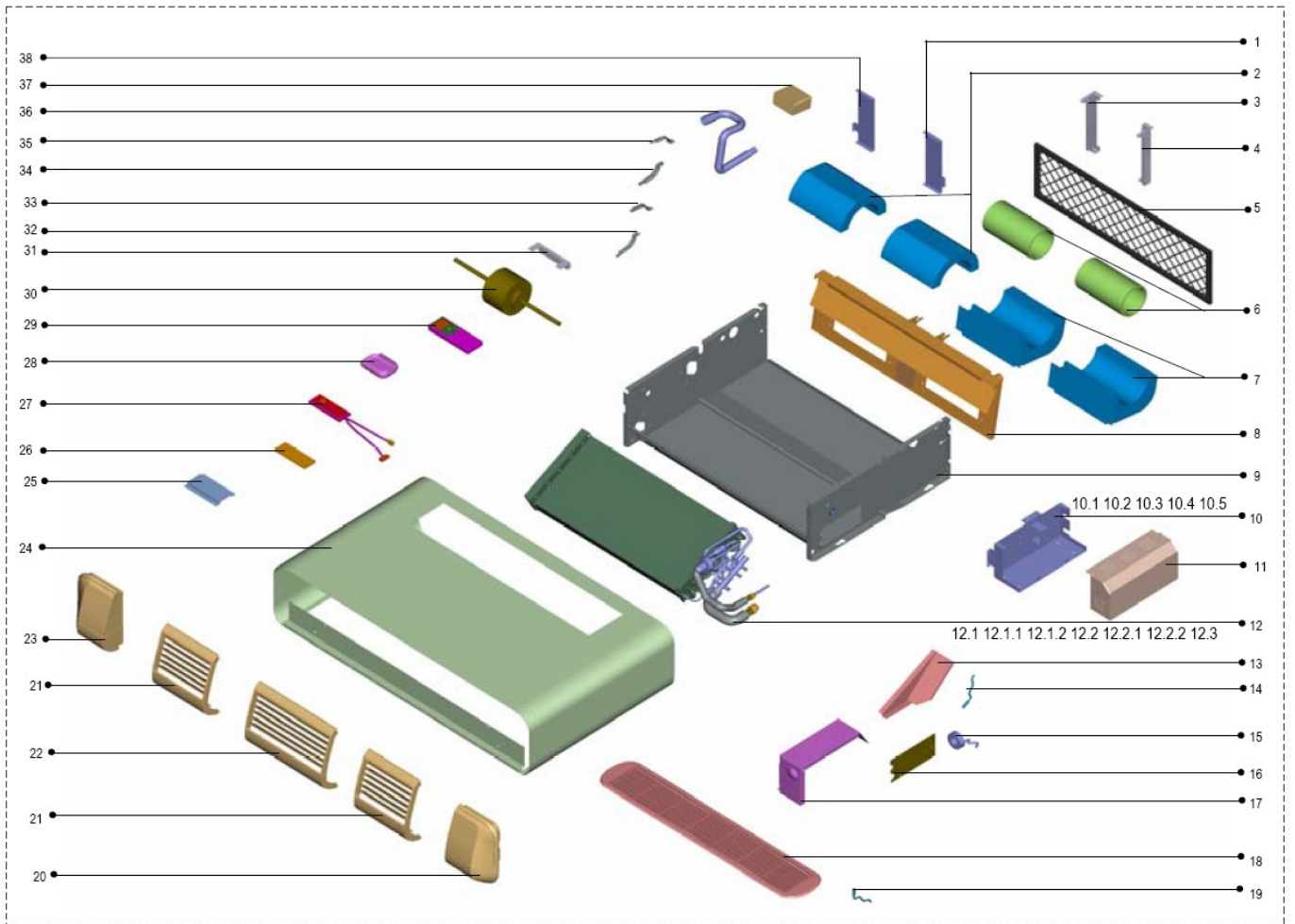
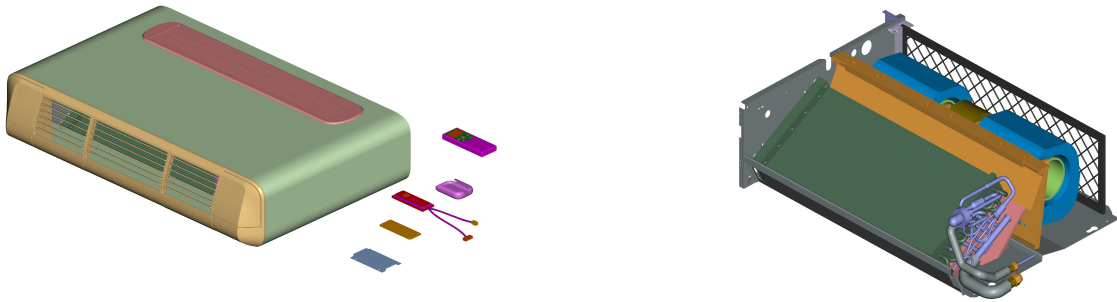


### 10.2 Test value

Model	Noise level under three speeds of fan (dB(A))		
	H	M	L
MDVi-D22Z/N1-F1/F2/F3	37	35	33
MDVi-D28Z/N1-F1/F2/F3	37	35	33
MDVi-D36Z/N1-F1/F2/F3	39	37	35
MDVi-D45Z/N1-F1/F2/F3	39	37	35
MDVi-D56Z/N1-F1/F2/F3	41	39	37
MDVi-D71Z/N1-F1/F2/F3	43	41	38
MDVi-D80Z/N1-F1/F2/F3	43	41	38

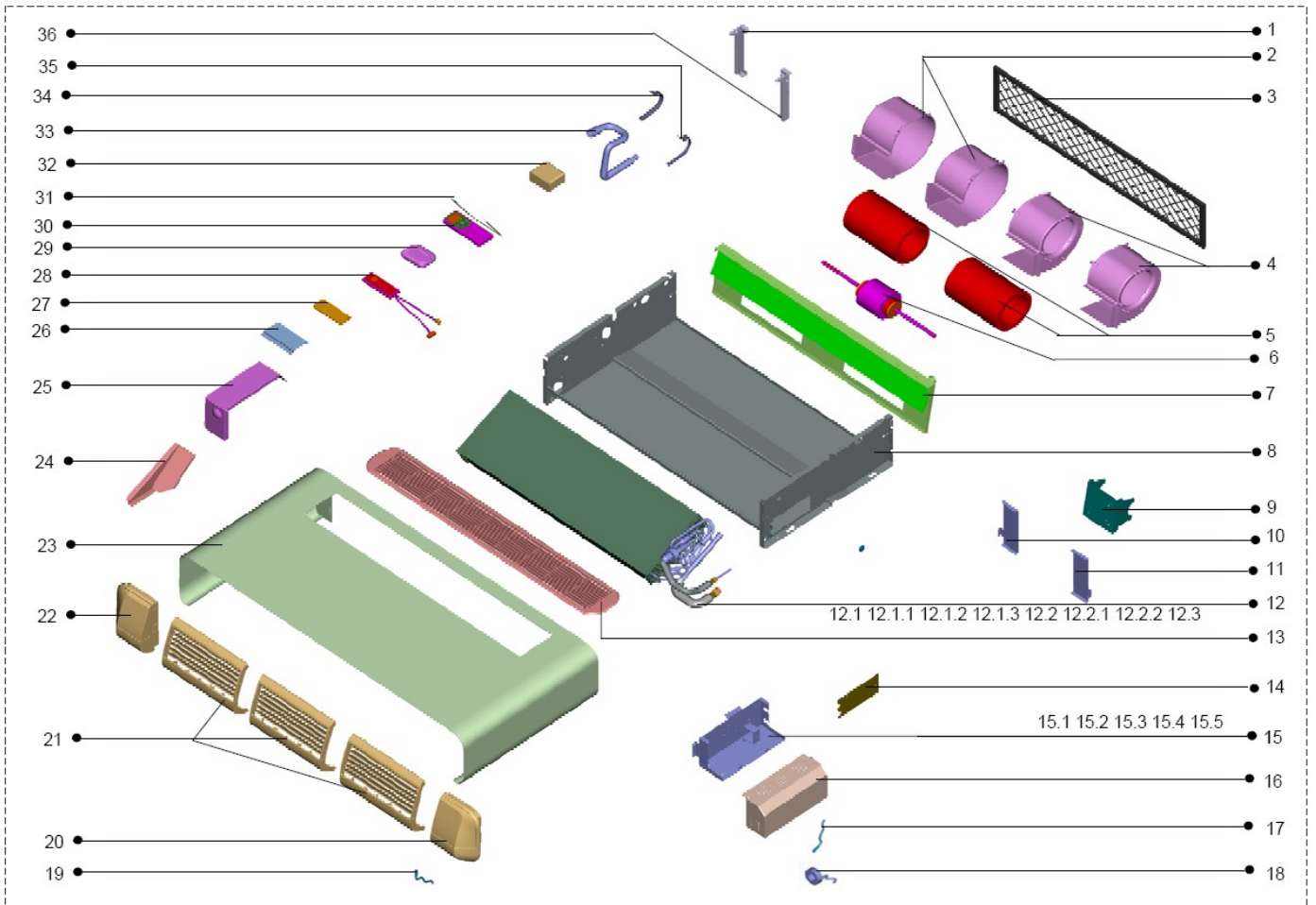
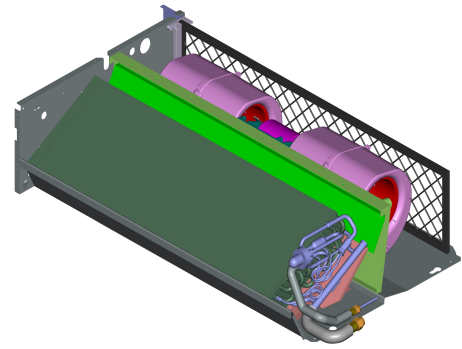
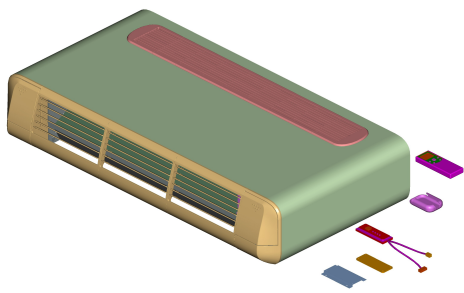
# 11. Exploded View

## 11.1 MDVi-D22Z/N1-F1 MDVi-D28Z/N1-F1



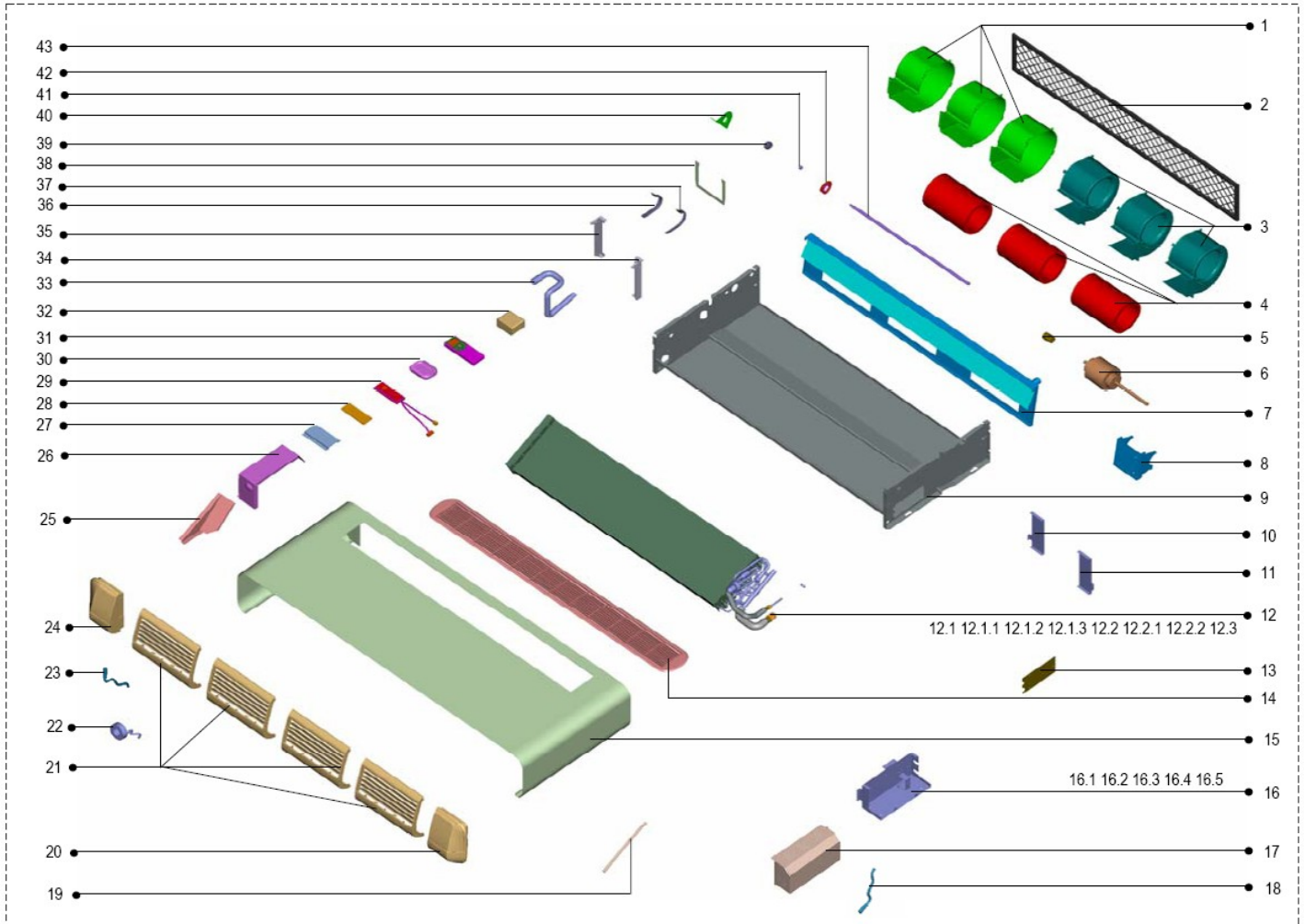
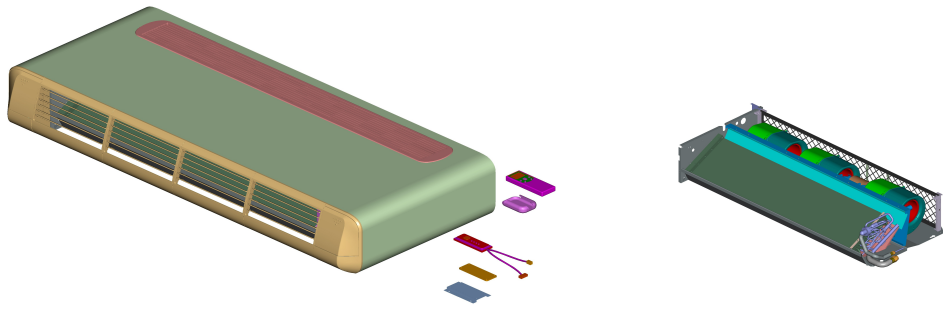
No.	Part name	Quantity	No.	Part name	Quantity
1	Left sealed board ass'y	1	14	Temp. sensor	1
2	Volute shell	2	15	EEV solenoid	1
3	Filter bracket	1	16	Right seal board ass'y	1
4	Filter bracket	1	17	Evaporator connection board ass'y	1
5	Filter	1	18	Louver ass'y	1
6	Fan	2	19	Temp. sensor ass'y	1
7	Volute shell	2	20	Left cover seat ass'y	1
8	Middle beam	1	21	Louver ass'y	2
9	Base	1	22	Louver ass'y	1
10	E-part box ass'y	1	23	Right cover seat ass'y	1
10.1	Main controller ass'y	1	24	Cabinet ass'y	1
10.2	E-part box base	1	25	Installing board	1
10.3	Transformer	1	26	Control box cover	1
10.4	Wire joint, 2p	1	27	Display board ass'y	1
10.5	Wire joint	1	28	Remote controller holder ass'y	1
11	E-Part box cover	1	29	Remote controller	1
12	Evaporator ass'y	1	30	Motor	1
12.1	Input pipe ass'y	1	31	Strengthen board	1
12.1.1	Electronic expansion valve	1	32	Fixing board	1
12.1.2	Copper nut	1	33	Fixing board	1
12.1.3	Pipe joint	1	34	Fixing board	1
12.2	Output pipe ass'y	1	35	Fixing board	1
12.2.1	Copper nut	1	36	Drain hose	1
12.2.2	Pipe joint	1	37	Capacitor box	1
12.3	Temp. sensor ass'y	1	38	Right sealed board ass'y	1
13	Supporting board ass'y	1	39	Motor capacitor	1

11.2 MDVi-D36Z/N1-F1 MDVi-D45Z/N1-F1



No.	Part name	Quantity	No.	Part name	Quantity
1	Filter bracket	1	15.3	Transformer	1
2	Volute shell	2	15.4	Wire joint, 2p	1
3	Filter	1	15.5	Wire joint	1
4	Left volute shell	2	16	E-Part box cover	1
5	Fan	2	17	Temp. sensor	1
6	Motor	1	18	EEV solenoid	1
7	Middle beam	1	19	Temp. sensor ass'y	1
8	Base	1	20	Left cover seat ass'y	1
9	Motor bracket	1	21	Louver ass'y	3
10	Right sealed board ass'y	1	22	Right cover seat ass'y	1
11	Left sealed board ass'y	1	23	Cabinet ass'y	1
12	Evaporator ass'y	1	24	Supporting board ass'y	1
12.1	Input pipe ass'y	1	25	Evaporator connection board ass'y	1
12.1.1	Electronic expansion valve	1	26	Installing board	1
12.1.2	Copper nut	1	27	Control box cover	1
12.1.3	Pipe joint	1	28	Display board ass'y	1
12.2	Output pipe ass'y	1	29	Remote controller holder ass'y	1
12.2.1	Copper nut	1	30	Remote controller	1
12.2.2	Pipe joint	1	31	Board	1
12.3	Temp. sensor ass'y	1	32	Capacitor box	1
13	Louver ass'y	1	33	Drain hose	1
14	Right seal board ass'y	1	34	Motor clamp	1
15	E-part box ass'y	1	35	Motor clamp	1
15.1	Main controller ass'y	1	36	Filter bracket	1
15.2	E-part box base	1	37	Motor capacitor	1

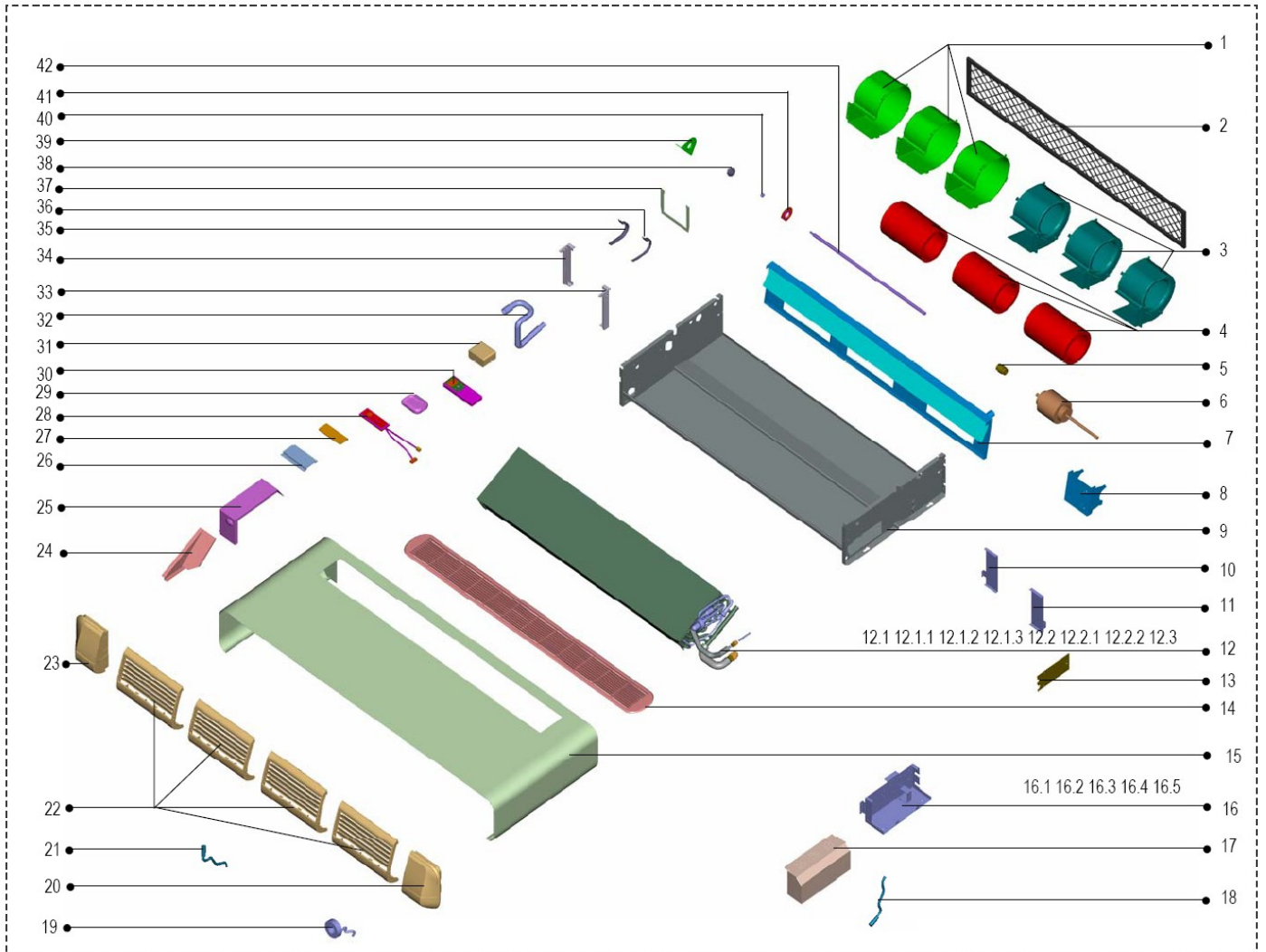
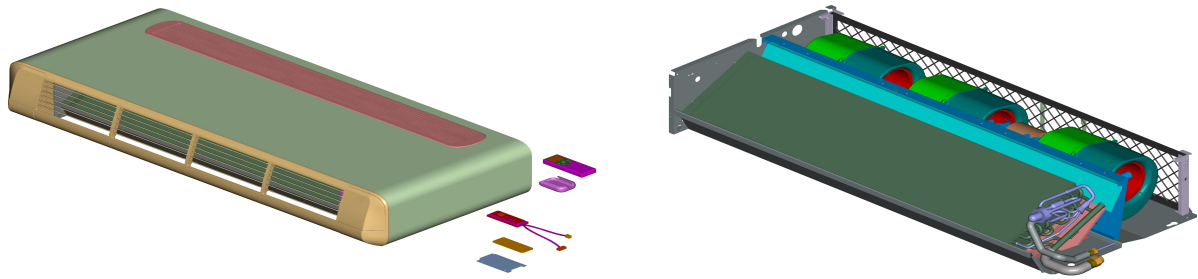
11.3 MDVi-D56Z/N1-F1 MDVi-D71Z/N1-F1





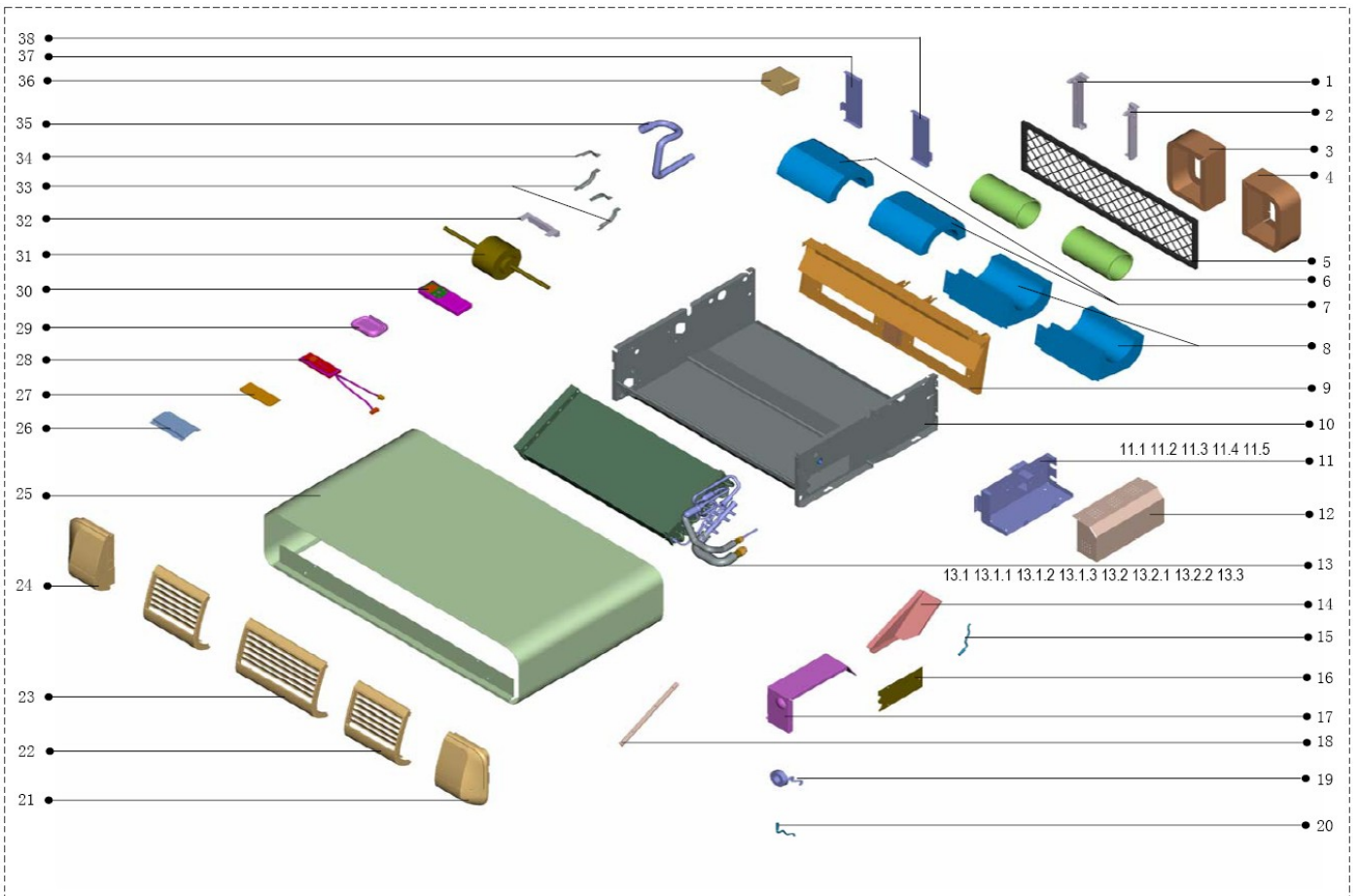
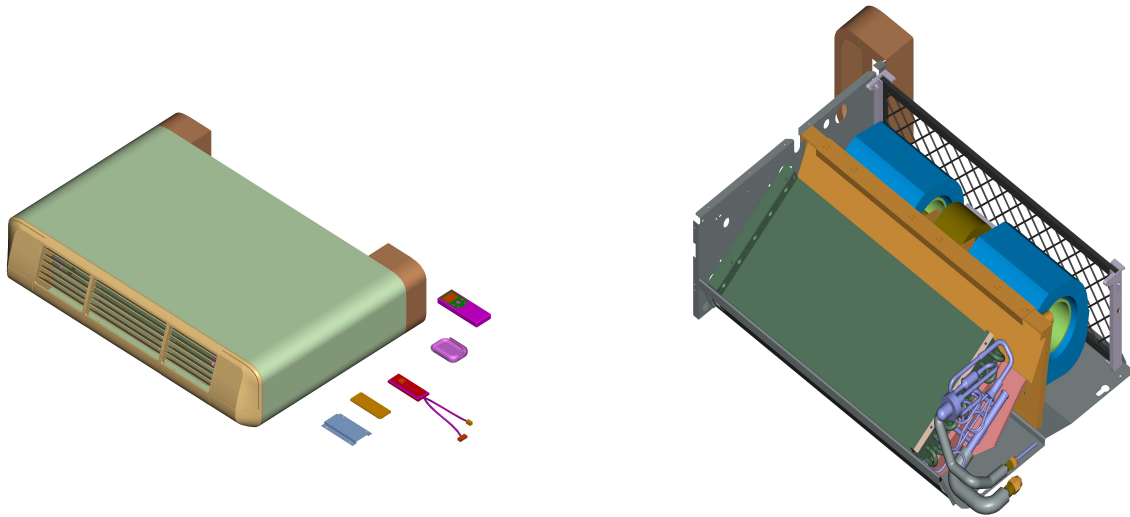
No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	3	17	E-Part box cover	1
2	Filter	1	18	Temp. sensor	1
3	Left volute shell	3	19	Baffle	1
4	Fan	3	20	Left cover seat ass'y	1
5	Coupling	1	21	Louver ass'y	4
6	Motor	1	22	EEV solenoid	1
7	Middle beam	1	23	Temp. sensor ass'y	1
8	Motor bracket	1	24	Right cover seat ass'y	1
9	Base	1	25	Supporting board ass'y	1
10	Right sealed board ass'y	1	26	Evaporator connection board ass'y	1
11	Left sealed board ass'y	1	27	Installing board	1
12	Evaporator ass'y	1	28	Control box cover	1
12.1	Input pipe ass'y	1	29	Display board ass'y	1
12.1.1	Electronic expansion valve	1	30	Remote controller holder ass'y	1
12.1.2	Copper nut	1	31	Remote controller	1
12.1.3	Pipe joint	1	32	Capacitor box	1
12.2	Output pipe ass'y	1	33	Drain hose	1
12.2.1	Copper nut	1	34	Filter bracket	1
12.2.2	Pipe joint	1	35	Filter bracket	1
12.3	Temp. sensor ass'y	1	36	Motor clamp	1
13	Right seal board ass'y	1	37	Motor clamp	1
14	Louver ass'y	1	38	Board	1
15	Cabinet ass'y	1	39	Bearing base	1
16	E-part box ass'y	1	40	Bearing supporting board	1
16.1	Main controller ass'y	1	41	Bearing	1
16.2	E-part box base	1	42	Bearing Fixing board	1
16.3	Transformer	1	43	Connecting shaft	1
16.4	Wire joint, 2p	1	44	Motor capacitor	1
16.5	Wire joint	1			

### 11.4 MDVi-D80Z/N1-F1



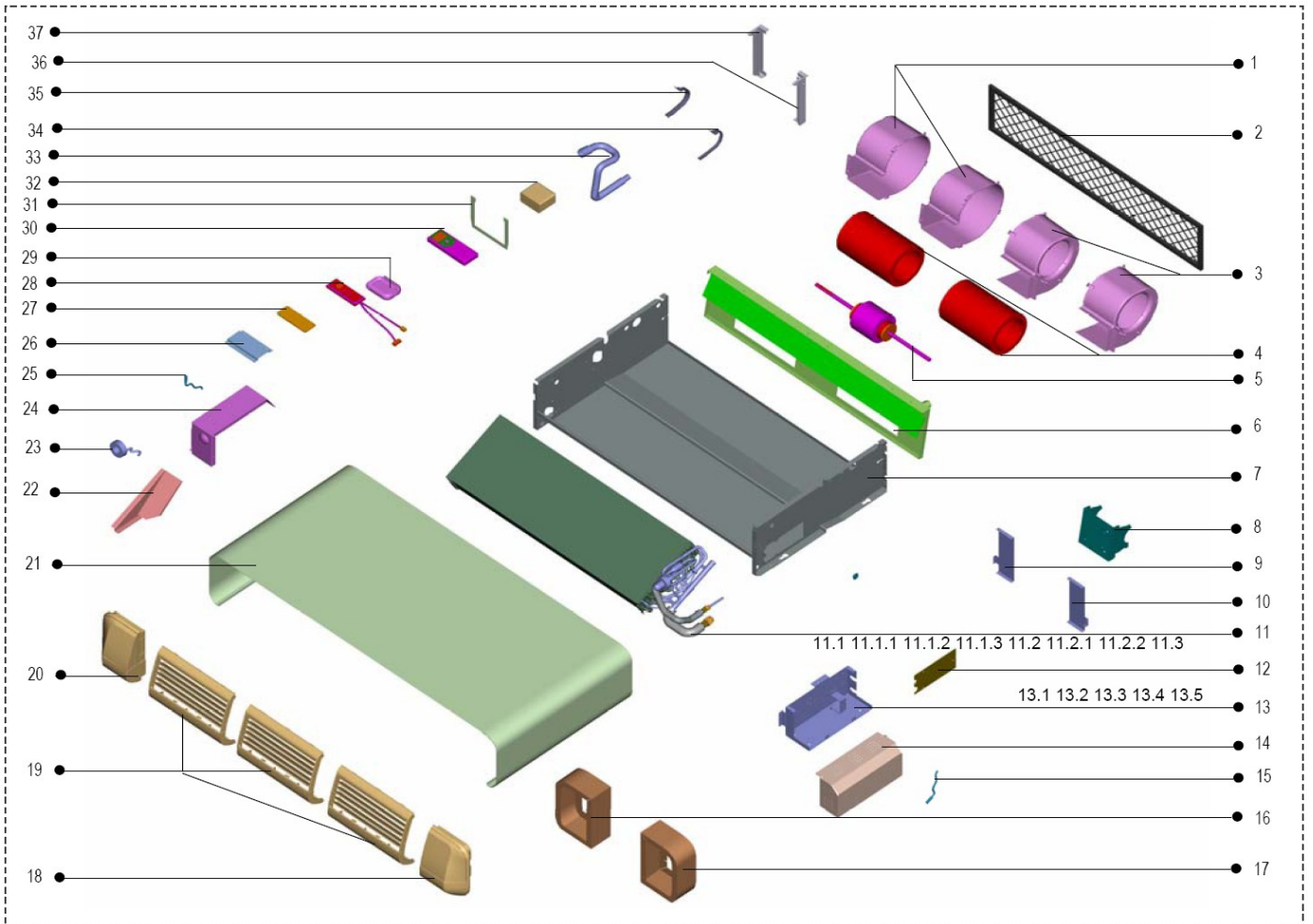
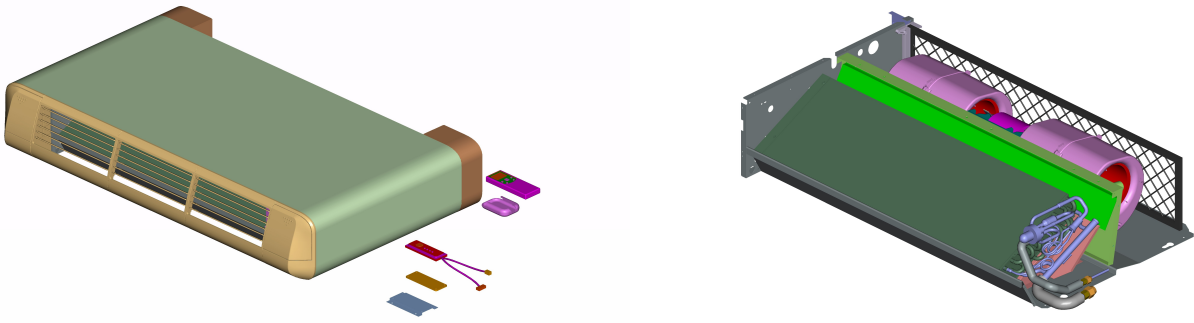
No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	3	16.5	Wire joint	1
2	Filter	1	17	E-Part box cover	1
3	Left volute shell	3	18	Temp. sensor	1
4	Fan	3	19	EEV solenoid	1
5	Coupling	1	20	Left cover seat ass'y	1
6	Motor	1	21	Temp. sensor ass'y	1
7	Middle beam	1	22	Louver ass'y	4
8	Motor bracket	1	23	Right cover seat ass'y	1
9	Base	1	24	Supporting board ass'y	1
10	Right sealed board ass'y	1	25	Evaporator connection board ass'y	1
11	Left sealed board ass'y	1	26	Installing board	1
12	Evaporator ass'y	1	27	Control box cover	1
12.1	Input pipe ass'y	1	28	Display board ass'y	1
12.1.1	Electronic expansion valve	1	29	Remote controller holder ass'y	1
12.1.2	Copper nut	1	30	Remote controller	1
12.1.3	Pipe joint	1	31	Capacitor box	1
12.2	Output pipe ass'y	1	32	Drain hose	1
12.2.1	Copper nut	1	33	Filter bracket	1
12.2.2	Pipe joint	1	34	Filter bracket	1
12.3	Temp. sensor ass'y	1	35	Motor clamp	1
13	Right seal board ass'y	1	36	Motor clamp	1
14	Louver ass'y	1	37	Board	1
15	Cabinet ass'y	1	38	Bearing base	1
16	E-part box ass'y	1	39	Bearing supporting board	1
16.1	Main controller ass'y	1	40	Bearing	1
16.2	E-part box base	1	41	Bearing Fixing board	1
16.3	Transformer	1	42	Connecting shaft	1
16.4	Wire joint, 2p	1	43	Motor capacitor	1

11.5 MDVi-D22Z/N1-F2 MDVi-D28Z/N1-F2



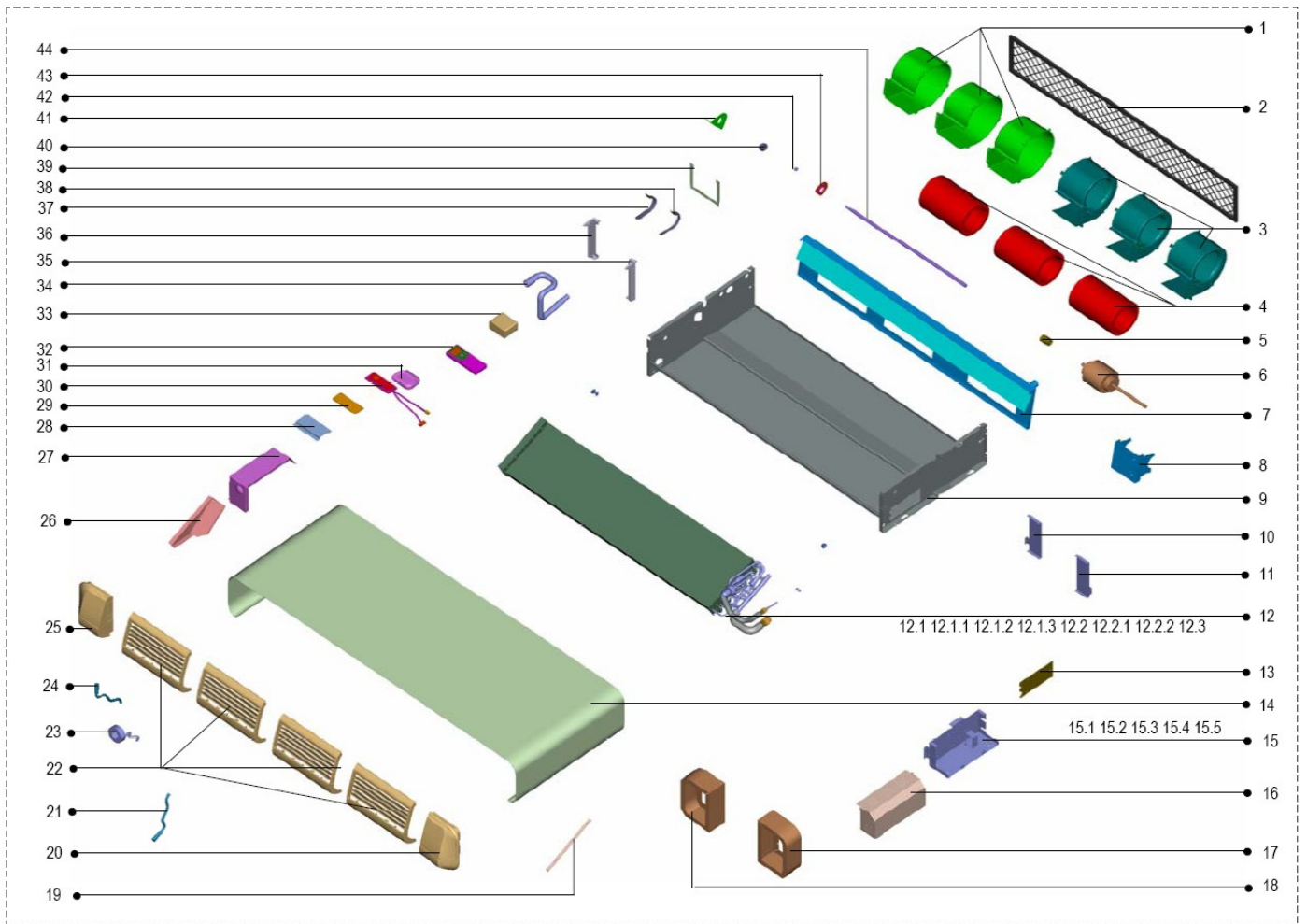
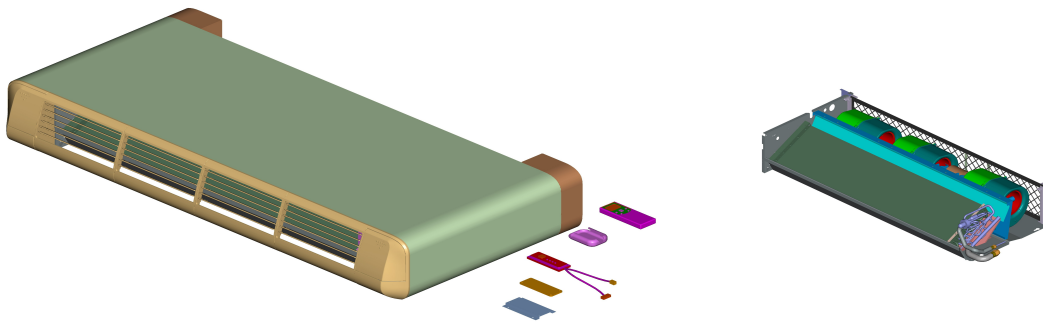
No.	Part name	Quantity	No.	Part name	Quantity
1	Filter bracket	1	14	Supporting board ass'y	1
2	Filter bracket	1	15	Temp. sensor	1
3	Right supporting shelf	1	16	Right seal board ass'y	1
4	Left supporting shelf	1	17	Evaporator connection board ass'y	1
5	Filter	1	18	Baffle	1
6	Fan	2	19	EEV solenoid	1
7	Volute shell	2	20	Temp. sensor ass'y	1
8	Volute shell	2	21	Left cover seat ass'y	1
9	Middle beam	1	22	Louver ass'y	2
10	Base	1	23	Louver ass'y	1
11	E-part box ass'y	1	24	Right cover seat ass'y	1
11.1	Main controller ass'y	1	25	Cabinet ass'y	1
11.2	E-part box base	1	26	Installing board	1
11.3	Transformer	1	27	Control box cover	1
11.4	Wire joint, 2p	1	28	Display board ass'y	1
11.5	Wire joint	1	29	Remote controller holder ass'y	1
12	E-Part box cover	1	30	Remote controller	1
13	Evaporator ass'y	1	31	Motor	1
13.1	Input pipe ass'y	1	32	Strengthen board	1
13.1.1	Electronic expansion valve	1	33	Fixing board	1
13.1.2	Copper nut	1	34	Fixing board	1
13.1.3	Pipe joint	1	35	Drain hose	1
13.2	Output pipe ass'y	1	36	Capacitor box	1
13.2.1	Copper nut	1	37	Right sealed board ass'y	1
13.2.2	Pipe joint	1	38	Left sealed board ass'y	1
13.3	Temp. sensor ass'y	1	39	Motor capacitor	1

11.6 MDVi-D36Z/N1-F2 MDVi-D45Z/N1-F2



No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	2	14	E-Part box cover	1
2	Filter	1	15	Temp. sensor	1
3	Left volute shell	2	16	Right supporting shelf	1
4	Fan	2	17	Left supporting shelf	1
5	Motor	1	18	Left cover seat ass'y	1
6	Middle beam	1	19	Louver ass'y	3
7	Base	1	20	Right cover seat ass'y	1
8	Motor bracket	1	21	Cabinet ass'y	1
9	Right sealed board ass'y	1	22	Supporting board ass'y	1
10	Left sealed board ass'y	1	23	EEV solenoid	1
11	Evaporator ass'y	1	24	Evaporator connection board ass'y	1
11.1	Input pipe ass'y	1	25	Temp. sensor ass'y	1
11.1.1	Electronic expansion valve	1	26	Installing board	1
11.1.2	Copper nut	1	27	Control box cover	1
11.1.3	Pipe joint	1	28	Display board ass'y	1
11.2	Output pipe ass'y	1	29	Remote controller holder ass'y	1
11.2.1	Copper nut	1	30	Remote controller	1
11.2.2	Pipe joint	1	31	Board	1
11.3	Temp. sensor ass'y	1	32	Capacitor box	1
12	Right seal board ass'y	1	33	Drain hose	1
13	E-part box ass'y	1	34	Motor clamp	1
13.1	Main controller ass'y	1	35	Motor clamp	1
13.2	E-part box base	1	36	Filter bracket	1
13.3	Transformer	1	37	Filter bracket	1
13.4	Wire joint, 2p	1	38	Motor capacitor	1
13.5	Wire joint	1			

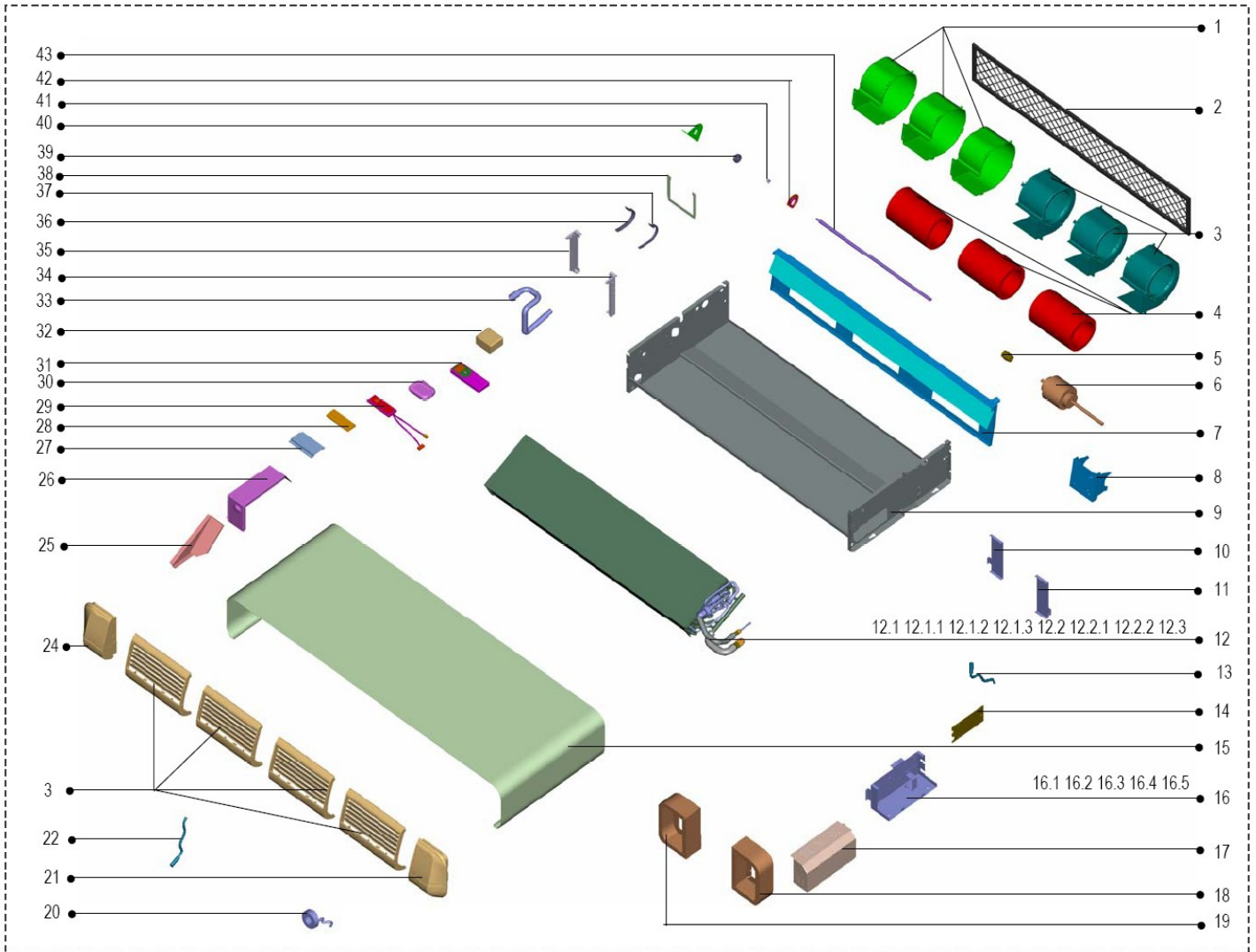
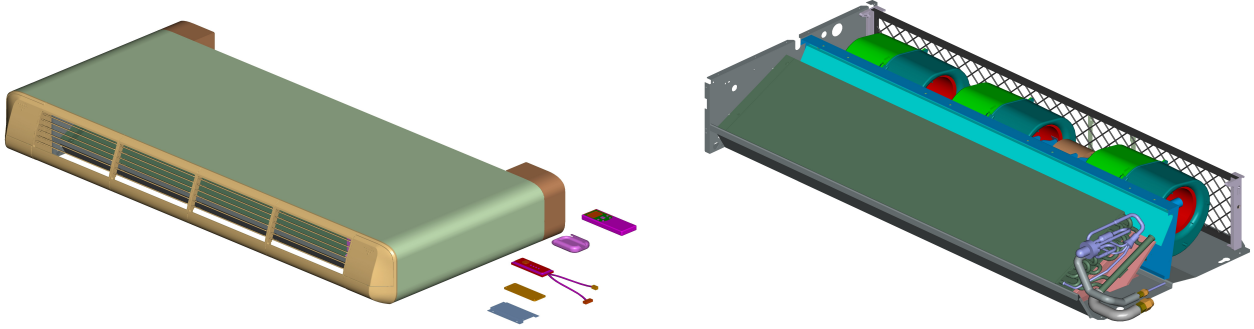
11.7 MDVi-D56Z/N1-F2 MDVi-D71Z/N1-F2





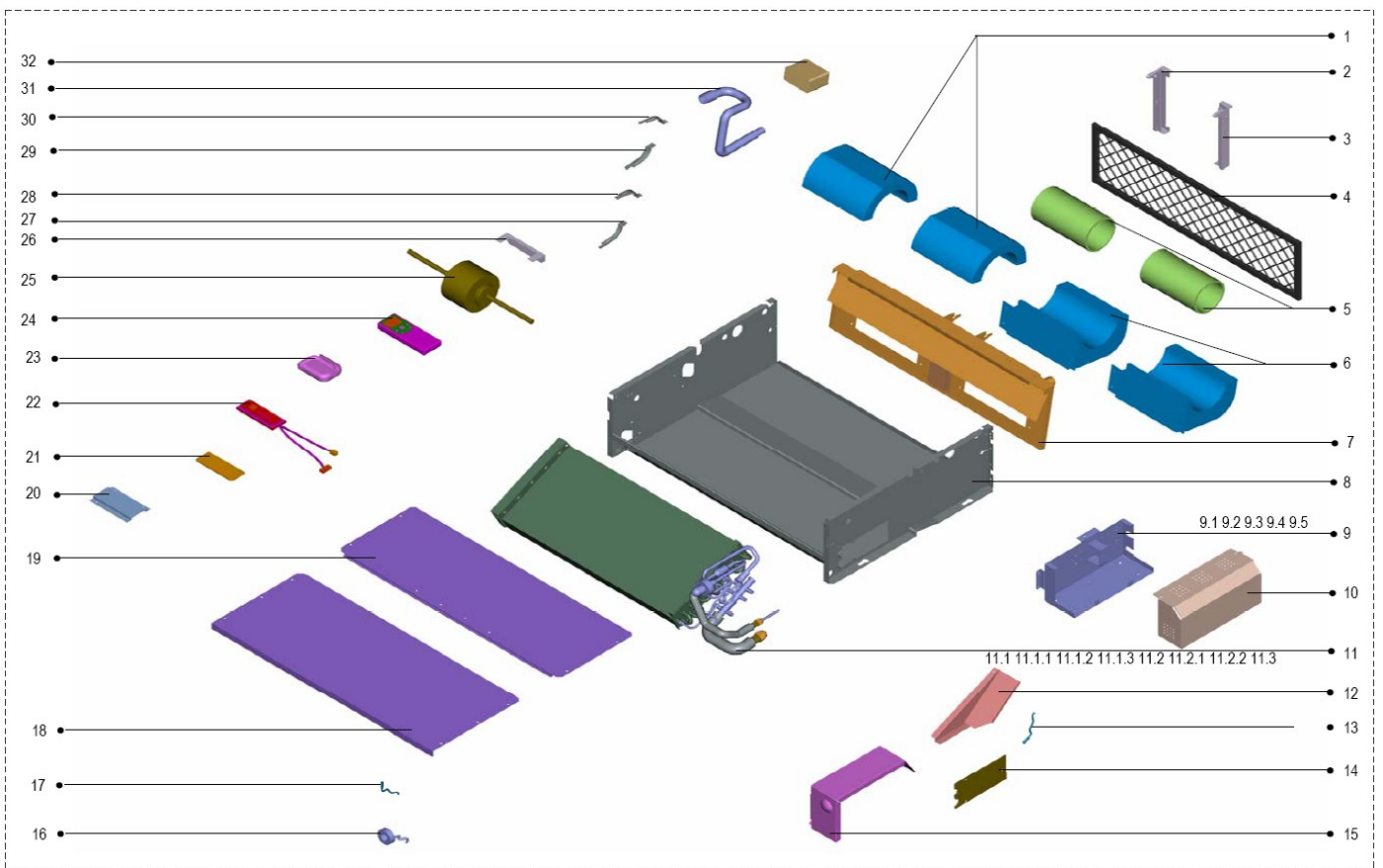
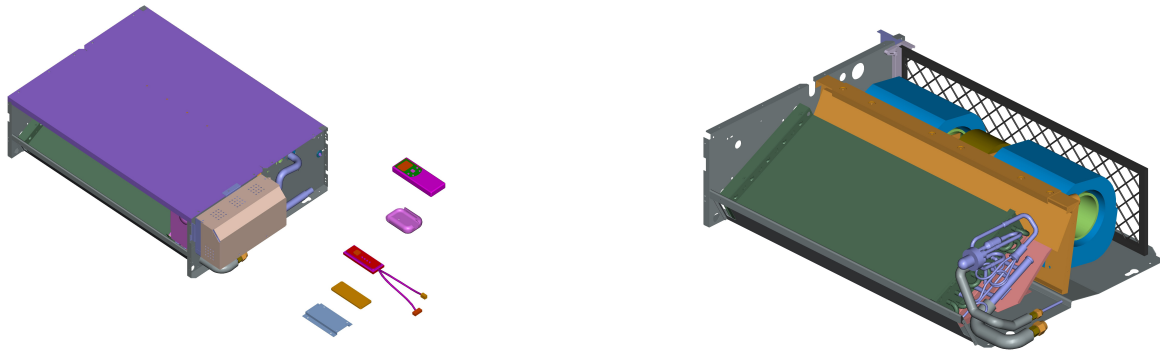
No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	3	17	Right supporting shelf	1
2	Filter	1	18	Left supporting shelf	1
3	Left volute shell	3	19	Baffle	1
4	Fan	3	20	Left cover seat ass'y	1
5	Coupling	1	21	Temp. sensor	1
6	Motor	1	22	Louver ass'y	4
7	Middle beam	1	23	EEV solenoid	1
8	Motor bracket	1	24	Temp. sensor ass'y	1
9	Base	1	25	Right cover seat ass'y	1
10	Right sealed board ass'y	1	26	Supporting board ass'y	1
11	Left sealed board ass'y	1	27	Evaporator connection board ass'y	1
12	Evaporator ass'y	1	28	Installing board	1
12.1	Input pipe ass'y	1	29	Control box cover	1
12.1.1	Electronic expansion valve	1	30	Display board ass'y	1
12.1.2	Copper nut	1	31	Remote controller holder ass'y	1
12.1.3	Pipe joint	1	32	Remote controller	1
12.2	Output pipe ass'y	1	33	Capacitor box	1
12.2.1	Copper nut	1	34	Drain hose	1
12.2.2	Pipe joint	1	35	Filter bracket	1
12.3	Temp. sensor ass'y	1	36	Filter bracket	1
13	Right seal board ass'y	1	37	Motor clamp	1
14	Cabinet ass'y	1	38	Motor clamp	1
15	E-part box ass'y	1	39	Board	1
15.1	Main controller ass'y	1	40	Bearing base	1
15.2	E-part box base	1	41	Bearing supporting board	1
15.3	Transformer	1	42	Bearing	1
15.4	Wire joint, 2p	1	43	Bearing Fixing board	1
15.5	Wire joint	1	44	Connecting shaft	1
16	E-Part box cover	1	45	Motor capacitor	1

11.8 MDVi-D80Z/N1-F2



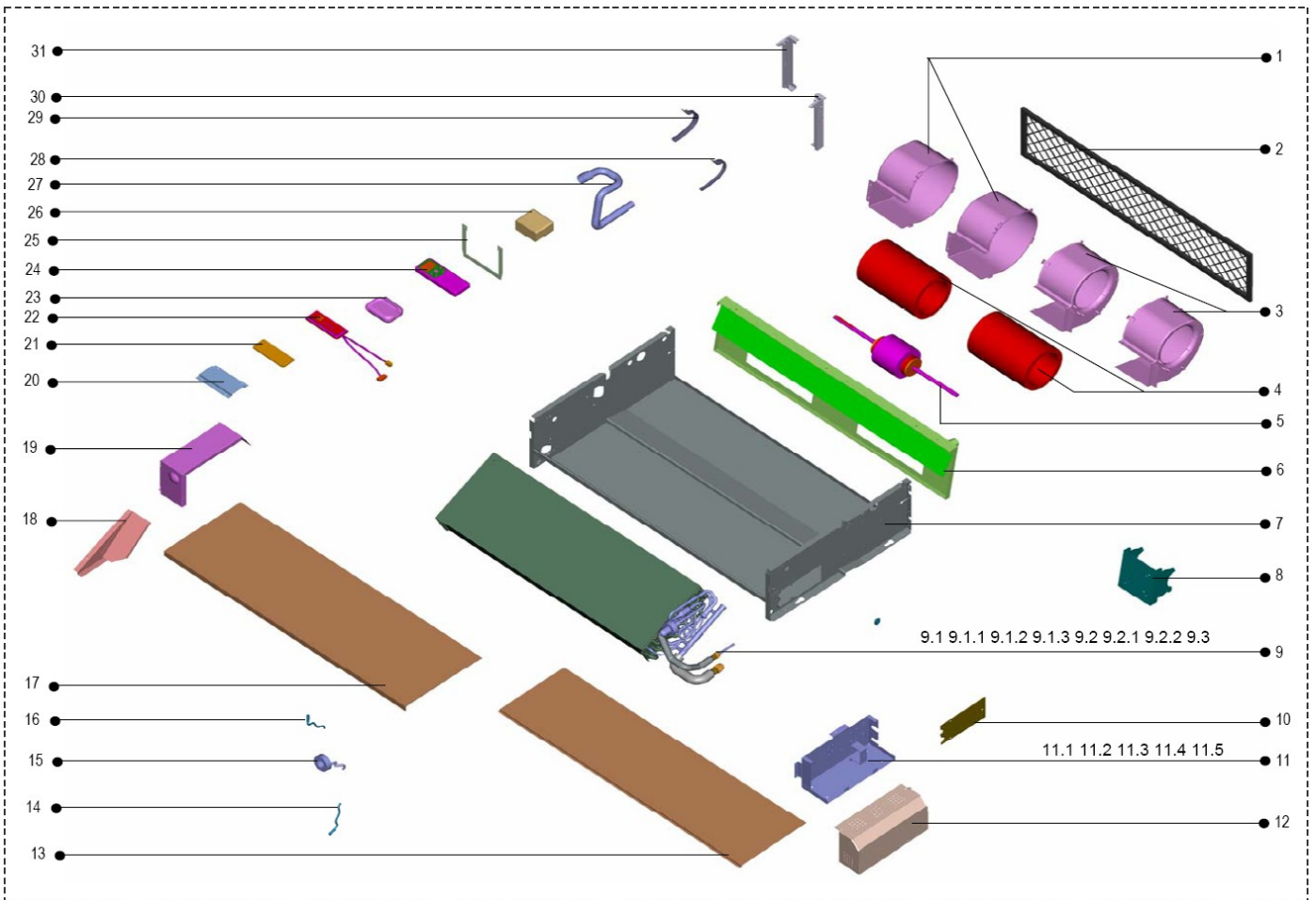
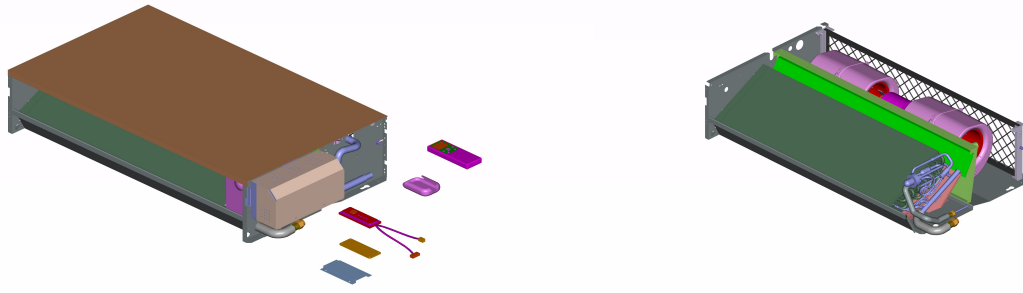
No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	3	17	E-Part box cover	1
2	Filter	1	18	Right supporting shelf	1
3	Left volute shell	3	19	Left supporting shelf	1
4	Fan	3	20	EEV solenoid	1
5	Coupling	1	21	Left cover seat ass'y	1
6	Motor	1	22	Temp. sensor	1
7	Middle beam	1	23	Louver ass'y	4
8	Motor bracket	1	24	Right cover seat ass'y	1
9	Base	1	25	Supporting board ass'y	1
10	Right sealed board ass'y	1	26	Evaporator connection board ass'y	1
11	Left sealed board ass'y	1	27	Installing board	1
12	Evaporator ass'y	1	28	Control box cover	1
12.1	Input pipe ass'y	1	29	Display board ass'y	1
12.1.1	Electronic expansion valve	1	30	Remote controller holder ass'y	1
12.1.2	Copper nut	1	31	Remote controller	1
12.1.3	Pipe joint	1	32	Capacitor box	1
12.2	Output pipe ass'y	1	33	Drain hose	1
12.2.1	Copper nut	1	34	Filter bracket	1
12.2.2	Pipe joint	1	35	Filter bracket	1
12.3	Temp. sensor ass'y	1	36	Motor clamp	1
13	Temp. sensor ass'y	1	37	Motor clamp	1
14	Right seal board ass'y	1	38	Board	1
15	Cabinet ass'y	1	39	Bearing base	1
16	E-part box ass'y	1	40	Bearing supporting board	1
16.1	Main controller ass'y	1	41	Bearing	1
16.2	E-part box base	1	42	Bearing Fixing board	1
16.3	Transformer	1	43	Connecting shaft	1
16.4	Wire joint, 2p	1	44	Motor capacitor	1
16.5	Wire joint	1			

11.9 MDVi-D22Z/N1-F3 MDVi-D28Z/N1-F3



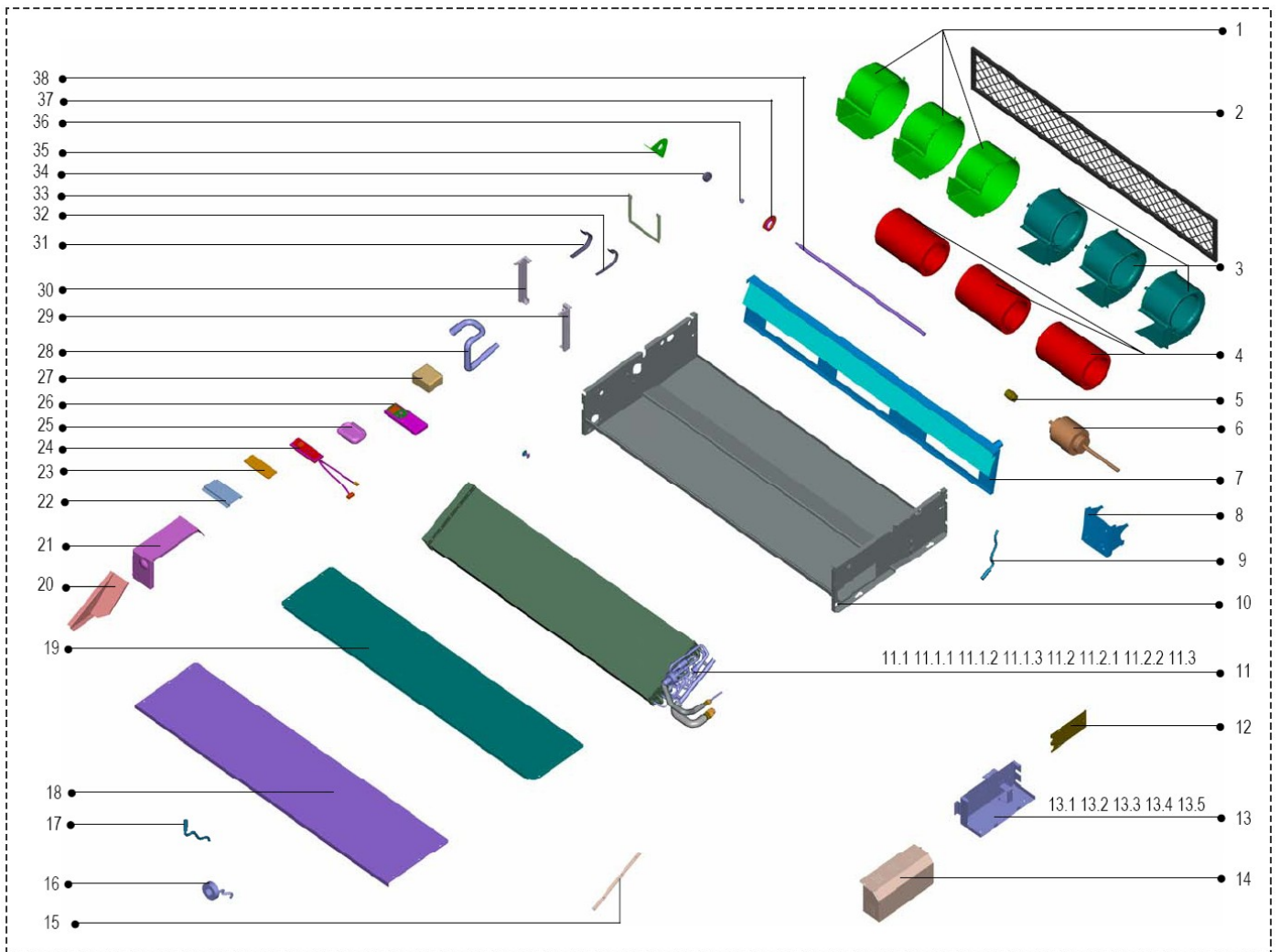
No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	2	11.3	Temp. sensor ass'y	1
2	Filter bracket	1	12	Supporting board ass'y	1
3	Filter bracket	1	13	Temp. sensor	1
4	Filter	1	14	Right seal board ass'y	1
5	Fan	2	15	Evaporator connection board ass'y	1
6	Volute shell	2	16	EEV solenoid	1
7	Middle beam	1	17	Temp. sensor ass'y	1
8	Base	1	18	Covering plate	1
9	E-part box ass'y	1	19	Covering plate	1
9.1	Main controller ass'y	1	20	Installing board	1
9.2	E-part box base	1	21	Control box cover	1
9.3	Transformer	1	22	Display board ass'y	1
9.4	Wire joint, 2p	1	23	Remote controller holder ass'y	1
9.5	Wire joint	1	24	Remote controller	1
10	E-Part box cover	1	25	Motor	1
11	Evaporator ass'y	1	26	Strengthen board	1
11.1	Input pipe ass'y	1	27	Fixing board	1
11.1.1	Electronic expansion valve	1	28	Fixing board	1
11.1.2	Copper nut	1	29	Fixing board	1
11.1.3	Pipe joint	1	30	Fixing board	1
11.2	Output pipe ass'y	1	31	Drain hose	1
11.2.1	Copper nut	1	32	Capacitor box	1
11.2.2	Pipe joint	1	33	Motor capacitor	1

11.10 MDVi-D36Z/N1-F3 MDVi-D45Z/N1-F3



No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	2	11.5	Wire joint	1
2	Filter	1	12	E-Part box cover	1
3	Left volute shell	2	13	Covering plate	1
4	Fan	2	14	Temp. sensor	1
5	Motor	1	15	EEV solenoid	1
6	Middle beam	1	16	Temp. sensor ass'y	1
7	Base	1	17	Covering plate	1
8	Motor bracket	1	18	Supporting board ass'y	1
9	Evaporator ass'y	1	19	Evaporator connection board ass'y	1
9.1	Input pipe ass'y	1	20	Installing board	1
9.1.1	Electronic expansion valve	1	21	Control box cover	1
9.1.2	Copper nut	1	22	Display board ass'y	1
9.1.3	Pipe joint	1	23	Remote controller holder ass'y	1
9.2	Output pipe ass'y	1	24	Remote controller	1
9.2.1	Copper nut	1	25	Board	1
9.2.2	Pipe joint	1	26	Capacitor box	1
9.3	Temp. sensor ass'y	1	27	Drain hose	1
10	Right seal board ass'y	1	28	Motor clamp	1
11	E-part box ass'y	1	29	Motor clamp	1
11.1	Main controller ass'y	1	30	Filter bracket	1
11.2	E-part box base	1	31	Filter bracket	1
11.3	Transformer	1	32	Motor capacitor	1
11.4	Wire joint, 2p	1			

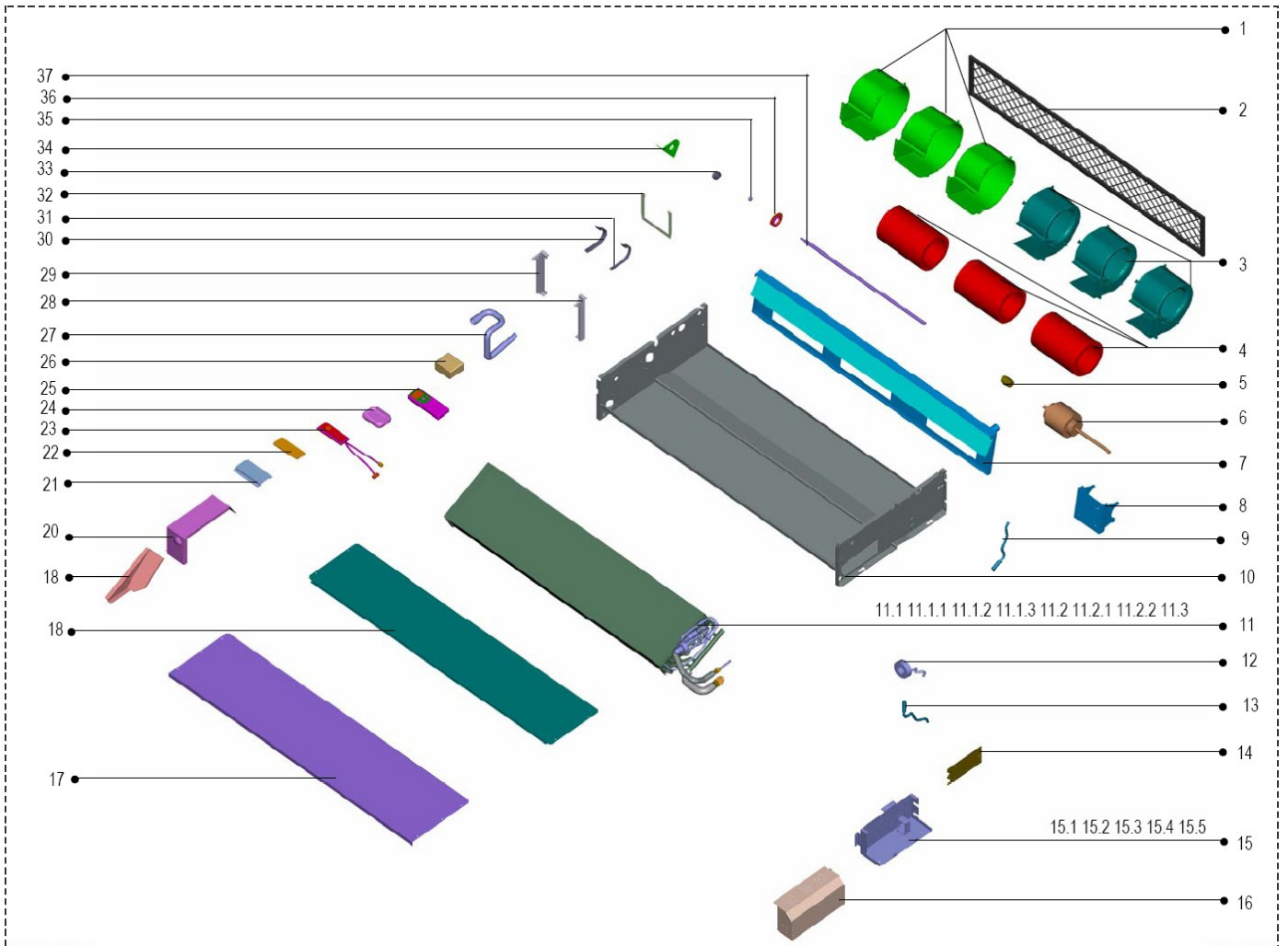
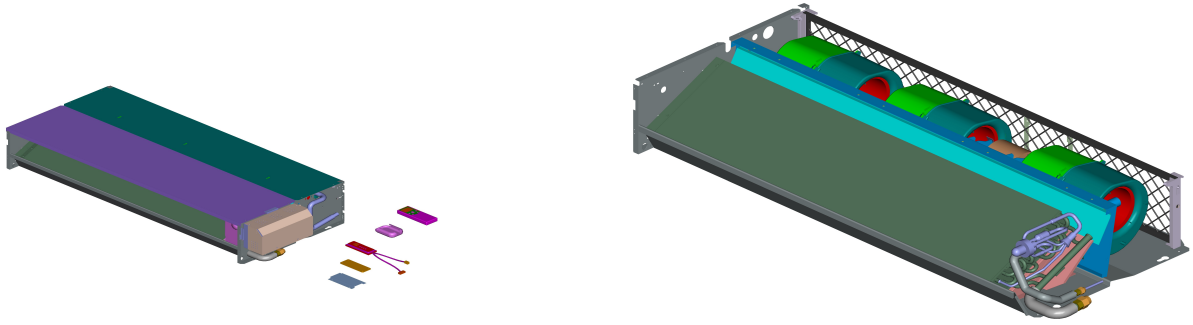
11.11 MDVi-D56Z/N1-F3 MDVi-D71Z/N1-F3






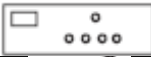




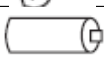
No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	3	14	E-Part box cover	1
2	Filter	1	15	Baffle	1
3	Left volute shell	3	16	EEV solenoid	1
4	Fan	3	17	Temp. sensor ass'y	1
5	Coupling	1	18	Covering plate	1
6	Motor	1	19	Covering plate	1
7	Middle beam	1	20	Supporting board ass'y	1
8	Motor bracket	1	21	Evaporator connection board ass'y	1
9	Temp. sensor	1	22	Installing board	1
10	Base	1	23	Control box cover	1
11	Evaporator ass'y	1	24	Display board ass'y	1
11.1	Input pipe ass'y	1	25	Remote controller holder ass'y	1
11.1.1	Electronic expansion valve	1	26	Remote controller	1
11.1.2	Copper nut	1	27	Capacitor box	1
11.1.3	Pipe joint	1	28	Drain hose	1
11.2	Output pipe ass'y	1	29	Filter bracket	1
11.2.1	Copper nut	1	30	Filter bracket	1
11.2.2	Pipe joint	1	31	Motor clamp	1
11.3	Temp. sensor ass'y	1	32	Motor clamp	1
12	Right seal board ass'y	1	33	Board	1
13	E-part box ass'y	1	34	Bearing base	1
13.1	Main controller ass'y	1	35	Bearing supporting board	1
13.2	E-part box base	1	36	Bearing	1
13.3	Transformer	1	37	Bearing Fixing board	1
13.4	Wire joint, 2p	1	38	Connecting shaft	1
13.5	Wire joint	1	39	Motor capacitor	1

11.12 MDVi-D80Z/N1-F3



No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	3	15.4	Wire joint, 2p	1
2	Filter	1	15.5	Wire joint	1
3	Left volute shell	3	16	E-Part box cover	1
4	Fan	3	17	Covering plate	1
5	Coupling	1	18	Covering plate	1
6	Motor	1	19	Supporting board ass'y	1
7	Middle beam	1	20	Evaporator connection board ass'y	1
8	Motor bracket	1	21	Installing board	1
9	Temp. sensor	1	22	Control box cover	1
10	Base	1	23	Display board ass'y	1
11	Evaporator ass'y	1	24	Remote controller holder ass'y	1
11.1	Input pipe ass'y	1	25	Remote controller	1
11.1.1	Electronic expansion valve	1	26	Capacitor box	1
11.1.2	Copper nut	1	27	Drain hose	1
11.1.3	Pipe joint	1	28	Filter bracket	1
11.2	Output pipe ass'y	1	29	Filter bracket	1
11.2.1	Copper nut	1	30	Motor clamp	1
11.2.2	Pipe joint	1	31	Motor clamp	1
11.3	Temp. sensor ass'y	1	32	Board	1
12	EEV solenoid	1	33	Bearing base	1
13	Temp. sensor ass'y	1	34	Bearing supporting board	1
14	Right seal board ass'y	1	35	Bearing	1
15	E-part box ass'y	1	36	Bearing Fixing board	1
15.1	Main controller ass'y	1	37	Connecting shaft	1
15.2	E-part box base	1	38	Motor capacitor	1
15.3	Transformer	1			

## 12. Accessories

Name of Accessories	Quantity	Outline	Usage
Owner's manual	1	/	/
Installation manual	1	/	/
Pipe insulation material	2		Heat insulation
Signal receiver display board	1		Receive Signal
Mounting screw (ST3.9x12-C-H)	4		/
Remote controller	1		Control the indoor unit
Frame	1		Hold the remote controller
Mounting screw (ST2.9x10-C-H)	2		/
Alkaline dry batteries(AM4)	2		/



# Control System

[1.Brief Introduction about Controlling System.....249](#)

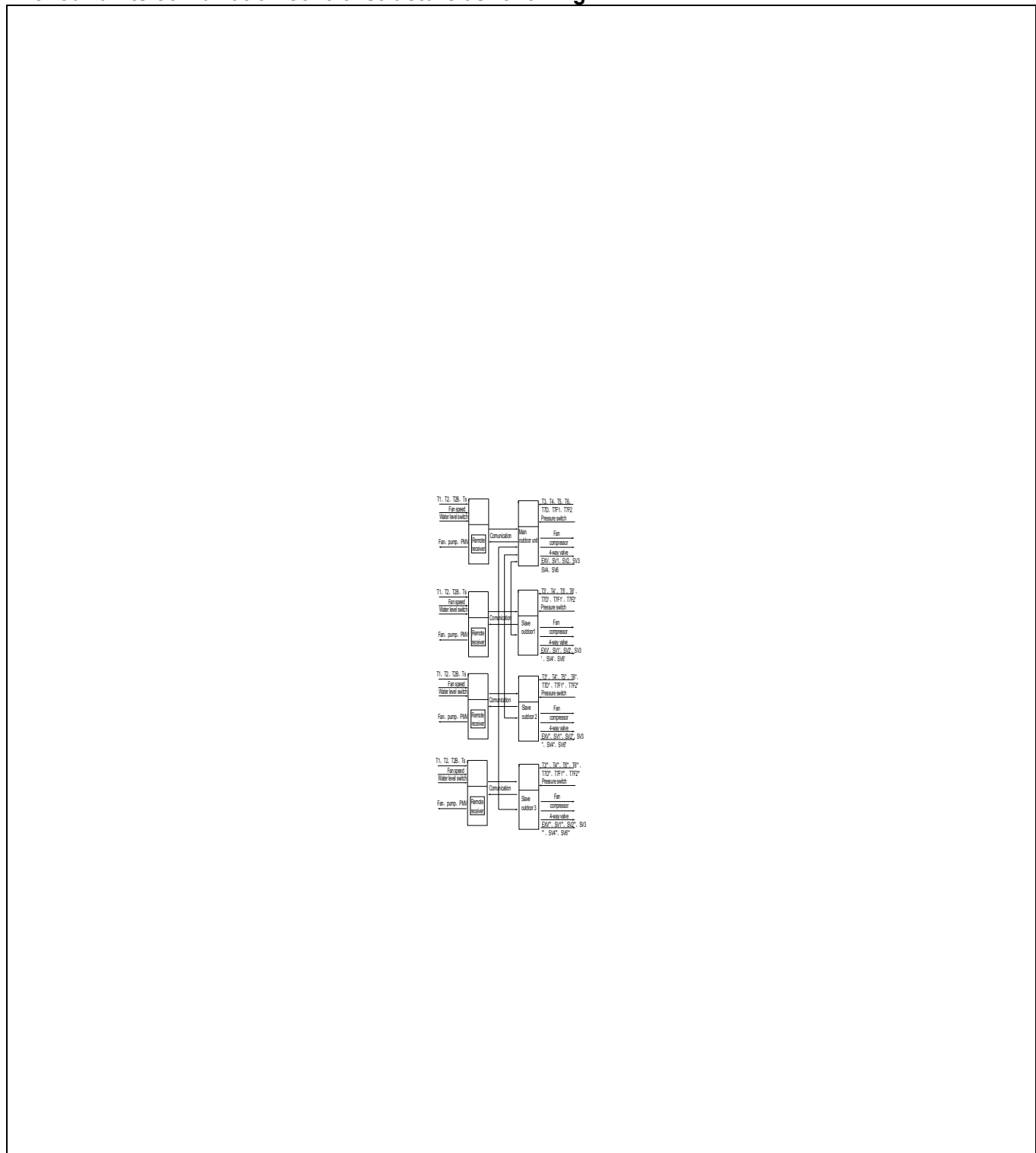
[2.Indoor Unit Central Control Monitor System.....256](#)

[3.Control System.....274](#)

# 1. Brief Introduction about Controlling System

The control system adopts modular design, that is, all indoor units communicate with outdoor units, refer to the following figures for the control structure between indoor units and outdoor units. In the structure, the indoor control board receives the information from users (for exam. set temp., fan speed etc.) and environment (ex, indoor coil temp., indoor temp. etc.) ,and organize it to control the action of relevant parts such as EXV, four-way valve etc , then transmits the signals to outdoor control board through the following communication circuit. Outdoor main control board can deal with the information from indoor unit and figure out the best running mode, then transfer the instruction to the outdoor auxiliary units and indoor units to carry out it.

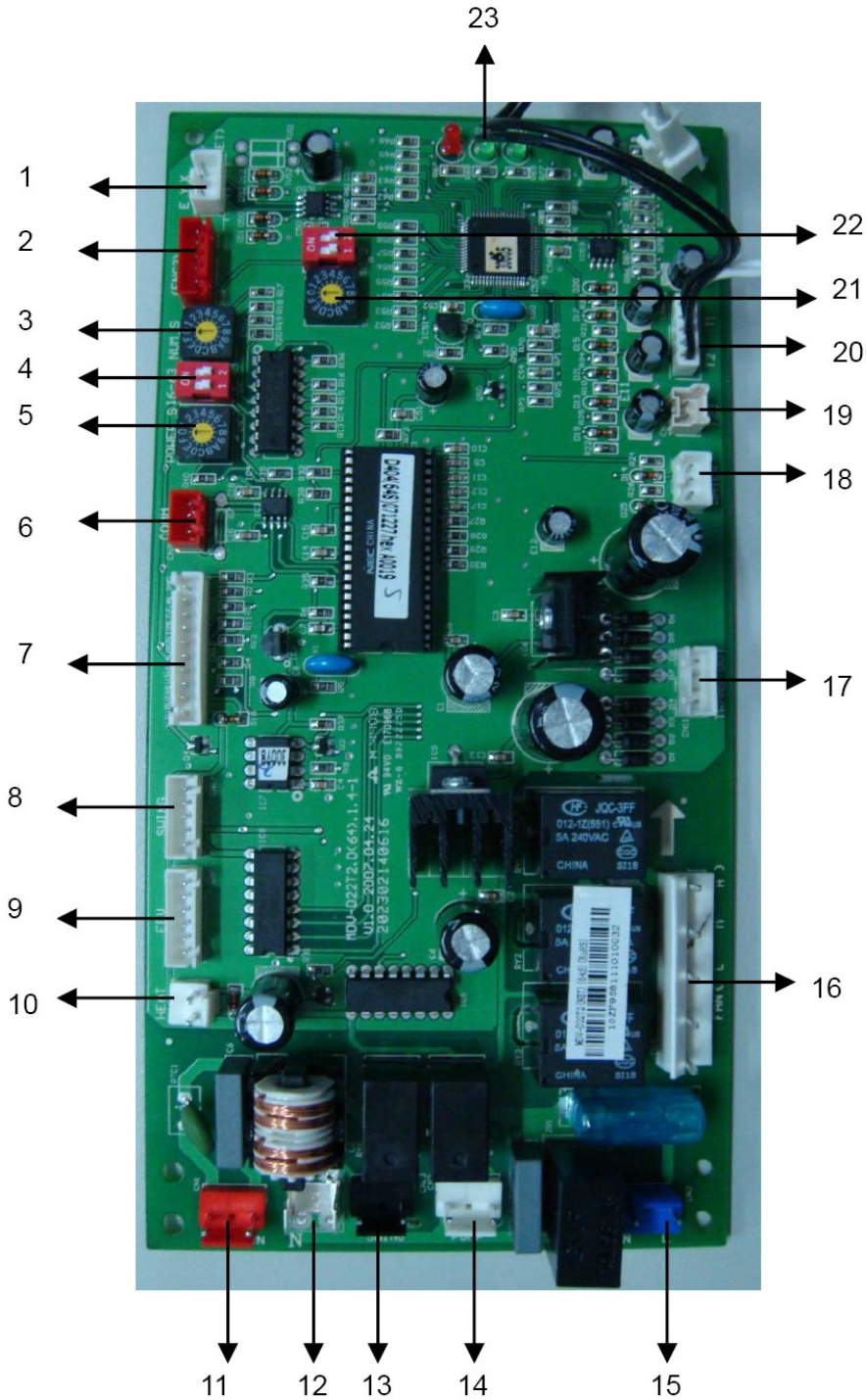
The four units combination control structure as following:



T1	Indoor ambient temp.
T2	Indoor evaporator middle part temp.
T2B	Indoor evaporator outlet pipe temp.
Ts	Indoor setting temp.
T3	Main outdoor heat-exchanger outlet pipe temp. (Cooling mode)
T3'	No.1 auxiliary outdoor heat-exchanger outlet pipe temp. (Cooling mode)
T3''	No.2 auxiliary outdoor heat-exchanger outlet pipe temp. (Cooling mode)
T3'''	No.3 auxiliary outdoor heat-exchanger outlet pipe temp. (Cooling mode)
T4	Main outdoor ambient temp.
T4'	Auxiliary outdoor 1 ambient temp.
T4''	Auxiliary outdoor 2 ambient temp.
T4'''	Auxiliary outdoor 3 ambient temp.
T5	Digital scroll compressor discharge temp.
T5'	Auxiliary outdoor 1 digital scroll compressor discharge temp.
T5''	Auxiliary outdoor 2 digital scroll compressor discharge temp.
T5'''	Auxiliary outdoor 3 digital scroll compressor discharge temp.
T6	Main outdoor heat-exchanger inlet temp. (Cooling mode)
T6'	Auxiliary outdoor 1 heat-exchanger inlet temp. (Cooling mode)
T6''	Auxiliary outdoor 2 heat-exchanger inlet temp. (Cooling mode)
T6'''	Auxiliary outdoor 3 heat-exchanger inlet temp. (Cooling mode)
T7D	Main digital scroll compressor discharge temp.
T7D'	Auxiliary outdoor 1 digital scroll compressor discharge temp.
T7D''	Auxiliary outdoor 2 digital scroll compressor discharge temp.
T7D'''	Auxiliary outdoor 3 digital scroll compressor discharge temp.
T7F1	Main fix-speed Compressor F1 discharge temp. Fix-speed
T7F1'	Auxiliary outdoor 1 fix-speed Compressor F1 discharge temp. Fix-speed
T7F1''	Auxiliary outdoor 2 fix-speed Compressor F1 discharge temp. Fix-speed
T7F1'''	Auxiliary outdoor 3 fix-speed Compressor F1 discharge temp. Fix-speed
T7F2	Main fix-speed Compressor F2 discharge temp.
T7F2'	Auxiliary 1 fix-speed Compressor F2 discharge temp.
T7F2''	Auxiliary 2 fix-speed Compressor F2 discharge temp.
T7F2'''	Auxiliary 3 fix-speed Compressor F2 discharge temp.



### Indoor electric control (take T2 as example)



**1—EXY (NET) — Net control socket**

X, Y, E of all air-conditioners are connected together in Bus to the X, Y, E of CCM.

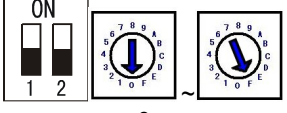
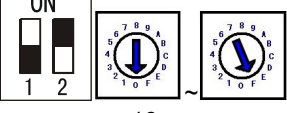
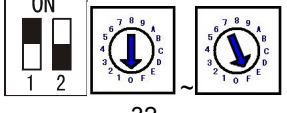
**2—CN15 (ENC2) — Number Setting port from outside**

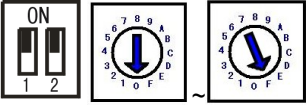
It has same function as ENC2 ((NUM\_S) — Number Setting (for outdoor), the difference is that it is suitable for some special indoor unit such as one-way cassette (compact), which has no enough space to operate ENC2 (NUM\_S) — Number Setting (for outdoor), so we support this port to extend Number Setting Switch outside.

**3—ENC2 (NUM\_S) — Number Setting (for outdoor)**

The present address setting has been put outside the electric control board for convenient setting. The range is 0-F. Before indoor units are power on, the address setting must be finished and the address setting of indoor units that match with the same outdoor unit can't be repeated, or it may cause compressor jumping-down, indoor EXV can't open, indoor fan motor jumping-down, and so on. After finishing address setting, indoor units must be power on again and address setting must be checked again to ensure no repeated setting. The checking method is as follows: press the button on the display board for 5 seconds, the display








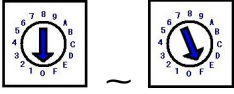
board will display address setting, continue to press for 5 seconds, the display board will display power setting. The setting is as follows:

Buzzer	Operation lamp	Timer lamp	Defrosting lamp	Alarm lamp	Communication Address	Indoor HP
Buzzer doesn't alarm	OFF	OFF	OFF	OFF	 0	0.8HP
	OFF	OFF	OFF	ON	1	1.0HP
	OFF	OFF	ON	OFF	2	1.2 HP
	OFF	OFF	ON	ON	3	1.5 HP
	OFF	ON	OFF	OFF	4	2 HP
	OFF	ON	OFF	ON	5	2.5 HP
	OFF	ON	ON	OFF	6	3 HP
	OFF	ON	ON	ON	7	3.2 HP
	ON	OFF	OFF	OFF	8	4 HP
	ON	OFF	OFF	ON	9	5 HP
	ON	OFF	ON	OFF	10	
	ON	OFF	ON	ON	11	
	ON	ON	OFF	OFF	12	
	ON	ON	OFF	ON	13	
	ON	ON	ON	OFF	14	
	ON	ON	ON	ON	15	
	OFF	OFF	OFF	OFF	 16	0.8 HP
	OFF	OFF	OFF	Flash	17	1.0 HP
	OFF	OFF	Flash	OFF	18	1.2 HP
	OFF	OFF	Flash	Flash	19	1.5 HP
	OFF	Flash	OFF	OFF	20	2 HP
	OFF	Flash	OFF	Flash	21	2.5 HP
	OFF	Flash	Flash	OFF	22	3 HP
	OFF	Flash	Flash	Flash	23	3.2 HP
	Flash	OFF	OFF	OFF	24	4 HP
	Flash	OFF	OFF	Flash	25	5 HP
	Flash	OFF	Flash	OFF	26	
	Flash	OFF	Flash	Flash	27	
	Flash	Flash	Flash	OFF	28	
	Flash	Flash	Flash	Flash	29	
	Flash	Flash	Flash	OFF	30	
Flash	Flash	Flash	Flash	31		
Buzzer alarm.	OFF	OFF	OFF	OFF	 32	0.8 HP
	OFF	OFF	OFF	ON	33	1.0 HP
	OFF	OFF	ON	OFF	34	1.2 HP
	OFF	OFF	ON	ON	35	1.5 HP
	OFF	ON	OFF	OFF	36	2 HP
	OFF	ON	OFF	ON	37	2.5 HP
	OFF	ON	ON	OFF	38	3 HP

	OFF	ON	ON	ON	39	3.2 HP
	ON	OFF	OFF	OFF	40	4 HP
	ON	OFF	OFF	ON	41	5 HP
	ON	OFF	ON	OFF	42	
	ON	OFF	ON	ON	43	
	ON	ON	OFF	OFF	44	
	ON	ON	OFF	ON	45	
	ON	ON	ON	OFF	46	
	ON	ON	ON	ON	47	
	OFF	OFF	OFF	OFF	 48	0.8 HP
	OFF	OFF	OFF	Flash	49	1.0 HP
	OFF	OFF	Flash	OFF	50	1.2 HP
	OFF	OFF	Flash	Flash	51	1.5 HP
	OFF	Flash	OFF	OFF	52	2 HP
	OFF	Flash	OFF	Flash	53	2.5 HP
	OFF	Flash	Flash	OFF	54	3 HP
	OFF	Flash	Flash	Flash	55	3.2 HP
	Flash	OFF	OFF	OFF	56	4 HP
	Flash	OFF	OFF	Flash	57	5 HP
	Flash	OFF	Flash	OFF	58	
	Flash	OFF	Flash	Flash	59	
	Flash	Flash	OFF	OFF	60	
	Flash	Flash	OFF	Flash	61	
	Flash	Flash	Flash	OFF	62	
	Flash	Flash	Flash	Flash	63	

**4—SW1 (0-15, 16-31, 32-47, 48-63) — Number Setting Switch (for outdoor)**

Match with NUM\_S.

Address Set		Address Code
		00 ~ 15
		16 ~ 31
		32 ~ 47
		48 ~ 63

**5—ENC1 (POWER\_S) — Power Setting**

The range is 0~9. In normal case, the power setting of indoor units has been set well.

The matching capacity of indoor units is as follows:

Power setting	Capacity of indoor units
0	0.8 (2200W)
1	1.0 (2800W)
2	1.2 (3600W)
3	1.7 (4500W)
4	2.0 (5600W)
5	2.5 (7100W)
6	3.0 (8000W)
7	3.2 (9000W)
8	4.0 (11200W)
9	5.0(14000W)

**6—CN9 — Communication port (COM)**

The indoor and outdoor units adopt RS-485 communication standard. P and Q is for communication and have polarity. E is shield layer and is connected to +5V on the display board to strengthen the anti-jamming ability of the communication wire. When the indoor and outdoor units can't communicate for 1 minute, it will display communication malfunction.

**7—CN10—Display board socket**

The display board in digital scroll system is just to display running conditions and malfunction information. The manual button is just to check the address code and power code of indoor units

**8—CN14—SWING**

**9—CN8 —Indoor EXV**

12V weak-electricity control. After the compressor starts, the EXV of the matching indoor units under ON mode will be open at certain opening-degree, and the EXV of the matching indoor units under OFF, standing-by, Fan mode or Mode confliction will be close.

When forced-cooling, all indoor EXV will be forced open.

The action of EXV can be seen from a 5-core or 6-core step-motor that is connected here to replace EXV.

**10—CN12—Auxiliary electric-heater, 220V AC.**

**11—CN1—Transformer input socket (TRANS IN), 220V strong-electricity.**

The power supply of 220V passes the fuse, anti-jamming inductance and PTC protector and then connects to the terminal in the PCB.

**12—N — Zero-wire output socket.**

Supply to indoor fan motor that needs separate zero-wire.

**13—CN13—SWING**

Output 220V. Use 220V in-phase swing-motor. The action is as same as CN14 step-motor.

**14—CN3—PUMP**

220V output. When indoor unit starts to cooling operation, the pump starts at once and running continue until stopping this mode. At any time, if the water-level in the water receiver raises to the position point of the water-level switch, that is, the water-level switch signal is cut down, the pump will start at once and forced running. If the water level falls to below the alarm water-level (the drain pump delay 1 minute to be off), operation recovers according to former setting mode. On the otherwise, after 3 minutes, indoor unit stops(including pump) and display water-level alarm signal, and indoor unit takes part in the whole system operation according to standing-by mode. When again checking the water-level alarm signal is off, the protection will be released and recover operation according to former setting.

**15—CN2—Power input 220V (L, N)**

**16—CN4—Indoor Fan output**

220V output. There are four relays in the electric control board and four-speed output (High/Middle/Low/breeze). The Low speed and Breeze speed have been short-connected, and the indoor breeze speed have been deleted, so even the relay of breeze speed suck-in, the indoor fan motor still operates in Low speed. That is, all indoor units have only three fan speeds, even operate in Low speed in heating anti-cooling and oil-return period

**17—CN11—Transformer output (TRANS OUT)**

12V AC output. Input 220V AC to transformer, then output 12V AC, and then input to the electric board. There are two commute filter circuits, one is 7805, output 5V to the chip, the other one is 7812, output 12V to 2003 and relays.

**18—CN5—Water-level switch (WATER)**

Disconnect when full of water and be close when water level recovers normal. For indoor units without water-level switch, this switch needs be short connected.

**19—CN7—Evaporator outlet temp. (T2B)**






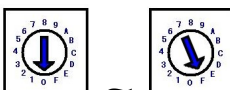

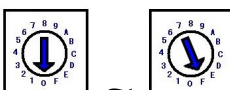
**20—CN6—T1, T2**

**21—S2 —Address Setting (for CCM)**

This setting presents the address relative to a CCM, match with S1 switch, the address range is 0-63, Before using a CCM to group control indoor units or using Midea Intelligent Network Air-Condition Control& Monitor System to control indoor units, the address setting must be finished and the address setting of indoor units that match with the same CCM can't be repeated.

**22—S1 —Address Setting Switch (for CCM)**

Match with S2 — Address Setting (for CCM), setting indoor unit address relative to a CCM.

Address Set		Address Code
		00 ~ 15
		16 ~ 31
		32 ~ 47
		48 ~ 63

**23—LED's for Intelligent A/C control and monitor system.**

From the left side:

LED1 (Run): When the AC communicated well with the NIM, it will be light; otherwise it will be extinguished. But when the system stayed in the remote controller lock mode and mode lock state, it will flash with frequency of 1Hz.

LED2 (Link):It will be light when there is any communication between the AC and Intelligent A/C control and monitor system including any receiving and sending the signal.

LED3 (ERR):It will flash with frequency of 1Hz when the communication malfunction occurs between the AC and Intelligent A/C control and monitor system or other malfunctions come from the NIM. It will extinguish in normality.

**Indoor LED Malfunction Code**

Display Contents	Explanation of Malfunction
All lamps are off	Standing-by
Operation lamp is on	ON
PRE./DEF. lamp is on	Anti-cooling or Defrosting
Timer lamp is on	Timer function is on
Timer lamp flashes	Indoor/outdoor communication malfunction
Operation lamp flashes	Indoors temp. Sensor abnormal
Alarm lamp flashes quickly	Water-level switch abnormal
DEF. Lamp flashes	Mode-confliction malfunction
Alarm lamp flashes slowly	Outdoor malfunction

## 2. Indoor Unit Central Control Monitor System

### 2.1 CCM03

Indoor CCM, max. 64 indoor units control. Single or all units query and control, such as ON/OFF/Mode setting/Temp. setting/Fan setting/Mode lock function, Blue background light, LCD display screen.



#### 2.1.1 Basic conditions of operating the electric controller:

(1) Applicable range of supply voltage:

Input voltage: Single-phase 198V ~ 242V;  
AC input power supply frequency: 50Hz/60Hz compatible.

(2) Operating environment temperature of electric controller: -15°C~+43°C.

Operating environment RH of electric controller: RH40%~RH90%.

#### 2.1.2 Function categories of electric controller

Functions of the electric controller:

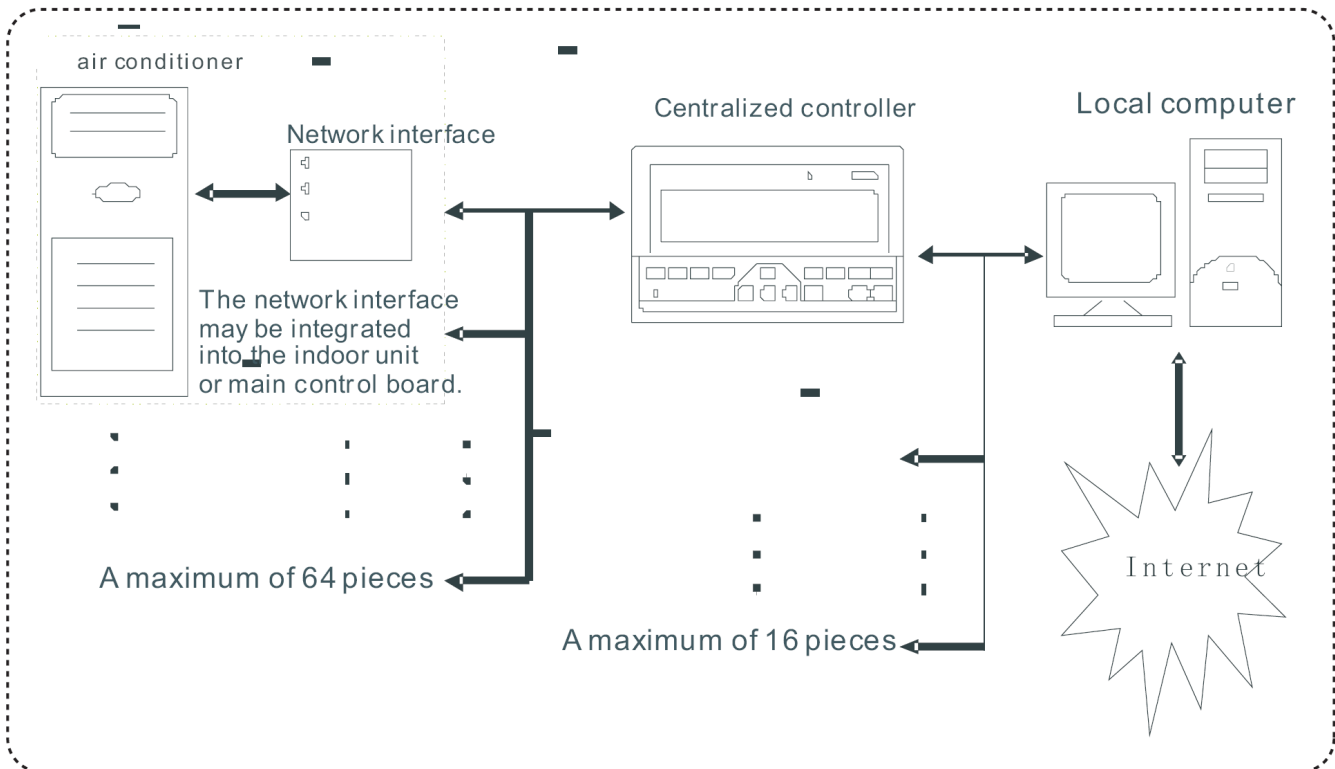
- (1) System composition
- (2) Keywords and general function description
- (3) Description of electric control functions of centralized controller
- (4) Technical indices and requirements

#### 2.1.3 Function description of each part

##### System composition:

1. The centralized controller is used to perform centralized control and data query for the network air conditioner. Each centralized controller can communicate with a maximum of 64 air conditioners to make up an air conditioner LAN, and implement centralized monitoring for the air conditioners in the network.
2. The centralized controller can be interfaced with computer or gateway to implement centralized control and status query for all air conditioners in the network. It can be connected with WAN via computer or gateway to implement remote computerized control (with support of computer software). Each local computer or gateway can be connected to 16 centralized controllers as a maximum.
3. The master/slave answer mode is implemented for communication between the centralized controller and the air conditioner, between the computer and the centralized controller. In the LAN composed of centralized controller and air conditioner, the centralized controller is a master, and the air conditioner is a slave. In the LAN composed of computer and centralized controller, the computer or gateway is a master, and the centralized controller is a slave.



**Schematic diagram of network control system composition of air conditioner:****Keywords and general function description****1. Power on or reset**

When the centralized controller is powered on or reset, all display segments of the LCD are luminous for 2 seconds and then goes off. 1 second later, the system enters the normal display status. The centralized controller is in the main page display status and displays the first page, and searches the in-service air conditioners in the network. Once the search is finished, the centralized controller enters the mode setting page, and sets the first in-service air conditioner by default.

**2. Network area address of centralized controller**

The local computer or gateway can be connected with 16 centralized controllers for communication. Each centralized controller serves as an area of the air conditioner network. The centralized controllers are differentiated by bit selection address. The configurable range is 0~15.

**3. State indication**

If any local keypad operation is setting the operation status of the air conditioner, the indicator is on when the signals are sent. Upon completion of the setting process, the indicator goes off. If an in-service air conditioner in the network is faulty, or the centralized controller network itself is faulty, the indicator will blink at 2Hz. If one or more in-service air conditioners in the network are running, including under setting of timing start/shutdown, the indicator will be luminous. Otherwise, the indicator is off.

**4. Locking of centralized controller**

After receiving the centralized controller locking command sent from the computer, the centralized controller disables the startup/shutdown and setting of the air conditioner, and sends commands to lock remote controllers of all air conditioners in the network of the centralized controller. After receiving the unlocking command, the centralized controller enables the startup/shutdown operation, and sends commands to unlock the remote controller of all air conditioners. The locking status of the remote controller can be locked or unlocked by the computer or centralized controller separately. The locking status of the centralized controller is memorized after power failure of the centralized controller, and will not vanish after the power supply is restored, unless the command of unlocking is received.

**5. Mode locking function**

After the mode locking command is received, the command is forwarded to the air conditioner, and the centralized controller displays the mode locking flag. After the command of unlocking is received, the non-conflict mode can be selected freely. The centralized controller can also lock modes of all indoor units.

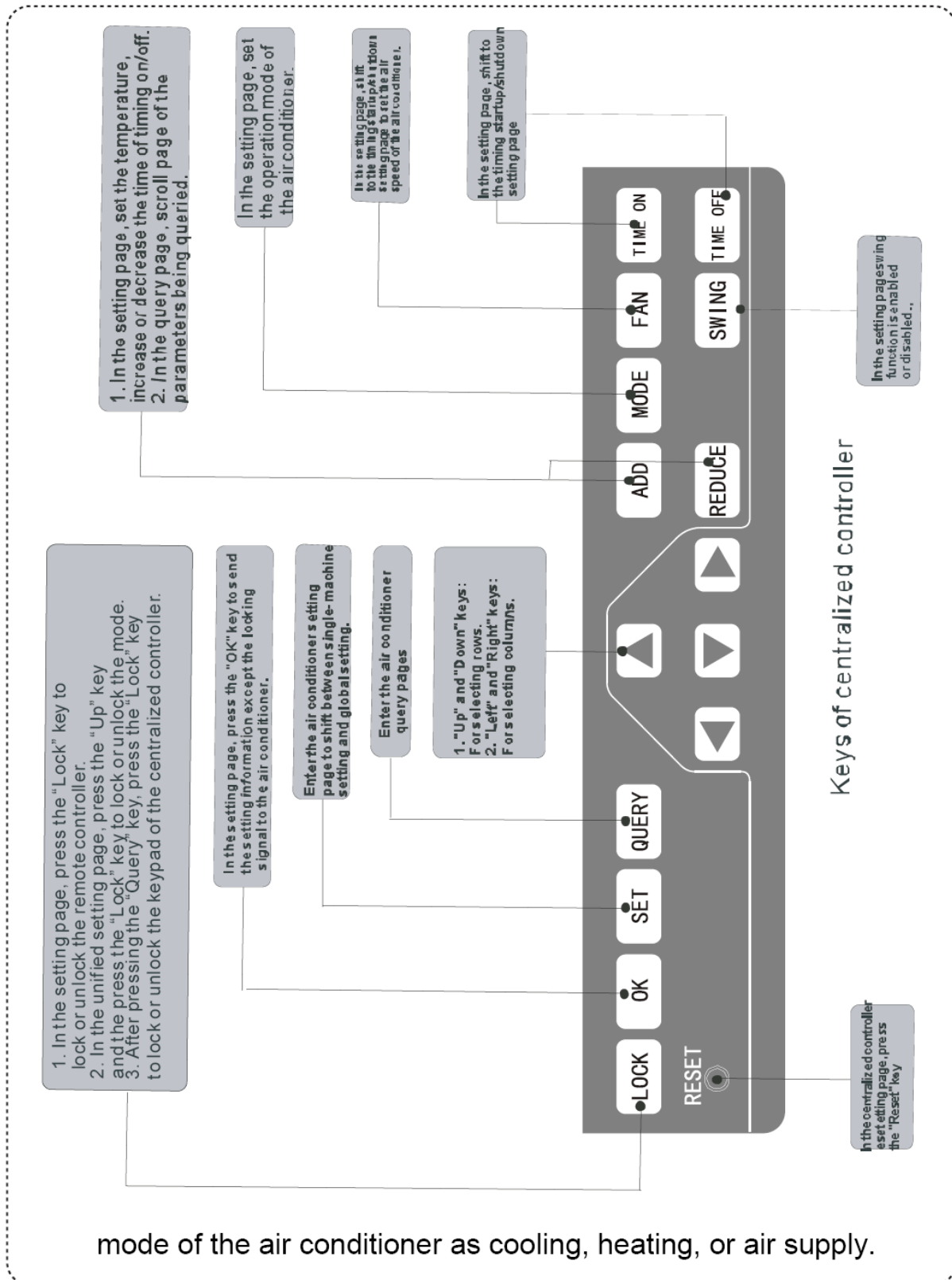
**6. Emergent shutdown and compulsory startup**

When the emergent shutdown switch of the centralized controller is turned on, all air conditioners in the network of the centralized controller will shut down compulsorily. The centralized controller and computer and all functional modules are disabled from startup and shutdown until the foregoing switch is turned off. When

the compulsory startup switch of the centralized controller is turned on, all air conditioners in the network of the centralized controller will start up compulsorily. By default, they will run in the cooling mode. The startup and shutdown operations of the centralized controller and the computer and all functional modules will be disabled (only the command of startup is sent to the air conditioner, without affecting operation of the remote controller after startup) until the foregoing switch is turned off. If the foregoing two switches are turned on concurrently, the emergent shutdown switch shall have preference.

**Electric controller function description**

**---Keypad operation description**



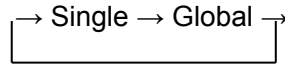


**1) Query key**

Any time when you press the key, the selected operation mode is to query the operation status of the air conditioner. By default, the first in-service air conditioner will be queried. Through the Increase and Decrease keys, you can change the parameter page to be queried; through the Up, Down, Left and Right keys, you can change to query status of other in-service air conditioners.

**2) Set key**

In other display mode, press the key to enter the setting mode. By default, it is single setting, and the first in-service air conditioner is displayed. In setting operation mode, press the key again, and the operation will be performed for all air conditioners in the network. Press the key repeatedly to shift between single setting and global setting.



**3) Mode key**

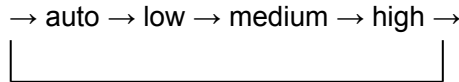
In setting operation mode, press this key to set the operation

→cooling → heating → supply air only → stop →

In other display mode, press the key to enter the setting mode. By default, it is single-machine setting, and the first in-service air conditioner is displayed.

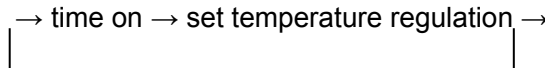
**4) Fan key**

In setting operation mode, press this key to set the fan of the indoor unit of the air conditioner to run in the automatic, high, medium or low level of air.



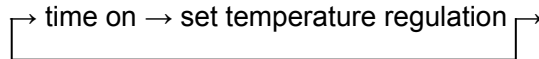
**5) Time on key**

In setting operation mode, press this key to set the timing startup of air conditioner; press the key again to exit the timing setting, and restore the normal temperature regulation operation mode.



**6) Time off key**

In setting operation mode, press this key to set the timing shutdown of air conditioner; press the key again to exit the timing setting, and restore the normal temperature regulation operation mode.



**7) Swing key**

In setting operation mode, press this key to enable or disable the swing function. If all currently selected air conditioners have no swing function, no effect will result after pressing the key.

**8) Leftward key**

In the query mode, every time when you press the key, the operation status data of the previous air conditioner will be displayed. If it is currently on the first machine, press the key again, and the data of the last machine will be displayed. If you hold down this key, the address will decrease one by one. In the setting mode, every time when you press the key, if it is in single operation mode, the air conditioner of the previous in-service address number will be selected. If it is in the global operation mode, no effect will result after the key is pressed. In the main page, press the key to enter the query mode. By default, it is the first in-service air conditioner.

**9) Rightward key**

In the query mode, every time when you press the key, the operation status data of the last air conditioner will be displayed. If it is currently on the last machine, press the key, and the data of the first machine will be displayed. If you hold down this key, the address will increase one by one. In the setting mode, every time when you press the key, if it is in the single operation mode, the air conditioner of the next in-service address number will be selected. If it is in the global operation mode, no effect will result after the key is pressed. In the main page, press the key to enter the query mode. By default, it is the first in-service air conditioner.

**10) Downward key**

In the query mode, every time when you press the key, the operation status data of the air conditioner corresponding to the next row of the matrix will be displayed. If it is currently in the last row, press the key, and the data of the air conditioner corresponding to the first row will be displayed. If you hold down this key, the row will increase one by one. In the setting mode, every time when you press the key, if it is in the single operation mode, the air conditioner corresponding to the last row will be selected. If it is in the global operation mode, no effect will result after the key is pressed. In the main page, press the key to enter the

query mode. By default, it is the first in-service air conditioner.

### 11) Upward key

In the query mode, every time when you press the key, the operation status data of the air conditioner corresponding to the previous row of the matrix will be displayed. If it is currently in the first row, press the key, and the data of the air conditioner corresponding to the last row will be displayed. If you hold down this key, the row will decrease one by one. In the setting mode, every time when you press the key, if it is in the single operation mode, the air conditioner corresponding to the previous row will be selected. If it is in the global operation mode, no effect will result after the key is pressed. In the main page, press the key to enter the query mode. By default, it is the first in-service air conditioner.

### 12) Add key

In the main page or the query mode, every time when you press the key, the data of the last page will be displayed. If it is now in the last page, press the key again, and the first page will be displayed. In the setting mode, every time when you press the key, if it is in the temperature regulation mode, the set temperature will decrease by 1 °C until the highest allowed set temperature; if it is in the timing startup/shutdown time setting mode, select the upper-level set time, if no time is set, 0.0 will be displayed, if you hold down the key, the upper-level data will be selected consecutively. The specific change mode is as follows:

0.0→0.5→1.0→1.5→2.0→2.5→3.0→3.5→4.0→4.5→5.0→5.5→6.0→6.5→7.0

→7.5→8.0→8.5→9.0→9.5→10→11→12→13→14→15→16→17→18→19

→20→21→22→23→24

### 13) Reduce key

In the main page or the query mode, every time when you press a key, the data of the current page will be displayed. If it is now in the first page, press the key again, and the last page will be displayed. In the setting mode, every time when you press the key, if it is in the temperature regulation mode, the set temperature will decrease by 1 degree until the lowest allowed set temperature; if it is in the timing startup/shutdown time setting mode, select the upper-level set time, if no time is set, 0.0 will be displayed, if you hold down the key, the upper-level data will be selected consecutively. The specific change mode is as follows:

0.0←.5←1.0←1.5←2.0←2.5←3.0←3.5←4.0←4.5←5.0←5.5←6.0←6.5←

7.0←7.5←8.0←8.5←9.0←9.5←10←11←12←13←14←15←16←17←

18←19←20←21←22←23←24

### 14) ON/OFF key

Any time when you press the key, the centralized startup/shutdown operation is performed for all current in-service air conditioners in the centralized controller network. If all in-service air conditioners in the network are in the power-off status, press the key to perform the startup operation. If it is in the mode setting page currently, and the parameters such as startup mode, temperature and air speed are selected, the air conditioner will be started according to the selected parameters. If no mode is selected currently, and the air conditioner is powered off or it is in other display page currently, and the default startup mode is: Cooling, strong air, set temperature 24°C, swing function enabled. The default startup mode is locked according to the system mode or judged according to other constraint conditions. If any conflict exists, the next conflict-free mode will apply automatically. If conflict exists for all modes, startup will be impossible. If one or more in-service air conditioners in the network (including in the timing process of timing startup/shutdown), pressing this key will shut down all air conditioners. When performing the shutdown operation, the shutdown command is issued to the air conditioners in the startup status only, and is not issued to those in the shutdown status.

### 15) Lock key

In the mode setting mode, press the Lock key, and the remote controller of the currently selected air conditioner will be locked/unlocked. The operation mode is: If you select single-machine setting, the operation is performed for the air conditioner of the current address only. If the remote controller of the air conditioner is locked currently, issue the lock command; otherwise, send the lock command. If you does not select the single-machine mode, and the remote controller of one or more currently selected air conditioners is locked, issue the unlock command; if the remote controllers of all currently selected air conditioners are in the non-locked status, issue the remote controller lock command. When the remote controller of the air conditioner is locked, the air conditioner does not receive remote control signals from the remote controller or wire controller until the remote controller is unlocked. Press the Query key and then press the Lock key, and the keys of the centralized controller will be locked or unlocked. If the keys are currently locked, press the foregoing keys concurrently again, and the keys will be unlocked; if the keys are currently unlocked, press the foregoing keys

concurrently, and the keys will be locked. If the keys are locked, pressing of any key other than the Unlock key will be ineffective. In the unified setting page, press the Up key and the Lock key concurrently to lock all air conditioner modules in the network. The mode locking is cancelled when the key is pressed again. Note: When you lock or cancel locking, the corresponding icon indication appears or disappears only after all the attached air conditioners are set completely, so it takes a time period. When the number of attached air conditioners is high, wait patiently.

#### **16) Confirmation key**

In the setting mode, press the key to send the currently selected mode status and the auxiliary function status to the selected air conditioner, and display the mode setting operation results. After you select the operation mode and auxiliary function status information of the air conditioner, if you do not press the confirmation key, the selected information will not be sent to the air conditioner, and will not affect the current operation of the air conditioner. The operations of remote controller locking and unlocking need no pressing of the confirmation key. The command information is sent directly after the locking key is pressed.

#### **17) Reset key**

Anytime when the reset key is pressed, the centralized controller will reset. The result is the same as the result of restoring power-on after power failure.

### **General display data entries:**

#### **1) General display data is displayed in all display pages.**

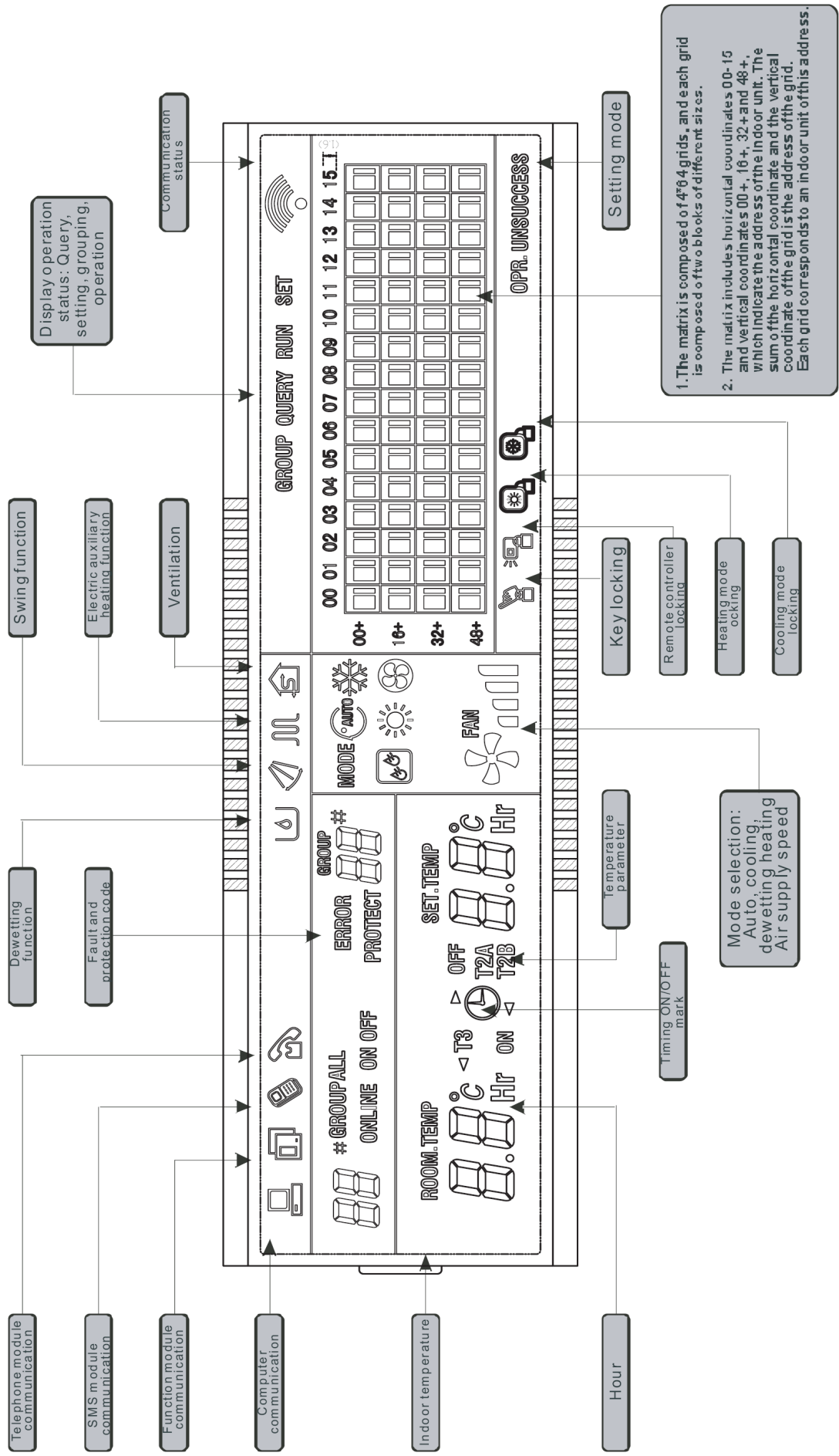
- a. Under the interconnected control of the computer or gateway, the data is displayed in graphic. Otherwise, no data is displayed.
- b. If the centralized controller is connected with the functional module for communication, the data is displayed in graphics. Otherwise, no data is displayed.
- c. If the centralized controller is connected with the SMS remote control module for communication, the data is displayed in graphics. Otherwise, no data is displayed.
- d. If the centralized controller is connected with the telephone remote control module for communication, the data is displayed in graphics. Otherwise, no data is displayed.
- e. In normal operation of the centralized controller, the periodical cycle module communicates with the network interface module, and the data is displayed dynamically and cyclically (blank).
- f. In the centralized control locked status or the keypad locked status, the locking flag is displayed. After unlocking, it is not displayed. In the centralized controller locked status, the flag blinks at 0.5Hz; in the keypad locked status, the flag is displayed constantly. If both of them are locked concurrently, the flag is displayed constantly.
- g. In the setting page, if the selected air conditioner is in the remote controller locked status (in case of non-single machine operation, as long as one machine is in the remote controller locked status, it is deemed the locked status), the flag is displayed constantly.
- h. If all indoor units lock the cooling mode, this flag will display; if all indoor units lock the heating mode, this flag will display.

#### **2) Data display handling**

1. Indoor unit code (address) display: Display range: 00~63; with “#” being luminous concurrently.
2. Indoor temperature display: Display range: 00~99°C. “°C” and “indoor temperature” are displayed concurrently. If the temperature is higher than 99°C, “\_99°C” is displayed. If the temperature value is invalid, “\_” is displayed.
3. If timing startup/shutdown is set, the flag is displayed.
4. T3, T2A and T2B display: In the single-machine query page, display can shift between “T3”, “T2A” and “T2B”, and the temperature value is displayed concurrently, with the corresponding “°C” being luminous.
5. In case of air conditioner fault or protection, the corresponding fault code or protection code can be displayed.

6. Liquid crystal matrix display description:

# Full display of LCD

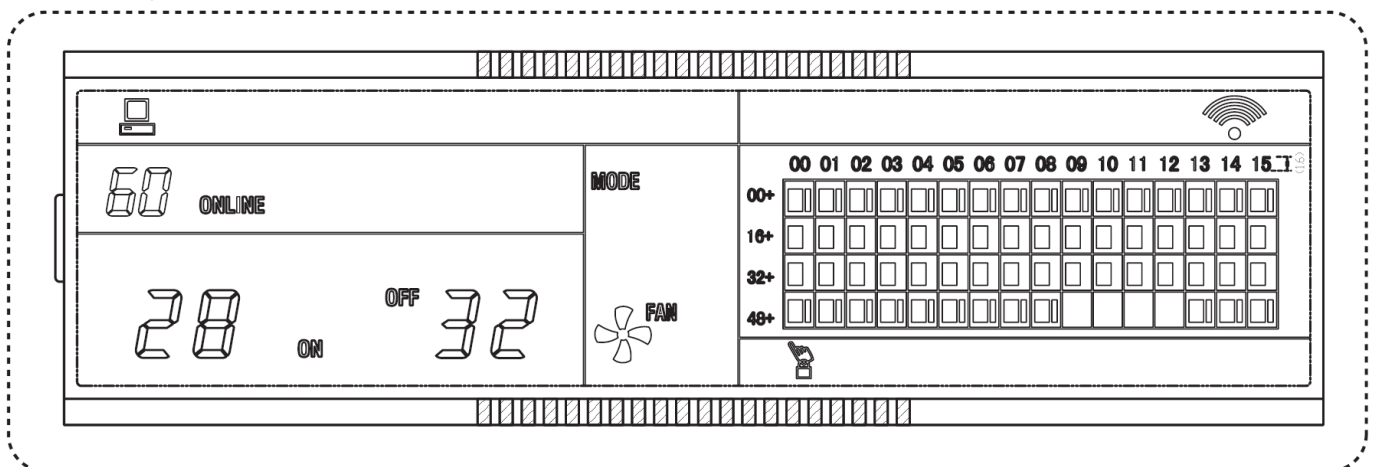




1. The liquid crystal matrix is composed of 4\*64 grids, and each grid is composed of two blocks of different sizes (as shown in the above figure).
2. The matrix includes horizontal coordinates 00-15 on the upper side and vertical coordinates 00+, 16+, 32+ and 48+ on the left side, which indicate the address of the indoor unit. The sum of the horizontal coordinate and the vertical coordinate of the grid is the address of the grid. Each grid corresponds to an indoor unit of this address.
3. One grid is composed of two blocks of different sizes. The status indication table is as follows:

Status Object	Constantly on	Slow blink		Fast blink
Big black block	In-service	Selected		Out of service
Small black block	Power on		Fault of indoor unit	Power off

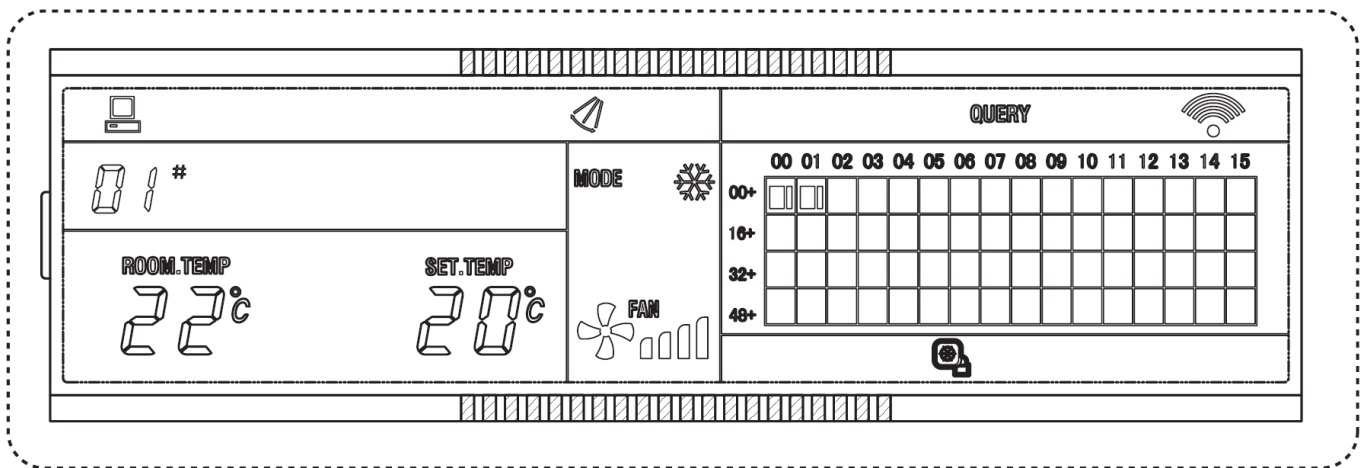
**LCD display description**



**1. Description of the standby page**

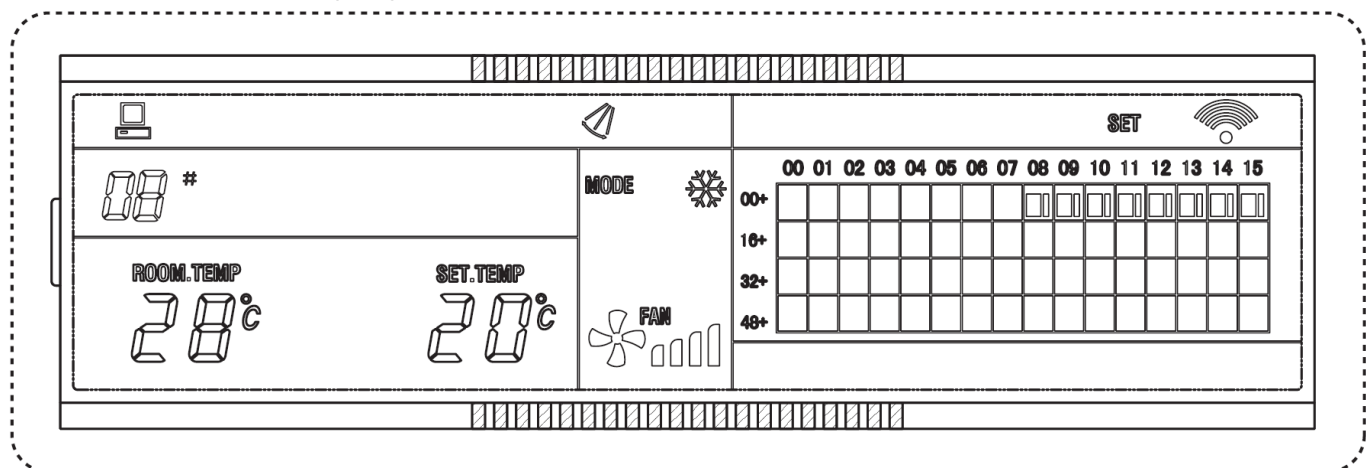
- 1) The LCD displays the standby page, 60 air conditioners are in service, of which 28 are powered on and 32 off.
- 2) In the matrix, the big dots of (00, 16+) and (15,32+) are luminous, and the small dots are not luminous. It indicates the 32 air conditioners with the addresses from 16 to 47 are powered off.
- 3) In the matrix, the big and small dots of (09, 48+) and (12, 48+) are not luminous. It indicates the four air conditioners with the addresses from 57 to 60 are outside the network.
- 4) All other big and small dots in the matrix are luminous. It indicates all other air conditioners are in the network and powered on.
- 5) The address of the air conditioner is sum of the coordinates. For example, the address of (09, 48+) is 09+48=57.
- 6) The centralized controller keypad is locked, and the centralized controller communicates with the computer normally.

**2. Description of the query page**



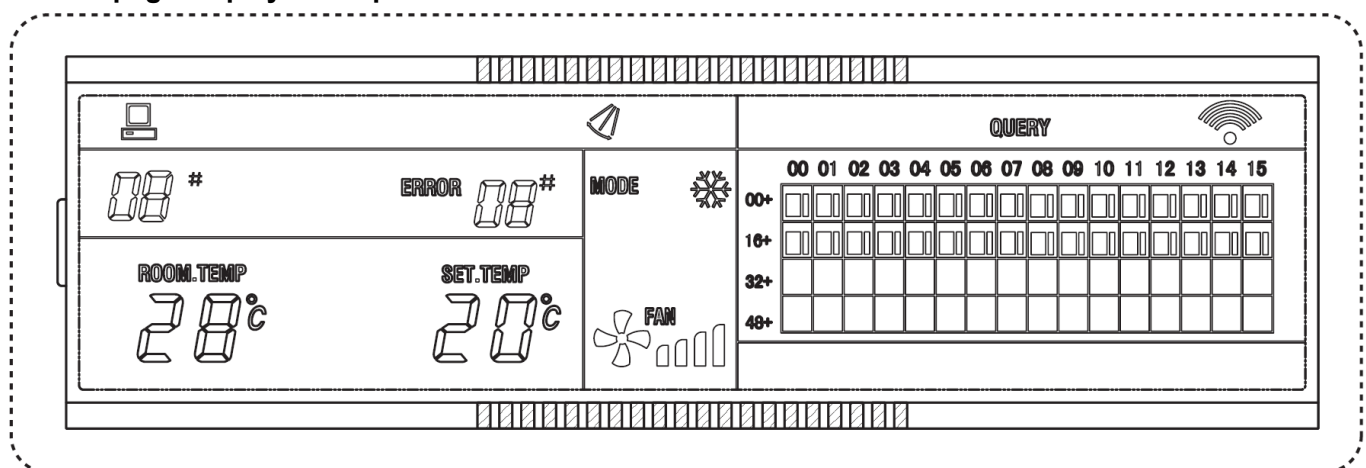
- 1) The LCD displays the query page, and the air conditioner with the address of 08 is being queried. Mode of the air conditioner with the address 01 is: Cooling, strong air, swing on, indoor temperature 22°C, set temperature 20°C, cooling mode “lock”.
- 2) In the matrix, only the big and small black dots at (00, 00+) and (01,00+) are luminous. It indicates the in-service and power-on status of the air conditioners with the addresses of 00 and 01.
- 3) The centralized controller communicates with the computer normally.

**3. Description of the setting page**



- 1) The LCD displays the setting page, and queries the air conditioner with the address of 08. The mode of the air conditioner with the address 08 is: Cooling, strong air, swing on, indoor temperature 28°C, set temperature 22°C, cooling.
- 2) In the matrix, only the big black dots from (08, 00+) to (16, 00+) are luminous. It indicates the air conditioners with the addresses from 08 to 16 are in service.
- 3) The centralized controller communicates with the computer normally.

**4. Fault page display description**



- 1) Query the air conditioner with the address of 08 in the query page. The air conditioner with the address of 08 is faulty, and the fault code is 08. The big black dot below (08, 0+) blinks.
- 2) In the matrix, only the big and small black dots from (00, 00+) to (16, 15+) illuminate. It indicates the in-service status of the air conditioners with the addresses of 00 and 01.
- 3) The centralized controller communicates with the computer normally.

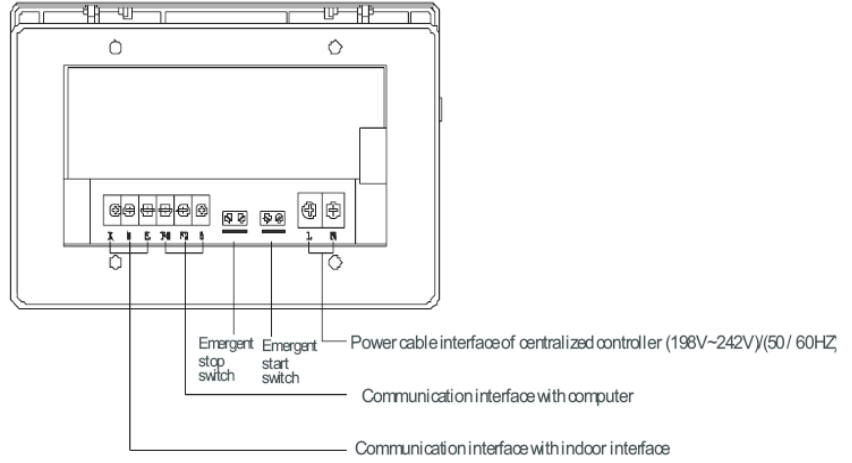
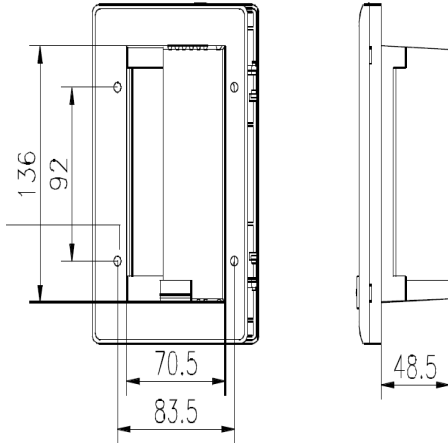
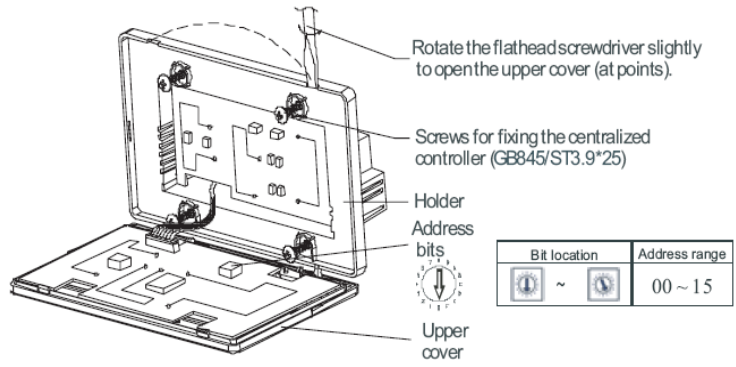
**Fault and protection code table:**

Fault code	Fault content
EF	Other faults
EE	Water level detection faults
ED	Outdoor unit fault protection
EC	Cleaning fault
EB	Inverter module protection
EA	Over-current of compressor (4 times)
E9	Fault of communication between main board and display board
E8	Air speed detection out of control
E7	EEPROM error
E6	Zero crossing detection error
E5	T3 or T4 or digital compressor discharge temperature sensor fault
E4	T2B sensor fault
E3	T2A sensor fault
E2	T1 sensor fault
E1	Communication fault
E0	Phase order error or phase loss
07#	
06#	
05#	
04#	
03#	
02#	
01#	Fault of communication between centralized controller and computer (gateway)
00#	Fault of communication between centralized controller and functional module
	Fault of communication between centralized controller and network interface module
	Fault of communication between network interface module and main control board
PF	Other protection
PE	Reserved
PD	Reserved
PC	Reserved
PB	Reserved
PA	Reserved
P9	Reserved
P8	Over-current of compressor
P7	Power supply over-voltage and under-voltage protection
P6	Discharge low pressure protection
P5	Discharge high pressure protection
P4	Discharge pipe temperature protection
P3	Compressor temperature protection
P2	Condenser high-temperature protection
P1	Anti cool air or defrost protection
P0	Evaporator temperature protection

**Technical indices and requirements:**

1. EMC and EMI comply with the CE certification requirements.
2. The electric safety complies with the requirements of GB4706.32-2004 and GB/T7725-2004.

**Dimension:**

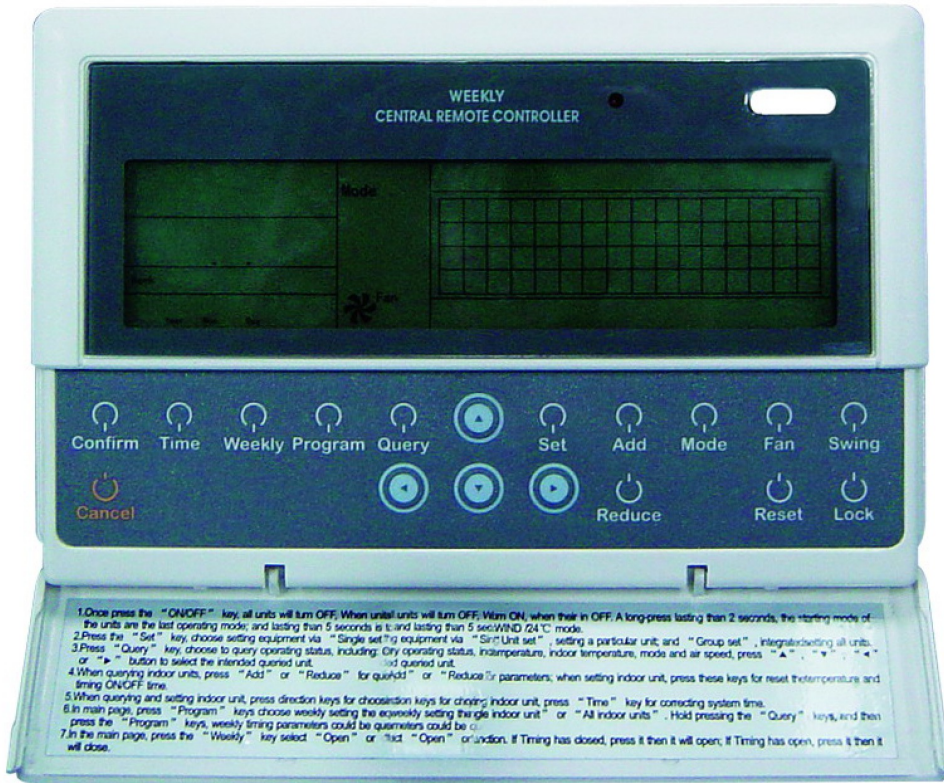




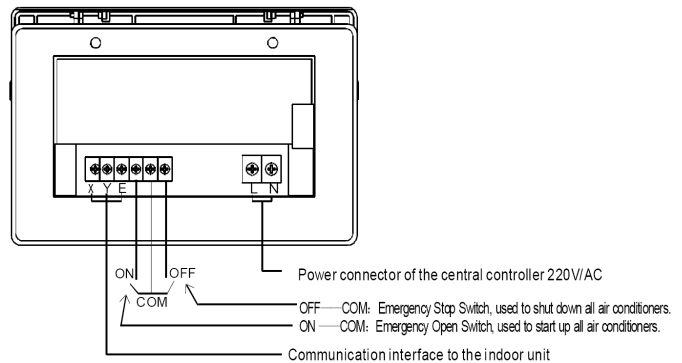
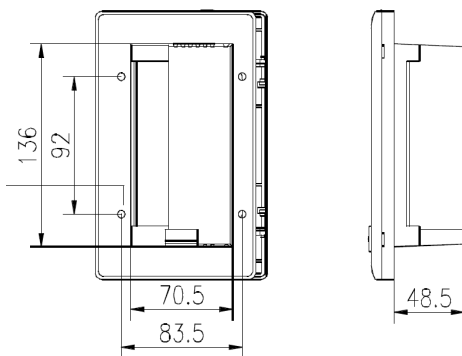
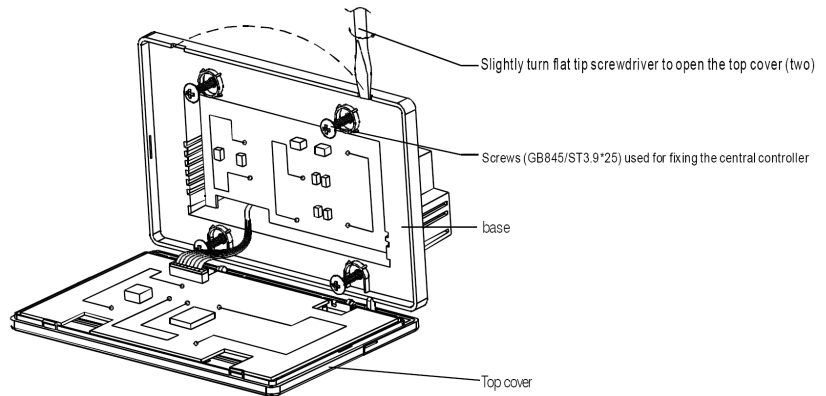
**CCM09:**

Designed base on the CCM03, max. 64 indoor units control, weekly schedule timer function.

Note: It can't be connected to the network control system.

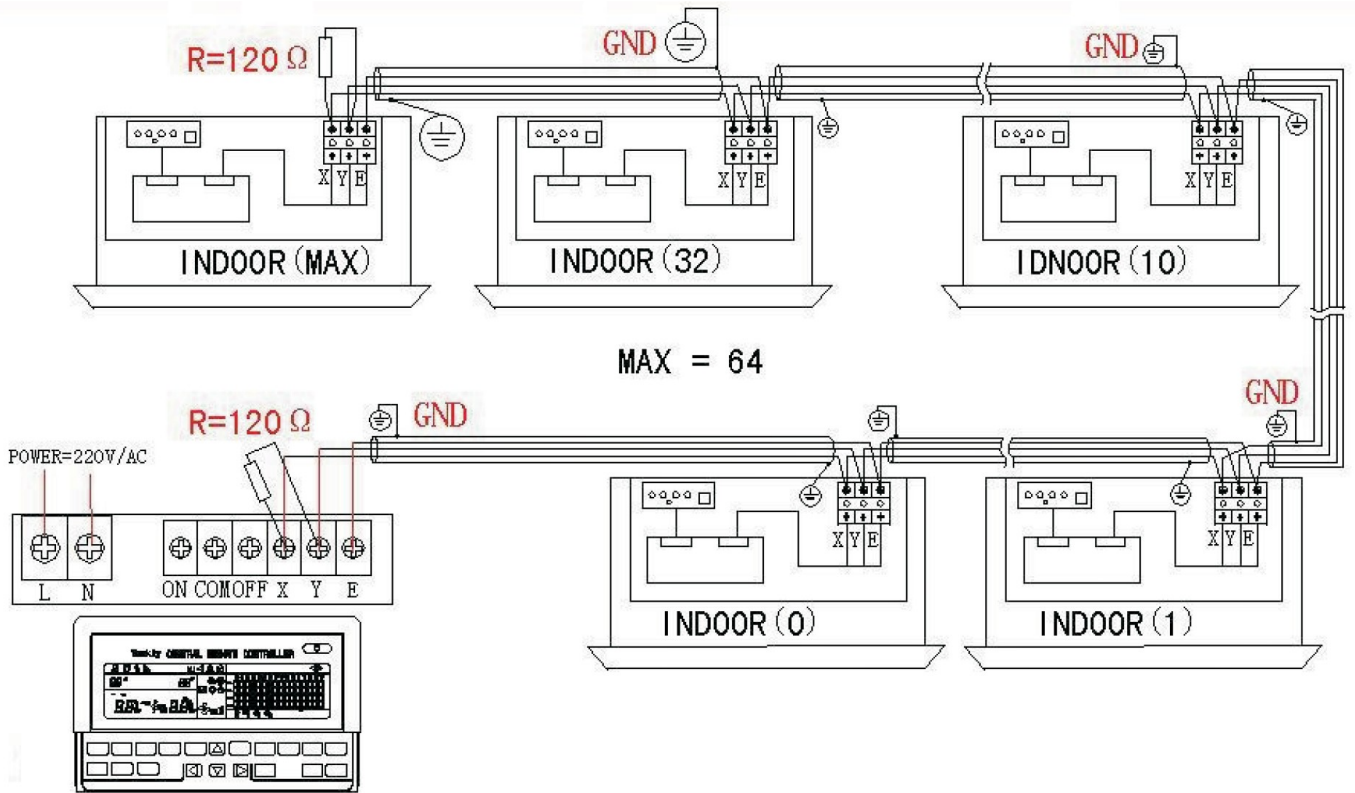


**Dimension:**

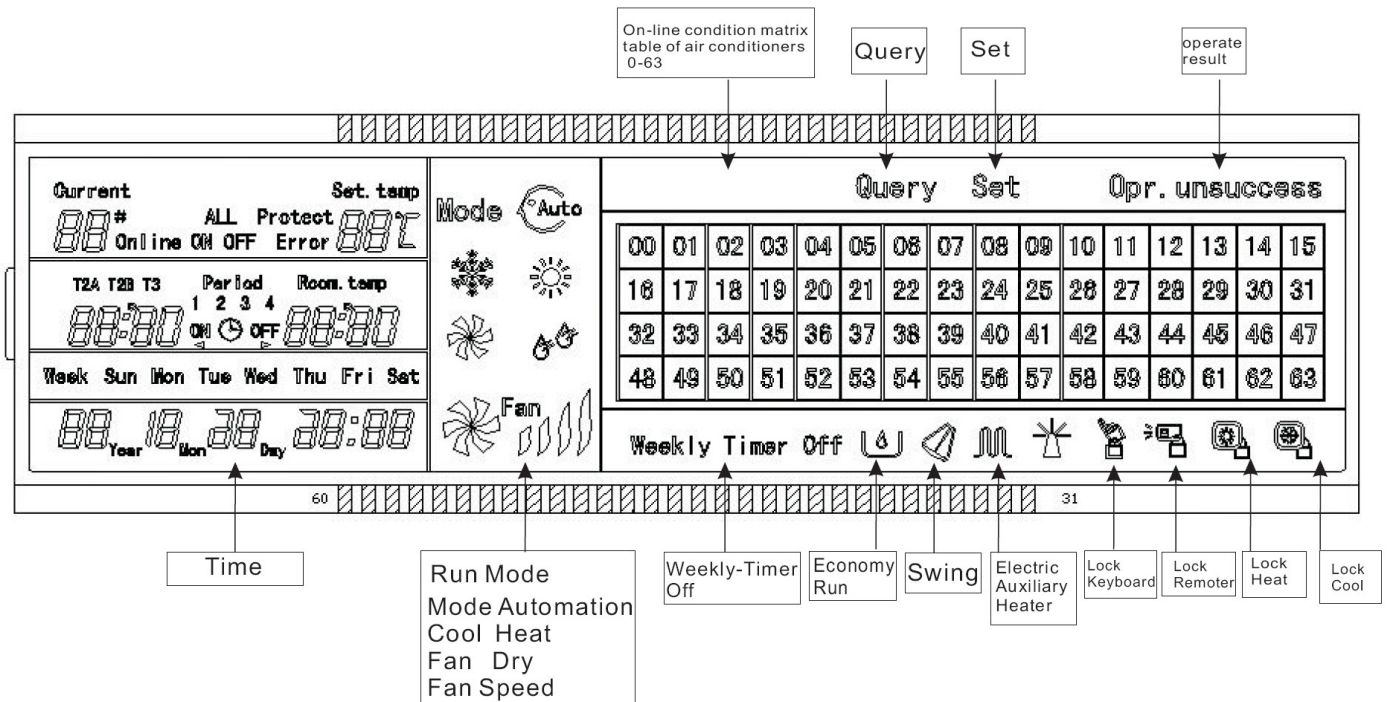


**Installation Method:**

Connecting diagram of network-based air conditioning system (There are two types of indoor units, namely indoor unit with external network interface module on the main control board or built-in network interface module in the main control board.)



**General drawing of the liquid crystal display of the weekly-timer central controller:**

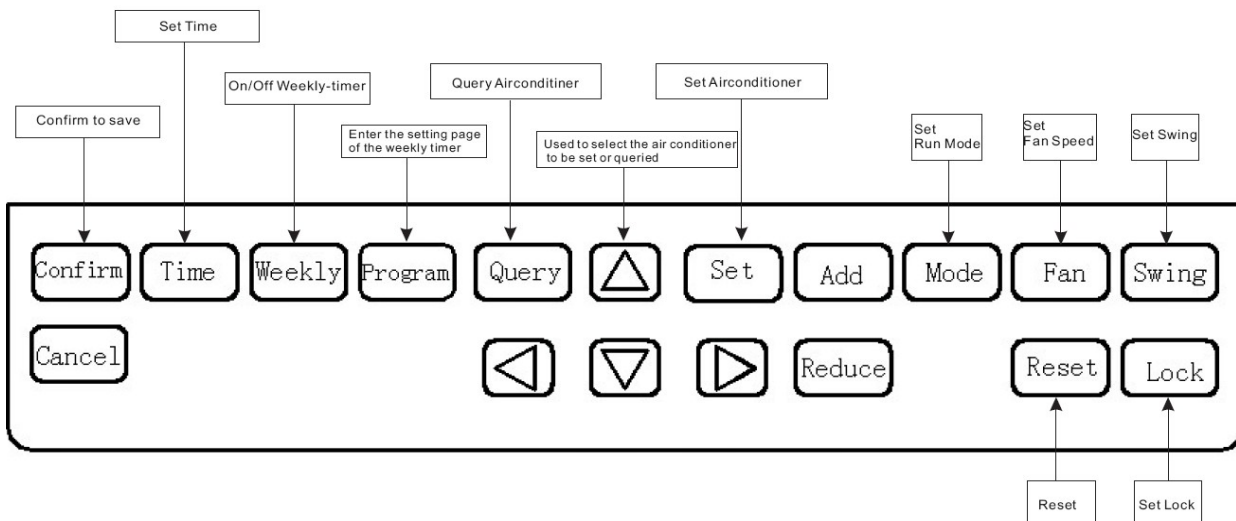


**LCD icon description of the weekly-timer central controller:**




















Icon	Meaning	Icon	Meaning
	Automation Mode		Fan Only Mode
	Cool Mode		Dry Mode
	Heat Mode		Fan Speed High/Middle/Low
	Electric Auxiliary Heater		Lock Heat
	Lock Cool		Lock Remoter
	Lock Keyboard	<b>Set</b>	Setting
<b>Query</b>	Querying	<b>Opr. unsuccess</b>	Operate Result
<b>Weekly Timer Off</b>	Weely Timer Off	<b>ALL</b>	All
<b>Online</b>	Online	<b>Protect</b>	Protecting
<b>Error</b>	Error	<b>Set. temp</b>	Set Temperature
<b>Period 1 2 3 4</b>	Period1、2、3、4	<b>Room. temp</b>	Room Temperature
<b>T2A T2B T3</b>	T2A Indoor pipe Temperature A T2B Indoor pipe Temperature B T3 Outdoor pipe Temperature	<b>Mon</b>	Monday
<b>Tue</b>	Tuesday	<b>Wed</b>	Wednesday
<b>Thu</b>	Thursday	<b>Fri</b>	Friday
<b>Sat</b>	Saturday	<b>Sun</b>	Sunday

**Key description of the weekly-timer central controller:**

General Key layout of the weekly-timer central controller:



## Key instructions of the weekly-timer central controller:

Key Name	Usage
	Press the ON/OFF button. All air conditioners will be shut down if they are running; on the contrary, they will be started up. If you press the button for less than 5 seconds, the startup mode is the last running mode of the air conditioner. If you press the button for more than 5 seconds, the startup mode is cooling, high Speed, 24 degrees.
	Press the "SET" button, and then select "set single" or "set all". "set single" indicates to set the parameter (such as mode/ temperature/Fan speed/ weekly timer) of an selected air conditioner. "set all" indicates to set the parameter of all air conditioners controlled by the central controller.
	Press the "query" button to query the running condition of the air conditioner, such as on/off, temperature setting, indoor temperature, running mode and Fan speed. Press "up", "down", "Left" and "right" to select the air conditioner that you want to query.
	When querying or setting the indoor unit, press the "up" to select the indoor unit to be set or queried.
	When querying or setting the indoor unit, press "down" to select the indoor unit that you want to set or query.
	When querying or setting the indoor unit, press "Left" to select the indoor unit to be set or queried. In setting the weekly timer, it is used for selecting the day of the week and the time of startup and shutdown.
	When querying or setting the indoor unit, press "right" to select the indoor unit to be set or queried. In setting the weekly timer, it is used for selecting the day of the week and the time of startup and shutdown.
	When querying the indoor unit, press the "Add" button to query more parameter of the indoor unit. In setting the indoor unit, it is for modifying the setting temperature. In setting the weekly timer, it is for modifying the time of startup and shutdown.
	When querying the indoor unit, press the "Reduce" button to query more parameter of the indoor unit. In setting the indoor unit, it is for modifying the setting temperature. In setting the weekly timer, it is for modifying the time of startup and shutdown.
	In setting the indoor unit, it is used for setting the running mode of the indoor unit which includes Automation, Cool, Heat, Fan Only, Dry and Off. You can select among them.
	In setting the indoor unit, it is for setting the wind speed of the indoor unit which includes high speed, middle speed, low speed and automatic speed. You can select among them.
	In setting the indoor unit, it is for setting the swing-function of the indoor unit. The running mode is selected between "swing-on" and "swing-off".
	When setting, press the "Lock" button to lock the remote controller of all or single indoor unit. Press the "Query" button and hold under the main page, then repress the "Lock" button again to lock the keyboard of the central controller; press the "Mode" button and then repress the "Lock" button to lock the running mode.
	The central controller re-scans the indoor unit in the network as recharging after power off.
	Under the main page, press the "Program" button to set the weekly timer of "single indoor unit" or "all indoor units". Press the "Query" button and hold, and then press the "Program" button to query the weekly timer parameters of the indoor unit.
	Under the main page, press the "Weekly" button to start up or shut down the weekly timer function. .
	Under the main page, press the "Time" button for 5 seconds to enter the time-modifying status, and then press "Add" or "Reduce" button to modify the time. Press "Left" or "Right" to select minute/ hour/ day/ month/ year. Finally, press the "Confirm" button to save the modification.
	Save data and send the command required to the indoor unit, such as setting the mode of the air conditioner.
	Cancel the last operation and return to the last interface.

**2-1 Query Button**

Push it to enter into the query state.

**2-2 Previous Button**

On the query state, push it to query in default the running states of other online air-conditioners.

**2-3 Next Button**

On the query state, push it to query in default the running states of other online air-conditioners.

**2-4 Page Up Button**

Pushing the Page Up button when choosing a online air-conditioner on the query state can display the parameters in previous page, and this can be cycled.

**2-5 Page Down Button**

Pushing the Page Down button when choosing a online air-conditioner on the query state can display the parameters in next page, and this can be cycled.

**2-6 Set Button**

Press Set button enter into Set Page.

**2-7 Mode Button**

Pressing OK button to enter into Mode Set, and select circularly between Forced Cooling and OFF state.

**2-8 OK Button**

Pressing OK button to confirm all setting and send to the corresponding air-conditioners.

**2-9 Lock Button**

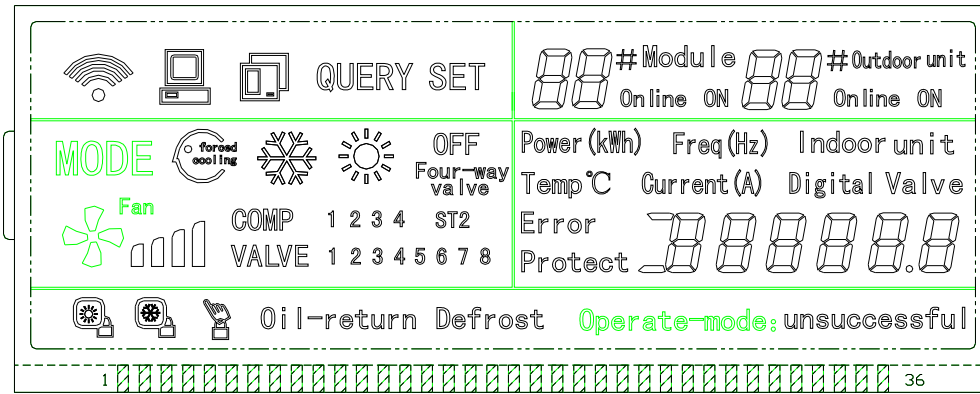
All the other button will not be on controlled anytime when pushing the button, and unlock happens when push it again.

**2-10 Address Set Button**

In Set page, pressing the Set button repeatedly, the address will be increased one by one. When the address is equal 31 and you press once more, the address will restart from 16.



3) Data



3-1 Common Display Data:

3-1-1 Figure means CCM is sending query order.

3-1-2 Figure means CCM is in communication with PC, and it will be off in 20 seconds with no communication.

3-1-3 Figure means CCM is in communication connection with outdoor unit, and it will be off in 20 seconds with no communication.

3-1-4 Press the OK button in setting page and waiting for 4 seconds, "success" or "fail" will be shown in the operation state area.

3-2 Stand-by Page Display:

3-2-1 Figure means the total number of online modules

3-2-2 Figure means the total number of online units

3-2-3 Stand-by Page can display the address of CCM with the address format of "Addr XX", here "XX" equals the real address of CCM plus 16, so the range of "XX" is 16-31.

3-3 Query Page Display:

3-3-1 Query Page Display the symbol of query

3-3-2 Displaying the address of selected outdoor unit with and

3-3-3 Mode display : means cool, means heat, OFF means shut off, means locked cool, means locked heat.

3-3-4 Fan Speed Display: means low speed, means middle speed, means high speed.

3-3-5 Compressor State Display: "COMP. 1 2 3 4 5 6"

3-3-6 Electromagnetism Valve Display: "EMV. 1 2 3 4 5 6"  
"4-ways valve"

3-3-7 4-Way Valve Display ST2

3-3-8 Defrost Display: "Defrost"

3-3-9 Oil Return Display: "OIL RETURN"

3-3-10 Page 0 displays the consumption of electric energy with "ELECTRIC ENERGY Kwh" and the number.

3-3-11 Page 1 displays the input power frequency with "Frequency Hz" and the number.

3-3-12 Page 2 displays the total number of indoor units.

3-3-13 Page 3 displays the temperature symbol T3 with "TEMP. °C", "T3" and the number.

3-3-14 Page 4 displays the temperature symbol T4 with "TEMP. °C", "T4" and the number.

3-3-15 Page 5 displays the temperature symbol T6 with "TEMP. °C", "T6" and the number.

3-3-16 Page 6 displays the discharge temperature of compressor symbol C1 with "TEMP. °C", "C1" and the number.

3-3-17 Page 7 displays the discharge temperature of compressor symbol C2 with "TEMP. °C", "C2" and the number.

3-3-18 Page 8 displays the discharge temperature of compressor symbol C3 with "TEMP. °C", "C3" and the number.

number.

**3-3-19** Page 9 displays the compressor current symbol 1 with “CURRENT A”, “1” and the number.

**3-3-20** Page 10 displays the compressor current symbol 2 with “CURRENT A”, “2” and the number.

**3-3-21** Page 11 displays the compressor current symbol 3 with “CURRENT A”, “3” and the number.

**3-3-22** Page 12 displays the digital capacity with “DIGITAL CAPACITY” and the number.

**3-3-23** Page 13 displays the openness of electromagnetism valve symbol 1 with “VALVE OPENNESS”, “1” and the number.

**3-3-24** Page 14 displays the openness of electromagnetism valve symbol 2 with “VALVE OPENNESS”, “2” and the number.

**3-3-25** Page 15 displays the most advanced malfunction with “MALFUNCTION” and the code.

**3-3-26** Page 16 displays the most advanced protection with “PROTECTION” and the code.


**NOTE:**

The page will increase or decrease by 1 every time you press “PAGE UP” or “PAGE DOWN”.

Select the online outdoor unit by push the “previous” or “next” freely.

**3-4 SET PAGE DISPLAY:**

**3-4-1** Set Page Displays” Set”

**3-4-2** Mode display: Pressing MODE button to enter into MODE set, and select circularly between Forced Cooling  and OFF state.

**3-4-3** Set page displays the address of selected outdoor units and module.

**3-4-4** Pressing OK button to confirm all setting and send to the corresponding air-conditioners.

**3-4-5** “Successful” or “Unsuccessful” shown in the operation state area indicates whether the transmission is confirmed or not.

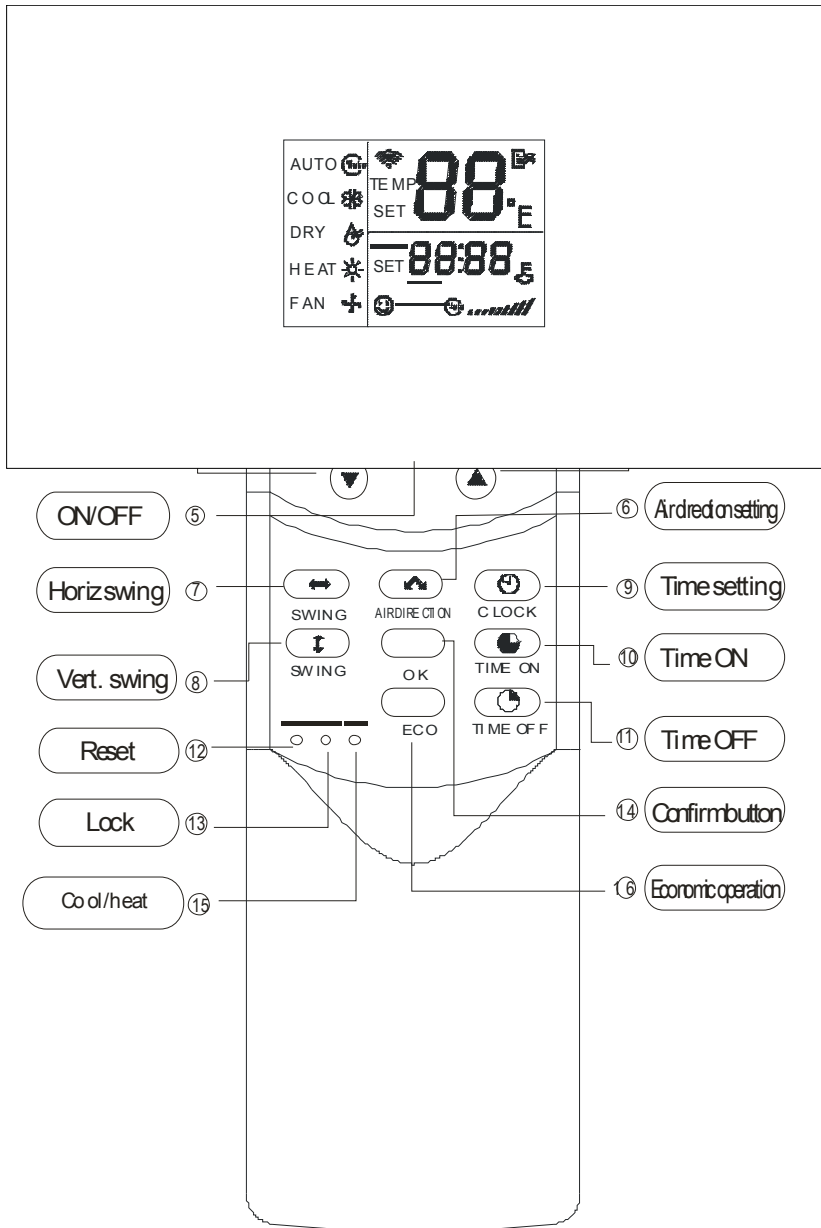
**4) Malfunction and Protection Code Table**

Error Code	Error Contents	Description	Error Code	Error Contents	Description
H3	Outdoor Adding Malfunction (Valid For Host Unit)		Pa	Defrost Protection	
H2	Outdoor Decreasing Malfunction (Valid For Host Unit)		P8	Compressor Current 3rd Protection	
H1	Net Communication Malfunction		P7	Compressor Current 2nd Protection	
Ef	Other Malfunction		P5	Condenser High Temp Protection	
E4t4	Temp Sensor Malfunction		P4	Discharge Pipe Temp Protection	
E3t3	Temp Sensor Malfunction		P3	Compressor Current 1st Protection	
E2	Sensor Malfunction		P2	Discharge Low-Pressure Protection	
E1	Phase Sequence Or Lack Of Phase		P1	Discharge High-Pressure Protection	
E0	Communication Malfunction		P0	Compressor High Temp Protection	
Pf	Othe Protection				
Pe	Oil Balance				
Pd	Oil Return				

### 3. Control System

#### 3.1 Remote Controller

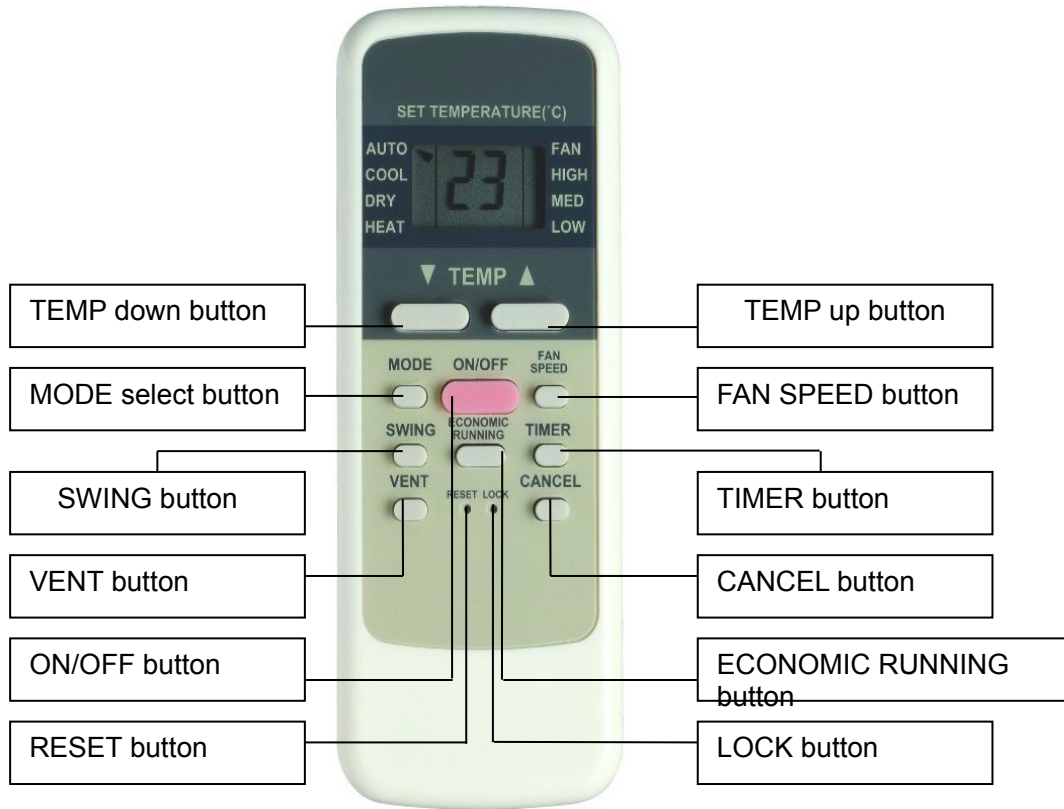
##### 3.1.1 R05



Visual photo



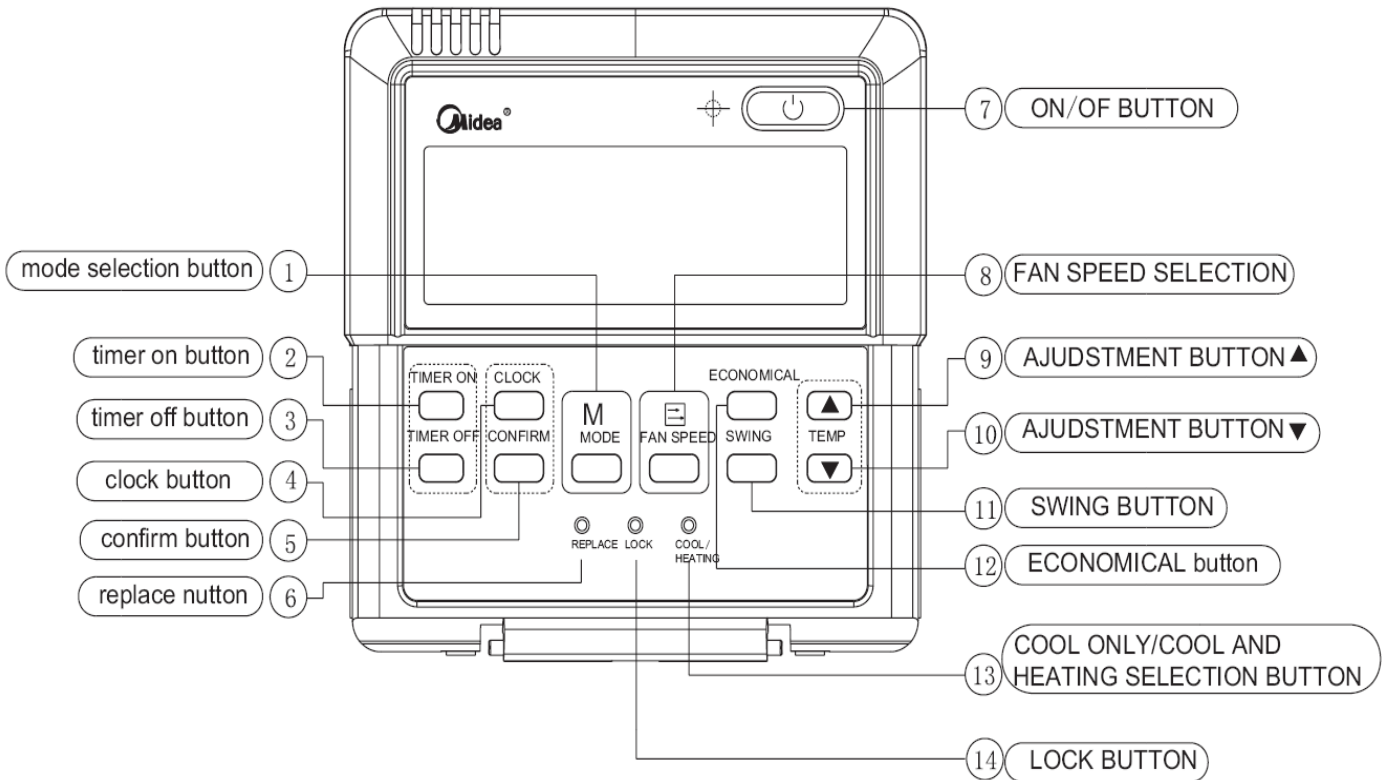
3.1.2 R51



### 3.2 Wired controller

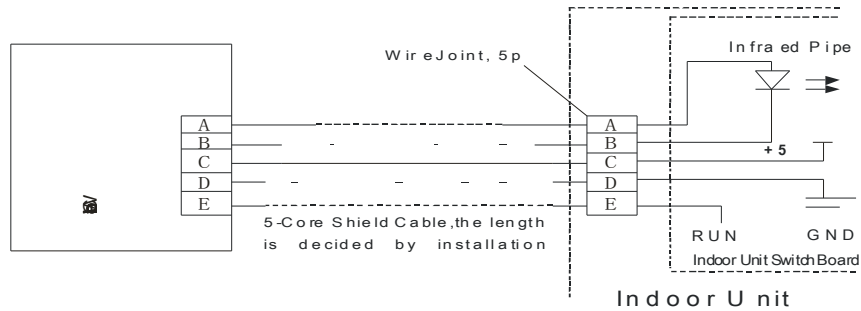
#### 3.2.1KJR-10B

##### 1) Outlook



##### 2) Installation

Wiring Principle Sketch:



##### Installation Notice:

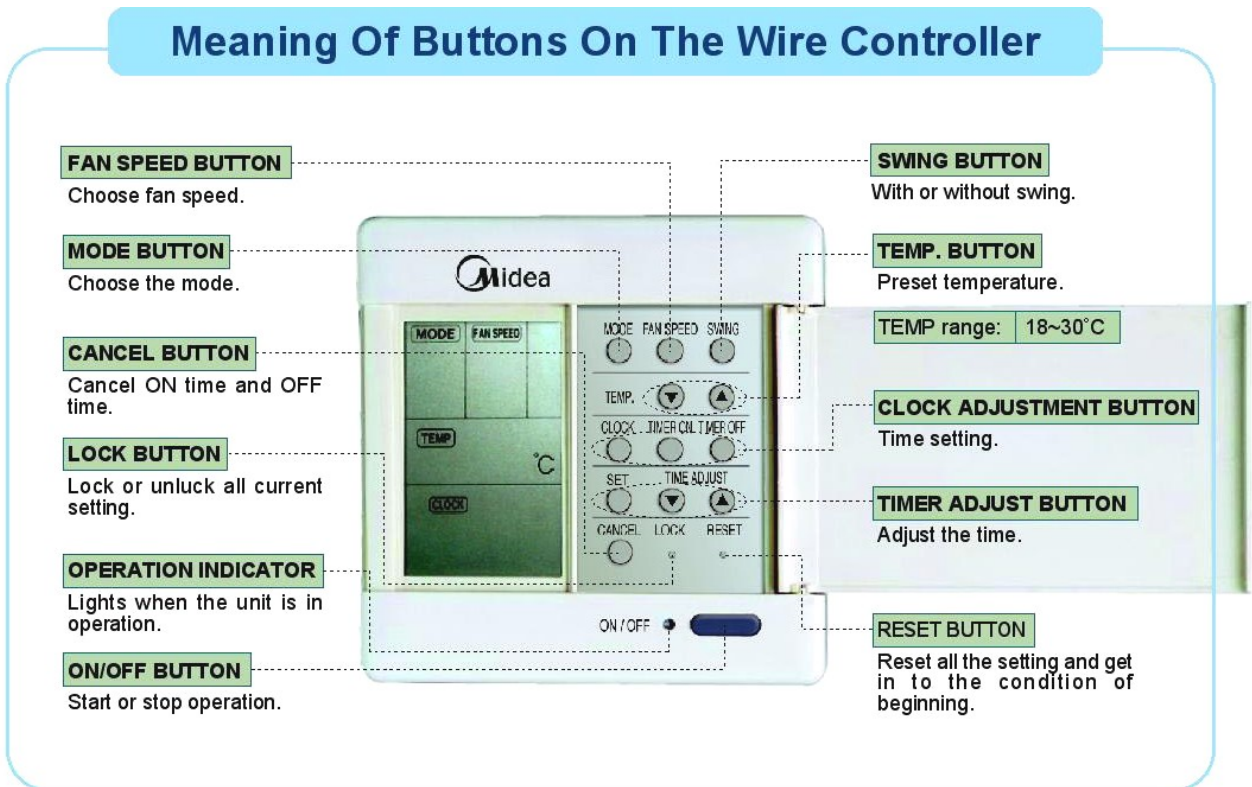
When the air conditioner needs the constant frequency wire Controller, be sure adding a Wire Joint with 5 terminal named A, B, C, D, E in indoor unit, and fixing a infraed emitter whose anode and cathode connecting with A and B near the receiver in the Indoor Unit Switch Board, then connecting the terminal +5v, GND, Run in the Switch Board to C, D, E respectively.

##### Note:

When the air conditioner needs the constant frequency wire Controller. Be sure adding a Wire Joint with 5 terminal named A, B, C, D, E in indoor unit. And fixing a infrared emitter whose anode and cathode connecting with A and B near the receiver in the Indoor Unit Switch Board, then connecting the terminal +5V, GND, Run in the Switch Board to C, D, E respectively.

3.2.2KJR-01B

1) Outlook



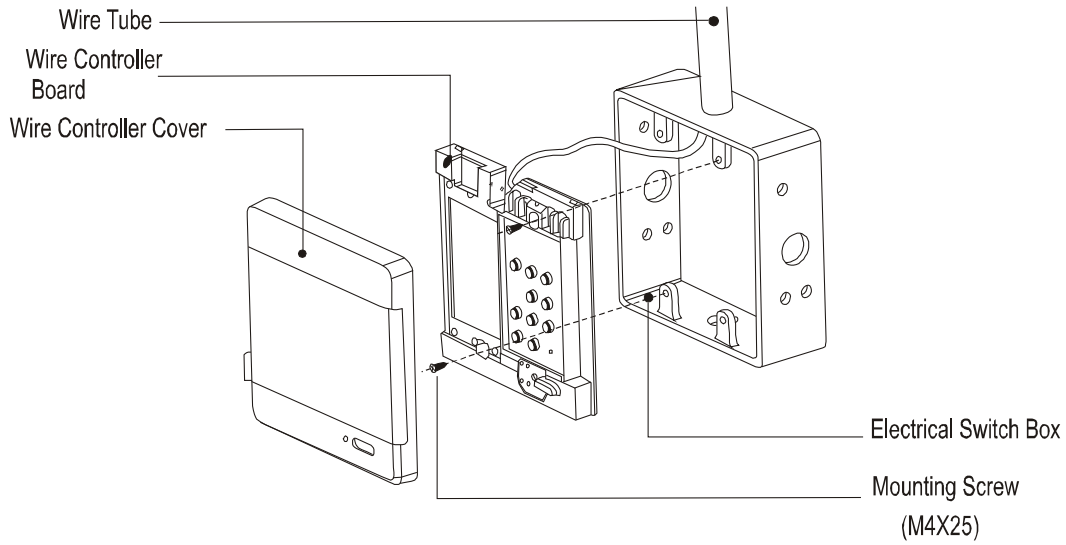
General constant wire controller is available for cooling & heating type as default Its function of Mid-speed Fan can be adjusted by the dial switch (Sw1) in the main panel of wire controller, which is shown as follows:

SW1	SW1	SW1	SW1
1 ON 2 ON	1 ON 2 OFF	1 OFF 2 ON	1 OFF 2 OFF
Mid-speed Fan cooling&heating	Mid-speed Fan cooling only	No mid-speed Fan cooling&heating	No mid-speed Fan cooling only

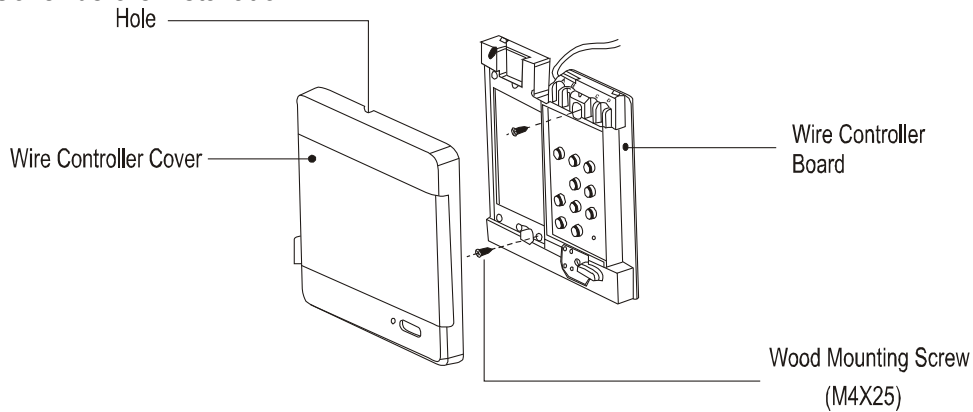
Customers can adjust it according to the model and their requirement. It is necessary to re-electrify after adjustment.

**2) Installation****2-1 Installation into the wall**

The diameter of Wire Controller wire must be suitable for its length. Wiring Tube must be suitable for the wires. Remove a screw at the concave on bottom panel of the Wire Controller to dismantle the Cover.

**2-2 Installation on the wall**

Cut a hole that can let a Three-cores Rubber Insulating Screen Cable pass by from the middle of Wire Controller Top Cover before installation.

**NOTE:**

- Never turn screw too tightly, or else the cover may be dented, or cause the Liquid Crystal break.
- Don't cut wires when install Wire Controller cover.

### 3.3 Weekly Timer (CCM04)

#### 3.5.1 Outlook

#### 3.5.2 General Introduction

##### 1) Summarize

Using condition:

1-1 Power Supply: 5V

1-2 Operation temperature

1-3 Operation Humidity

##### 2) Function Summary

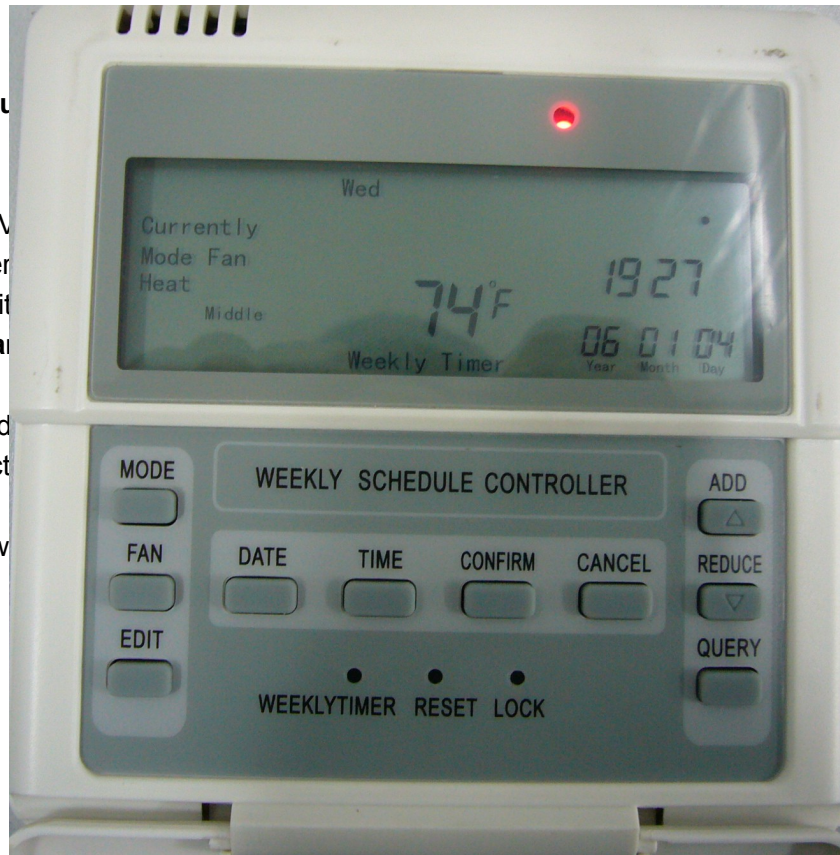
Main Function:

2-1 Connecting to indoor unit

2-2 Button setting action

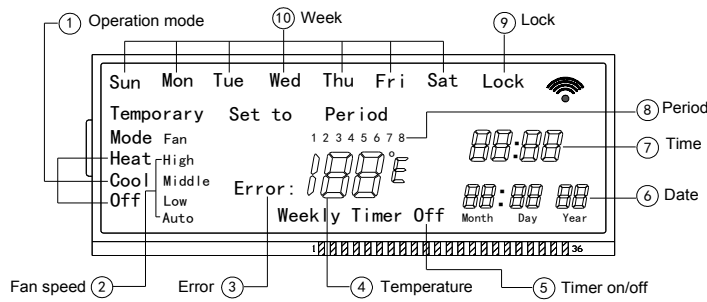
2-3 LCD display.

2-4 Timer for every week



**3.5.3 Operation**

**1) Meaning of Screen displayed**



**1-1** Operation mode indication: When press “MODE” and “ADD” or “REDUCE” button, the following mode can be selected in circle: Cool – Heat – Off.

For cooling only model, heating only mode should be shipped.

**1-2** Fan speed indication: There are four fan modes: low, middle, high, auto. For some models, no middle fan then the middle fan is seen as high speed.

**1-3** Fault indication.

**1-4** Temperature indication.

**1-5** Weekly Schedule Controller switch indication.

**1-6** Data indication.

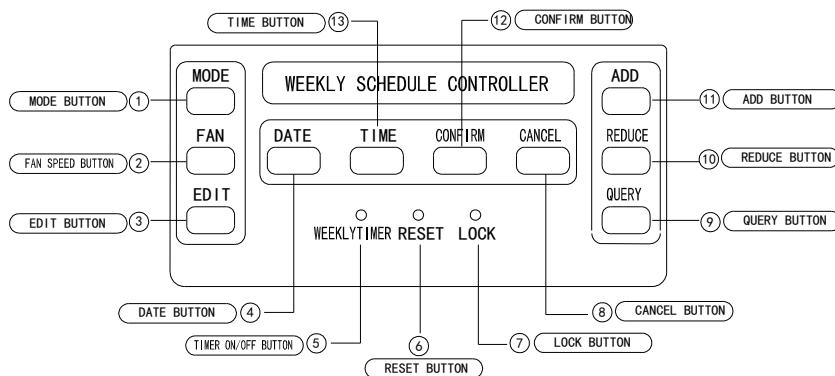
**1-7** Time indication.

**1-8** Period indication.

**1-9** Lock indication.

**1-10** Week indication.

**2) Operation of the buttons**



**2-1** Mode button: When press this button and ADD or REDUCE button to select Heat or Cool or Off, Press Confirm to save and back.

Remark: For the cooling only model, the heating mode should be skipped.

**2-2** Fan speed button: Press this button and ADD or REDUCE button to select of High or Middle or Low or Auto, press Confirm to save and back.

**2-3** Edit button: When press this button, can setup Week and Data and Period.

**2-4 Day button:** Press this button and ADD or REDUCE button to select data, Press Confirm to save and back.

**2-5 Timer on/off button:** Press this button, can turn off the weekly timer function.

**2-6 Reset button:** When press this button, All of the display part of LCD will be light last 2 second when weekly timer has been electrified or reset. Following the lamp will be closed and last 1 second. So the system will come into normal display state and need to carry out initial setting.

**2-7 Lock button:** Press this button, weekly timer come into lock mode, Press LOCK again, lock mode is unchained at once. Weekly timer lock mode state can not be canceled when weekly timer has come back to supply power after interruption of power supply.

**2-8 Cancel button:** It is used for not saving and retreating, or to cancel the lock.

**2-9 Query button:** Press "Query" select "query" present temperature value press "Cancel" to back, press "Confirm" time section parameters' setting: Press "Add" or "Reduce" to select several days from "Sun" to "Sat" 7 days, press "Confirm" : "1"~"8" time section selection, beginning from NO.1 time section, setting mode, fan's velocity, starting time and end time, till 8 time sections are finished press "Confirm" to save press "Cancel" to retreat.

**2-10 Reduce button:** It is used for reducing to numbers and moving left or up to the other.

**2-11 Add button:** It is used for adding to numbers, and moving right or down to the other.

**2-12 Confirm button:** It is used for confirm selection.

**2-13 Time button:** When press button, and press "Add" or "Reduce" to adjust the hours value, press "Confirm" adjust minutes: press "Add" or "Reduce" to adjust the minutes value, press "Confirm" to save and back.

**3)Using method**

**Cool / Heat / Fan mode operation**

**3-1** Press "Mode" button, select "Cool", "Heat", or "Off" mode.

**3-2** Press "Add/Reduce" button to select setting temperature.

**3-3** Press "Fan" button to select high / mid / low / auto.

**Normal timer setting**

In normal page display: Press Edit button setting page display of weekly timing, Press Add or Reduce button to select one day range from Monday to Sunday and press Confirm button to enter into Time Setting of this day (Similar to the initialization setting). Analogically finish 8 period of time setting.

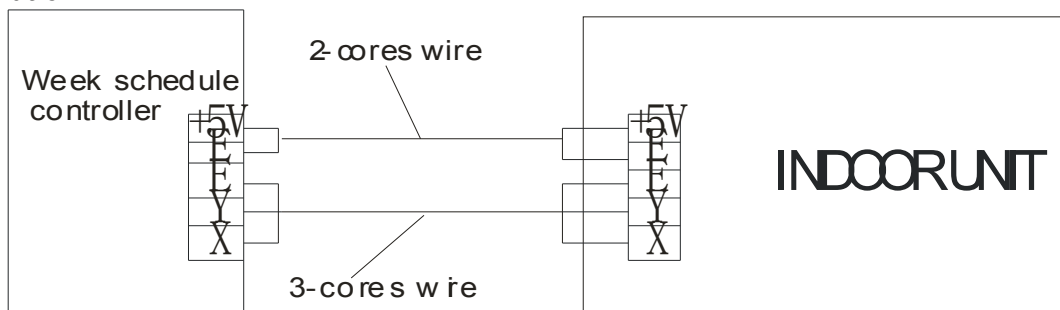
**Temporary timer setting**

In normal page display: Press Mode, Fan, Add or Reduce button to enter into "TEMPORARY SETTING" page press Mode to select and press Confirm to return. "Temporary" will remain ON. For Fan mode it is the same. After pressing Cancel button "Temporary" will be off.

**Query setting**

Press Query button to show the current indoor temperature, Press Cancel backward. Press Confirm to enter into Query page of period setting. Press Add or Reduce to select and press Confirm to query the time period of the day. Press Add or Reduce button to select and Confirm button to query the parameters of the period. Press Cancel to Quit.

**3.5.4 Installation**



When a weekly schedule controller is needed, A small 2-cores wire and 3-cores wire should be added. Connect with same color.