



# Service Manual

**Model on/off :**



**CGU H,  
FGU H,  
DGU H**

R410A


# PRODUCT

## 1 MODELS LIST

### 1.1 Outdoor Unit

Model Name	Product Code	Power Supply (V, Ph, Hz)	Appearance
GU 42H	CF021W2070	380-415V 3N~ 50Hz	
GU 48H	CF021W2060	380-415V 3N 50Hz	
GU 60H	CF021W2050	380-415V 3N~ 50Hz	

## 1.2 Indoor Unit

Type	Model Name	Product Code	Nominal Capacity Cooling/Heating (kW)	Power Supply (V, Ph, Hz)	Appearance
Duct Type	DGU 42H	CF022N0790	12.0/13.5	220-240V~ 50Hz	
		CF022N0800			
	DGU 48H	CF022N0770	14.1/15.2	220-240V~ 50Hz	
		CF022N0780			
	DGU 60H	CF022N0750	16.0/18.0		
		CF022N0760	16.0/18.0		
Cassette Type	CGU 42H	ET010N1070	12.0/13.5	220-240V~50Hz	
	CGU 48H	ET010N1060	14.1/15.0		
	CGU 60H	ET010N1050	15.0/16.8		
Floor-ceiling Type	FGU 42H	ED020N1470	12.0/13.2	220-240V~50Hz	
	FGU 48H	ED020N1430	14.2/16.0	220-240V~50Hz	
	FGU 60H	ED020N1480	15.8/18.2		

Note: 1 Ton = 12000Btu/h = 3.517kW

### NOTES:

The universal outdoor units means that the customer can choose any of three kind of indoor unit to match the outdoor unit without any change with it.

## 2 NOMENCLATURE

### 2.1 Outdoor Unit

G	U	4	8	H	3
1	2	3	4	5	6

NO.	Description	
1	General Vesser Inc	Capital Letter :G
2	Product Type	U=Unit Single Split
3	Nominal Cooling Capacity	Nominal Cooling Capacity =Number×1000Btu/h
4	Nominal Cooling Capacity	Nominal Cooling Capacity =Number× 100Btu/h
5	Compressor Power Supply Type Code	H=Heat Pump ConstantFrequency
6	Power Supply Code	" " = 220-240V~ 50Hz "3" =380-415V 3N~ 50Hz

### 2.2 Indoor Unit

D	G	U	4	8	H
1	2	3	4	5	6

NO.	Description	Options
1	Unit Type	D=Duct Type; C=Cassette Type; F= Floor-ceiling Type
2	General Vesser Inc	Capital Letter :G
3	Product Type	U=Unit Single Split
4	Nominal Cooling Capacity	Nominal Cooling Capacity =Number×1000Btu/h
5	Nominal Cooling Capacity	Nominal Cooling Capacity =Number× 100Btu/h
6	Compressor Power Supply Type Code	H=Heat Pump ConstantFrequency



### 3. Product Data of Indoor Unit

#### 3.1.1 Duct Type

Model	Indoor unit		DGU42H	DGU42H	DGU48H	DGU48H
	Product Code		CF022N0790	CF022N0800	CF022N0770	CF022N0780
	Outdoor unit		GU 42H3	GU 42H3	GU 48H3	GU 48H3
	Product Code		CF021W2070	CF021W2070	CF021W2060	CF021W2060
Capacity	Cooling Capacity	kW	12.0	12.0	14.1	14.1
	Heating Capacity	kW	13.5	13.5	15.2	15.2
Power Input	Cooling	kW	4.4	4.4	5.0	5.0
	Heating	kW	4.1	4.1	4.7	4.7
EER / COP		W/W	2.7/3.3	2.7/3.3	2.8/3.2	2.8/3.2
Indoor Unit			DGU42H	DGU42H	DGU48H	DGU48H
Power Supply		-	220-240V~ 50Hz			
Heat Exchange		-	Cross Fin Coil	Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Fan	Drive	-	direct	direct	direct	Direct
	Motor Output	kW	0.20×1	0.20×1	0.50×1	0.50×1
	Air Flow	m <sup>3</sup> /h	2100	2100	2300	2300
	Rated Ext. Static Pressure	Pa	37	37	50	50
	Ext. Static Pressure Range	Pa	0~75	0~75	0~100	0~100
Sound Pressure Level(SH/H/M/L)		dB(A)	51/48/46/44	51/48/46/44	53/52/50/50	53/52/50/50
Air Filter			Standard washable synthetic			
Drain Piping		mm	Φ20×1.2	Φ26×3.0	Φ20×1.2	Φ26×3.0
Outline Dimensions (W×H×D)		mm	1230×790×290	1230×790×290	1230×790×290	1230×790×290
Net Weight		kg	46	47	53	53
Outdoor Unit			GU 42H3	GU 42H3	GU 48H3	GU 48H3
Power Supply		-	380-415V 3N~ 50Hz			
Heat Exchange		-	Cross Fin Coil			
Fan	Drive	-	Axial-flow			
	Motor Output	kW	0.140×1	0.140×1	0.140×1	0.140×1
	Fan Motor Speed	rpm	830/630	830/630	830/630	830/630
Compressor	Type	-	Rotary	Rotary	Rotary	Rotary
	Power Input	W	4130	4130	4750	4750
Refrigerant	Control	-	Electronic Expansion Valve			
	Charge	kg	3.3	3.3	3.7	3.7
Outline Dimensions (W×H×D)		mm	1120×440×1100	1120×440×1100	1120×440×1100	1120×440×1100
Net Weight		kg	100	100	103	103
Piping Connections	Liquid	Inch	Φ1/2	Φ1/2	Φ1/2	Φ1/2
	Gas	Inch	Φ3/4	Φ3/4	Φ3/4	Φ3/4
	Max. Length	m	50	50	50	50
	Max. Height	m	30	30	30	30

Model	Indoor unit		DGU 60H	DGU 60H
	Product Code		CF022N0750	CF022N0760
	Outdoor unit		GU 60H3	GU 60H3
	Product Code		CF021W2050	CF021W2050
Capacity	Cooling Capacity	kW	16.0	16.0
	Heating Capacity	kW	18.0	18.0
Power Input	Cooling	kW	5.6	5.6
	Heating	kW	5.5	5.5
EER / COP		W/W	2.8/3.2	2.8/3.2
Indoor Unit			DGU 60H	DGU 60H
Power Supply		-	220-240V~ 50Hz	
Heat Exchange		-	Cross Fin Coil	Cross Fin Coil
Fan	Drive	-	direct	Direct
	Motor Output	kW	0.50×1	0.50×1
	Air Flow	m <sup>3</sup> /h	2500	2500
	Rated Ext. Static Pressure	Pa	50	50
	Ext. Static Pressure Range	Pa	0~100	0~100
Sound Pressure Level(SH/H/M/L)		dB(A)	56/52/49/49	56/52/49/49
Air Filter		-	Standard washable synthetic	
Drain Piping		mm	Φ30×1.5	Φ26×3.0
Outline Dimensions (W×H×D)		mm	1235×830×330	1235×830×330
Net Weight		kg	56	56
Outdoor Unit			GU 60H3	GU 60H3
Power Supply		-	380-415V 3N~ 50Hz	
Heat Exchange		-	Cross Fin Coil	
Fan	Drive	-	Axial-flow	
	Motor Output	kW	0.070×2	0.070×2
	Fan Motor Speed	rpm	880/500	880/500
Compressor	Type	-	Rotary	Rotary
	Power Input	W	5200	5200
Refrigerant	Control	-	Electronic Expansion Valve	
	Charge	kg	4.1	4.1
Outline Dimensions (W×H×D)		mm	980×410×1350	980×410×1350
Net Weight		kg	118	118
Piping Connections	Liquid	Inch	Φ1/2	Φ1/2
	Gas	Inch	Φ3/4	Φ3/4
	Max. Length	m	50	50
	Max. Height	m	30	30

### 3.1.2 Cassette Type

Model	Indoor unit		CGU 42H	CGU 48H	CGU 60H
	Product Code		ET010N1070	ET010N1060	ET010N1050
	Outdoor unit		GU 42H3	GU 48H3	GU 60H3
	Product Code		CF021W2070	CF021W2060	CF021W2050
Capacity	Cooling Capacity	kW	12.0	14.1	15.0
	Heating Capacity	kW	13.5	15.0	16.8
Power Input	Cooling	kW	4.2	4.8	5.3
	Heating	kW	4.0	4.9	5.2
EER / COP		W/W	2.8/3.3	2.9/3.0	2.8/3.2
Indoor Unit			CGU 42H	CGU 48H	CGU 60H
Power Supply		-	220-240V~50Hz		
Heat Exchange		-	Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Fan	Drive	-	direct	direct	Direct
	Motor Output	kW	0.06×1	0.06×1	0.09×1
	Air Flow	m <sup>3</sup> /h	1650	1650	1800
Sound Pressure Level(SH/H/M/L)		dB(A)	52/47/46/43	52/47/46/43	53/51/49/47
Air Filter		-	Standard washable synthetic		
Drain Piping		mm	Φ33×4.0	Φ33×4.0	Φ32×2.0
Outline Dimensions (W×H×D)		mm	840×840×320	840×840×320	840×840×290
Net Weight		kg	32	33	37
Outdoor Unit			GU 42H3	GU 48H3	GU 60H3
Power Supply		-	380-415V 3N~ 50Hz		
Heat Exchange		-	Cross Fin Coil		
Fan	Drive	-	Axial-flow		
	Motor Output	kW	0.140×1	0.140×1	0.070×2
	Fan Motor Speed	rpm	830/630	830/630	880/500
Compressor	Type	-	Rotary	Rotary	Rotary
	Power Input	W	4130	4750	5200
Refrigerant	Control	-	Electronic Expansion Valve		
	Charge	kg	3.3	3.7	4.1
Outline Dimensions (W×H×D)		mm	1120×440×1100	1120×440×1100	980×410×1350
Net Weight		kg	100	103	118
Piping Connections	Liquid	Inch	Φ1/2	Φ1/2	Φ1/2
	Gas	Inch	Φ3/4	Φ3/4	Φ3/4
	Max. Length	m	50	50	50
	Max. Height	m	30	30	30

### 3.1.3 Floor ceiling Type

Model	Indoor unit		FGU 42H	FGU 48H	FGU 60H
	Product Code		ED020N1470	ED020N1430	ED020N1480
	Outdoor unit		GU 42H3	GU 48H3	GU 60H3
	Product Code		CF021W2070	CF021W2060	CF021W2050
Capacity	Cooling Capacity	kW	12.0	14.2	15.8
	Heating Capacity	kW	13.2	16.0	18.2
Power Input	Cooling	kW	4.3	5.0	5.50
	Heating	kW	4.1	4.7	5.45
EER / COP		W/W	2.8/3.2	2.8/3.4	2.8/3.3
Indoor Unit			FGU 42H	FGU 48H	FGU 60H
Power Supply		-	220-240V~50Hz		
Heat Exchange		-	Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Fan	Drive	-	direct	direct	direct
	Motor Output	kW	0.1×1	0.26×1	0.26×1
	Air Flow	m <sup>3</sup> /h	1650	2400	2400
Sound Pressure Level(SH/H/M/L)		dB(A)	54/52/51/50	56/55/53/52	56/55/53/52
Air Filter		-	Standard washable synthetic		
Drain Piping		mm	Φ17×1.75		
Outline Dimensions (W×H×D)		mm	1200×665×235		1570×665×235
Net Weight		kg	38	46	46
Outdoor Unit			GU 42H3	GU 48H3	GU 60H3
Power Supply		-	380-415V 3N~ 50Hz		
Heat Exchange		-	Cross Fin Coil		
Fan	Drive	-	Axial-flow		
	Motor Output	kW	0.140×1	0.140×1	0.070×2
	Fan Motor Speed	rpm	830/630	830/630	880/500
Compressor	Type	-	Rotary	Rotary	Rotary
	Power Input	W	4130	4750	5200
Refrigerant	Control	-	Electronic Expansion Valve		
	Charge	kg	3.3	3.7	4.1
Outline Dimensions (W×H×D)		mm	1120×440×1100	1120×440×1100	980×410×1350
Net Weight		kg	100	103	118
Piping Connections	Liquid	Inch	Φ1/2	Φ1/2	Φ1/2
	Gas	Inch	Φ3/4	Φ3/4	Φ3/4
	Max. Length	m	50	50	50
	Max. Height	m	30	30	30

Note: Nominal capacities are based on the follow conditions.

Mode		Indoor °C(°F)	Outdoor °C(°F)
Cooling		DB:27 (80.6)	DB:35(95)
		WB:19 (66.2)	WB:24(75.2)
Heating		DB:20 (68)	DB:7(44.6)
		WB:--(--)	WB:6 (42.8)
Piping Length	Duct type Cassette type	42 - 48k: 5m	
		60k: 7.5m	
	Floor ceiling type	42 - 48k: 7,5m	
		60k: 7.5m	

The air volume is measured at the relevant standard external static pressure.

Noise is tested in the semianechoic room, so it should be slightly higher in the actual operation due to environmental change.

## 3.2 Operation Range

Mode	Range of Outdoor Temperature °C(°F)
Cooling	-15(5) ~ 43(109.4)
Heating	-15(5) ~ 24(75.2)

## 3.3 Electrical Data

### 3.3.1 Outdoor unit

Table 1-4-1 Electrical Data of Outdoor Unit

Model	Compressor			Fan Motor	Fuse/Breaker Capacity	Min. Power Supply Cord
	Power Supply	Qty.	RLA	FLA		
	V/Ph/Hz	–	A	A		mm <sup>2</sup>
GU 42H3	380-415,3,50	1	7.2	<1	5/13	2.5
GU 48H3	380-415,3,50	1	8.7	<1	5/16	2.5
GU 60H3	380-415,3,50	1	9.3	<1	5/16	2.5

### 3.3.2 Indoor unit

Table 1-4-2 Electrical Data of Indoor Unit

All model in range	Power Supply	Fan Motor FLA	Fuse/Breaker Capacity	Min. Power Supply Cord
	V/Ph/Hz	A	A	mm <sup>2</sup>
DGU 42H till	220-240,1,50	<1	5/6	1.0
DGU 60H	220-240,1,50	<1	5/6	1.0
CGU 42H till	220-240,1,50	<1	5/6	1.0
CGU 60H	220-240,1,50	<1	5/6	1.0
FGU 42H till	220-240,1,50	<1	5/6	1.0
FGU 60H	220-240,1,50	<1	5/6	1.0

Notes:

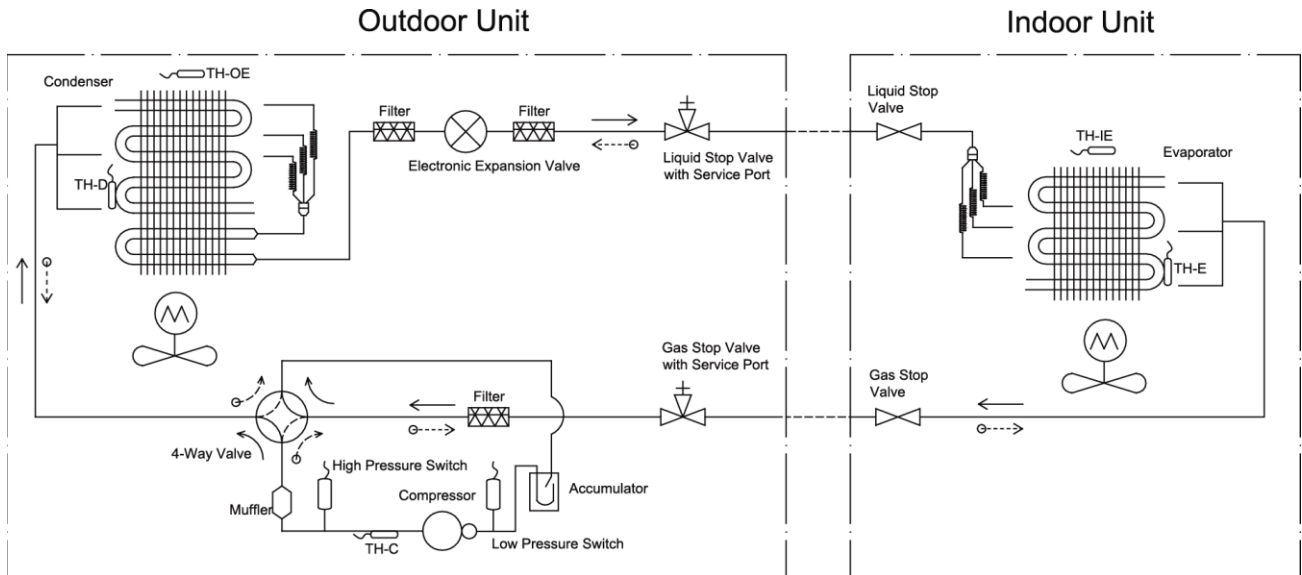
RLA: Rated load amperes

LRA: Locked rotor amperes

FLA: Full load current

- ① Install the disconnect device with a contact gap of at least 3mm in all poles nearby the units (Both indoor unit and outdoor unit).The appliance must be positioned so that the plug is accessible.
- ② The specifications of the breaker and power cable listed in the table above are determined based on the maximum power (maximum amps) of the unit.
- ③ The specifications of the power cable listed in the table above are applied to the conduit-guarded multi-wire copper cable (like, YJV copper cable, consisting of PE insulated wires and a PVC cable jacket) used at 40°C and resistible to 90°C (see IEC 60364-5-52). If the working condition changes, they should be modified according to the related national standard.
- ④ The specifications of the breaker listed in the table above are applied to the breaker with the working temperature at 40°C. If the working condition changes, they should be modified according to the related national standard.

## 4 PIPING DIAGRAM



TH-OE: Outdoor Environment Thermal Bulb  
TH-C: Outdoor Condenser Thermal Bulb  
TH-D: Compressor Discharge Thermal Bulb

← Cooling  
○---> Heating

TH-IE: Indoor Environment Thermal Bulb  
TH-E: Indoor Evaporator Thermal Bulb

**Note:**

1. it is just a schematic diagram and some parts may differ from the real objects inside the unit.

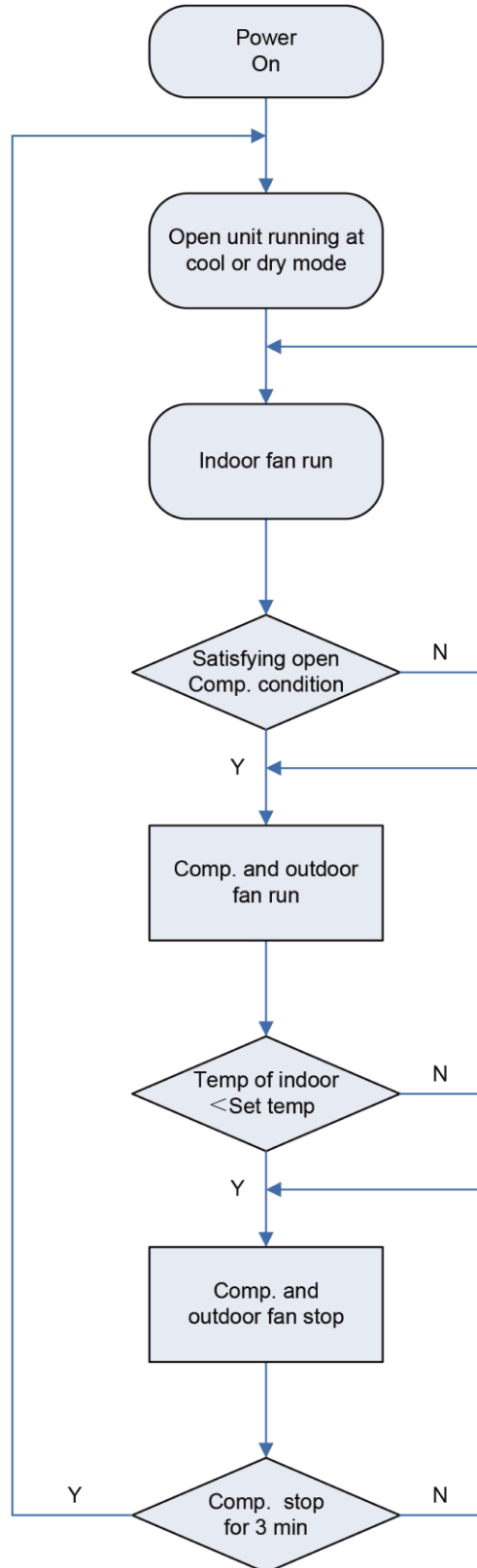
# CONTROL



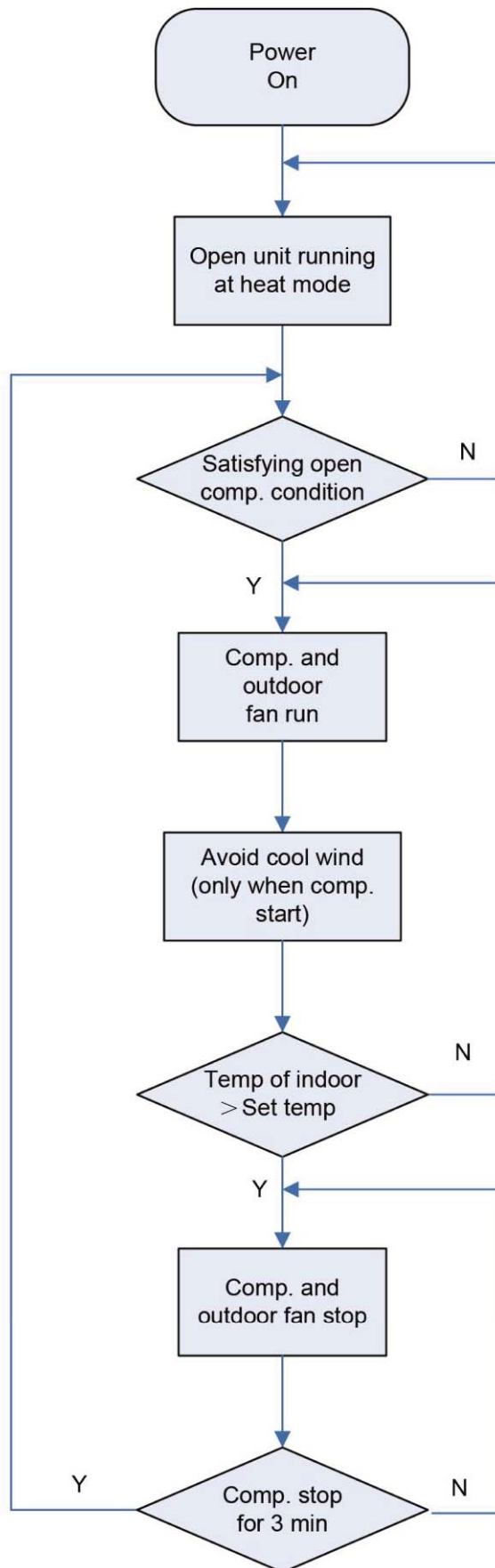
# CONTROL

## 1 OPERATION FLOWCHART

### 1.1 Cooling/Dry Operation



## 1.2 Heating Operation



## 2 WIRELESS REMOTE CONTROLLER

### 2.1 Operation and Display View

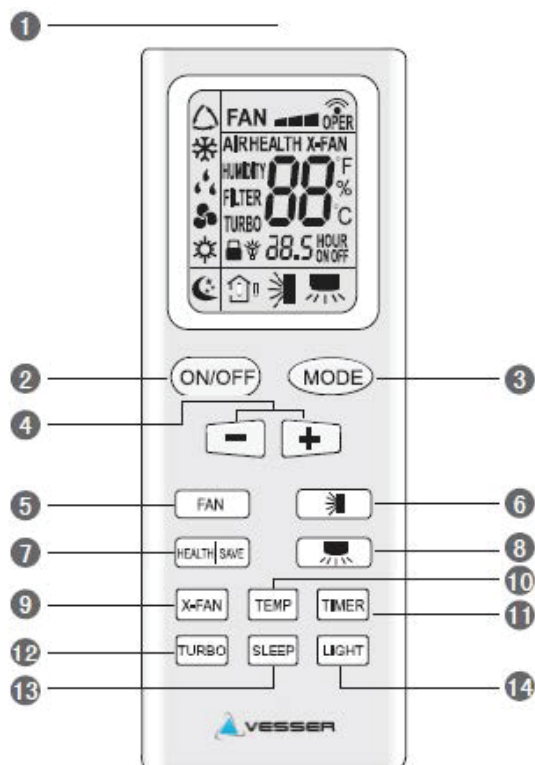
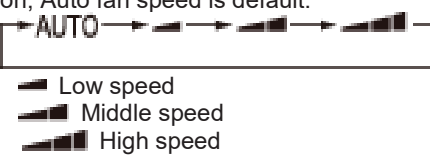

















Table 2-2-1 Operation instruction of wireless remote controller

No.	Name	Function Description
1	Signal transmitter	<ul style="list-style-type: none"> <li>Signal transmitter</li> </ul>
2	ON/OFF button	<ul style="list-style-type: none"> <li>Press this button and the unit will be turned on; press it once more and the unit will be turned off. When turning off the unit, the Sleep function will be canceled, but the presetting time is still remained.</li> </ul>
3	MODE button	<ul style="list-style-type: none"> <li>By pressing this button, Auto, Cool, Dry, Fan, Heat mode can be selected circularly. Auto mode is default after power on. Under the Auto mode, the setting temperature will not be displayed; Under the Heat mode, the initial value is 28°C (82°F); under other modes, the initial value is 25°C (77°F).</li> </ul> <p>  AUTO;             COOL;             DRY;             FAN;             HEAT (only for cooling and heating unit)         </p>
4	- button	<ul style="list-style-type: none"> <li>Preset temperature can be decreased by pressing this button. Pressing and holding this button for more than 2 seconds can make the temperature changed quickly until release this button and then transmit this order. The temperature adjustment is unavailable under the Auto mode, but the order can be sent by pressing this button. Centigrade setting range: 16-30; Fahrenheit scale setting range 61-86.</li> </ul>
	+ button	<ul style="list-style-type: none"> <li>Preset temperature can be increased by pressing this button. Pressing and holding this button for more than 2 seconds can make the temperature changed quickly until release the button and then transmit this order. The temperature adjustment is unavailable under the Auto mode, but the order can be sent by pressing this button. Centigrade setting range: 16-30; Fahrenheit scale setting range 61-86.</li> </ul>

5	FAN button	<ul style="list-style-type: none"> <li>By pressing this button, Auto, Low, Middle, High speed can be circularly selected. After power on, Auto fan speed is default.</li> <li>  <ul style="list-style-type: none"> <li>Low speed</li> <li>Middle speed</li> <li>High speed</li> </ul> </li> </ul> <p>Note: Under the DRY mode, the fan will be kept running at the low speed and the fan speed isn't adjustable.</p>
6	SWING UP/DOWN button	<ul style="list-style-type: none"> <li>Press this button to set up the swing angle, which circularly changes as below: <ul style="list-style-type: none"> <li>  </li> </ul> </li> <li>When the guide louver starts to swing up and down, if SWING functions are canceled, the air guide louver will stop and remains at the current position.</li> <li>  Indicates the guide louver swings up and down among those five directions. (Simplified SWING function applicable for some Fan Coil Units: When the wireless remote controller is energized initially with the unit under the OFF status, it should be set by pressing the + button and the SWING button simultaneously, with the symbol  blinking twice. Then, after the unit is turned on, this function can be activated by pressing the SWING button, with the displayed symbol  indicating swing function is on and without this displayed symbol indicating swing function is off.) </li> </ul>
7	CLOCK button	<ul style="list-style-type: none"> <li>By pressing this button, the clock is allowed to be set, with  blinking, and then press the +/- button to adjust the clock within 5 seconds. If the +/- button is pressed down constantly for more than 2 seconds, the clock setting will be increased or decreased 10 minutes every 0.5 seconds. After that, another press on the CLOCK button accepts the setting. 12:00 is the default, when the wireless remote controller is energized.</li> </ul>
8	TIMER ON button	<ul style="list-style-type: none"> <li>When TIMER ON is activated, ON will blink while the symbol  will disappear. Within 5 seconds it is allowed to set the ON time by pressing the +/- button. Each press will make the time increase or decrease one minute. Besides, the time can also be set by pressing the +/- button constantly. That is, in the early 2.5 seconds, the time will increase/decrease quickly per single minute, and in the late 2.5, the time will increase/decrease per ten minutes. After the desired time value is set, press TIENE ON again to conform the setting within five seconds. After that, another press on TIMER ON will cancel the setting. Prior to this setting, the clock shall be set to the actual time.</li> </ul>
9	X-FAN button	<ul style="list-style-type: none"> <li>Pressing this button can activate or deactivate the X-FAN function. In Cool or Dry mode, by pressing this button, if  is displayed, it indicates the X-FAN function is activated. By repressing this button, if  disappears, it indicates the X-FAN function is deactivated. After energization, X-FAN OFF is defaulted. If the unit is turned off, X-FAN can be deactivated but can't be activated.</li> </ul>
10	TEMP button	<ul style="list-style-type: none"> <li>By pressing this button it is allowed to select displaying the indoor setting temperature or the indoor ambient temperature.</li> <li>Indoor setting temperature is default after the indoor unit is energized initially.</li> <li>By pressing the TEMP button, when the temperature symbol  is displayed, the indoor displayer will show the indoor setting temperature; when  is displayed, it will show the indoor ambient temperature; when  is invalidation, If current displays indoor ambient temperature, if received the other remote control signal, it will display presetting temperature, 5s later, will back to display the ambient temperature. (This function is applicable to partial of models)</li> </ul>
11	TIMER OFF button	<ul style="list-style-type: none"> <li>By pressing this button it is available to go to the TIMER OFF setting state with the same setting method as that of the TIMER ON, in which case the OFF symbol blinks.</li> </ul>

12	TURBO button	<ul style="list-style-type: none"> <li>In the Cool or Heat mode, pressing this button can activate or deactivate the TURBO function. When the TURBO function is activated, its symbol  will be displayed; when the running mode or the fan speed is changed, this function will be canceled automatically. (This function is applicable to partial of models).</li> </ul>
13	SLEEP button	<ul style="list-style-type: none"> <li>By pressing this button, Sleep On and Sleep Off can be selected. After powered on, Sleep Off is defaulted. Once the unit is turned off, the Sleep function is canceled. When Sleep is set to on, the symbol of SLEEP  will display. Under the Fan and Auto modes, this function is not available.</li> </ul>
14	LIGHT button	<ul style="list-style-type: none"> <li>Press this button to select LIGHT on or off in the displayer. When the LIGHT is set to on, the icon  will be displayed and the indicating light in the displayer will be on. When the LIGHT is set to off, the icon  will be disappeared and the indicating light in the displayer will be off.</li> </ul>

## 3 WIRED CONTROLLER

### 3.1 Display View

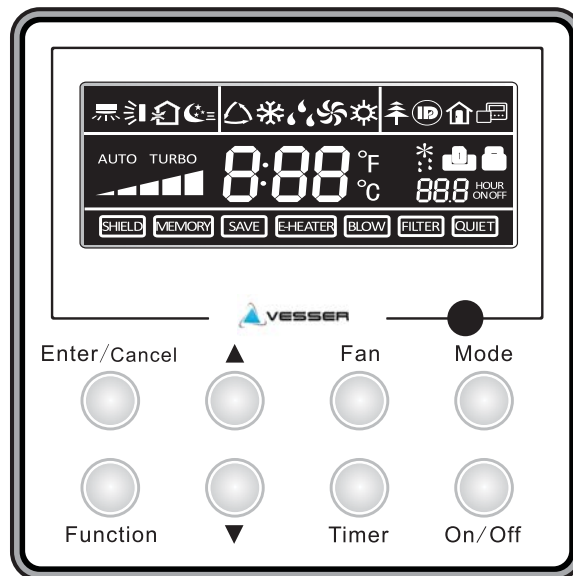


Figure 2-3-1 Appearance of wired controller

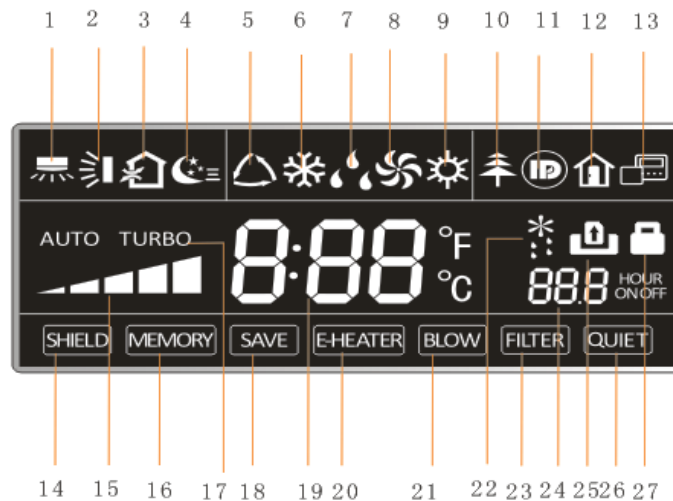





























Figure 2-3-2 LCD display of wired controller

Table 2-3-1 Instruction to LCD Display

No.	Icons	Introduction
1		Left and right swing function
2		Up and down swing function
3		Air exchange function
4		Sleep function
5		Auto mode
6		COOL mode
7		DRY mode
8		FAN mode
9		HEAT mode
10		Health function
11		I-Demand function
12		Vacation function
13		Status display of master and slave wired controller
14		Shield function The button operation, temperature setting, "On/Off" operation, "Mode" setting, and "Save" setting are disabled.
15		Fan speed
16		Memory function The unit will resume the original setting state after power recovery.
17		Turbo function
18		Energy-saving function
19		Ambient/setting temperature
20		Electric heater
21		Blow function
22		Defrosting function
23		Filter cleaning
24		Timer Setting
25		Keycard control / Detected status sensed by human body
26		Quiet function
27		Lock function

## 3.2 Operation View

### 3.2.1 Silk Screen of Buttons

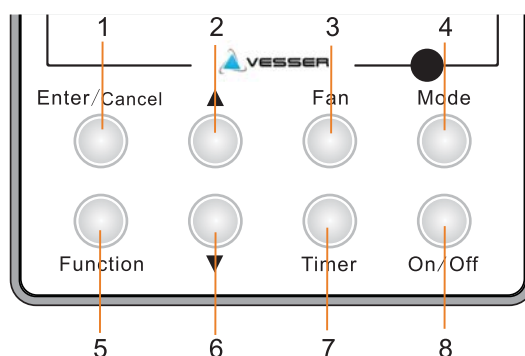


Figure 2-3-3 Silk screen of buttons

### 3.3.2 Instruction to Function of Buttons

Table 2-3-2 Instruction to buttons of wired controller

No.	Description	Functions
1	Enter/Cancel	<ul style="list-style-type: none"> <li>● Function selection and canceling;</li> <li>● Press it for 5s to view the ambient temperature; press Mode button to select viewing outdoor ambient temperature or indoor ambient temperature.</li> </ul>
2	▲	<ul style="list-style-type: none"> <li>● Running temperature setting range of indoor unit: 16-30℃;</li> <li>● Timer setting range: 0.5-24hr;</li> <li>● Setting of air function level;</li> <li>● Setting of energy-saving temperature;</li> <li>● Setting of cleaning class.</li> </ul>
6	▼	
3	Fan	Setting of high/medium high/medium/medium low/low/auto fan speed.
4	Mode	Setting of auto/cooling/heating/fan/dry mode of indoor unit.
5	Function	Switch over among these functions of swing/air/sleep/health/I-Demand/out/turbo/save/e-heater/X-fan/clean/quiet.
7	Timer	Timer setting.
8	On/Off	Turn on/off indoor unit.
4 Mode and 2 ▲	Memory function	Press Mode and ▲ buttons at the same time for 5s under off state of the unit to enter/cancel memory function (If memory function is set, indoor unit will resume original setting state after power failure and then power recovery. If not, indoor unit is defaulted to be off after power recovery. Ex-factory setting of memory function is on).
2 ▲ and 6 ▼	Lock	Upon startup of the unit without malfunction or under off state of the unit, press ▲ and ▼ buttons at the same time for 5s to enter lock state. In this case, any other buttons won't respond when pressing. Repress ▲ and ▼ buttons for 5s to quit lock state.
4 Mode and 5 Function	Enquiry and setting of address of wired controller	Under off state of the unit, press Mode and Function buttons at the same time for 5s to set the address. (More details please refer to project debugging)
5 Function and 7 Timer	Setting of project parameters (More details please refer to the Notes)	Under off state of the unit, press Function and Timer buttons at the same time for 5s to go to the debugging menu. Press Mode button to adjust the setting items and press ▲ or ▼ buttons to set the actual value.
4 Mode and 6 ▼	Switch between Fahrenheit and Centigrade	Under off state of the unit, press Mode and ▼ buttons at the same time for 5s to switch between Fahrenheit and Centigrade.
5 Function and 6 ▼	Viewing historical malfunction	Continuously press Function and ▼ buttons for 5s to view historical malfunction. Then press ▲ and ▼ buttons to adjust displayed contents. The timer displaying position displays the sequence of malfunction and the detailed error code. The 5 <sup>th</sup> displayed malfunction is the last malfunction.

1 Enter/Cancel and 4 Mode	Setting of master and slave wired controller	Under off state of the unit, press Enter/Cancel and Mode buttons at the same time for 5s to set master and slave wired controller. Press ▲ or ▼ button to adjust. (More details please refer to project debugging)
---------------------------	--	--

**Notes:**

The following functions can be set through Function and Timer buttons: setting of ambient temperature sensor, selecting three speeds in high speed and three speeds in low speed of indoor fan motor, display setting of freeze protection error code, setting of cold air prevention and hot air hot prevention function, setting of refrigerant-lacking protection function, selecting of blowing residual heat of indoor unit, selecting of compressor electric heater mode, selecting of low-power consumption mode, selecting door control function, selecting human sensitive function, long-distance monitoring, temperature compensation value at the air return port.

### 3.2.3 Setting of Wired Controller's Address

#### 3.2.3.1 Enquiry and Setting of Wired Controller's Address

Under off state of the unit, press Function and Mode buttons at the same time for 5s to enter setting interface of wired controller's address. In this case, LCD displays address number. Then press ▲ or ▼ button to adjust address and then press Enter/Cancel button to confirm. The address setting is related to the setting of Debugging Function 4.9.10. When the selection in 4.9.10 is 00, address of centralized controller is to be set and the address setting range is 01~16; when the selection in 4.9.10 is 01, address of long-distance monitor is to be set and the address setting range is 01~255.

Enquiry and setting of wired controller's address is shown as Figure 2-3-4 below:

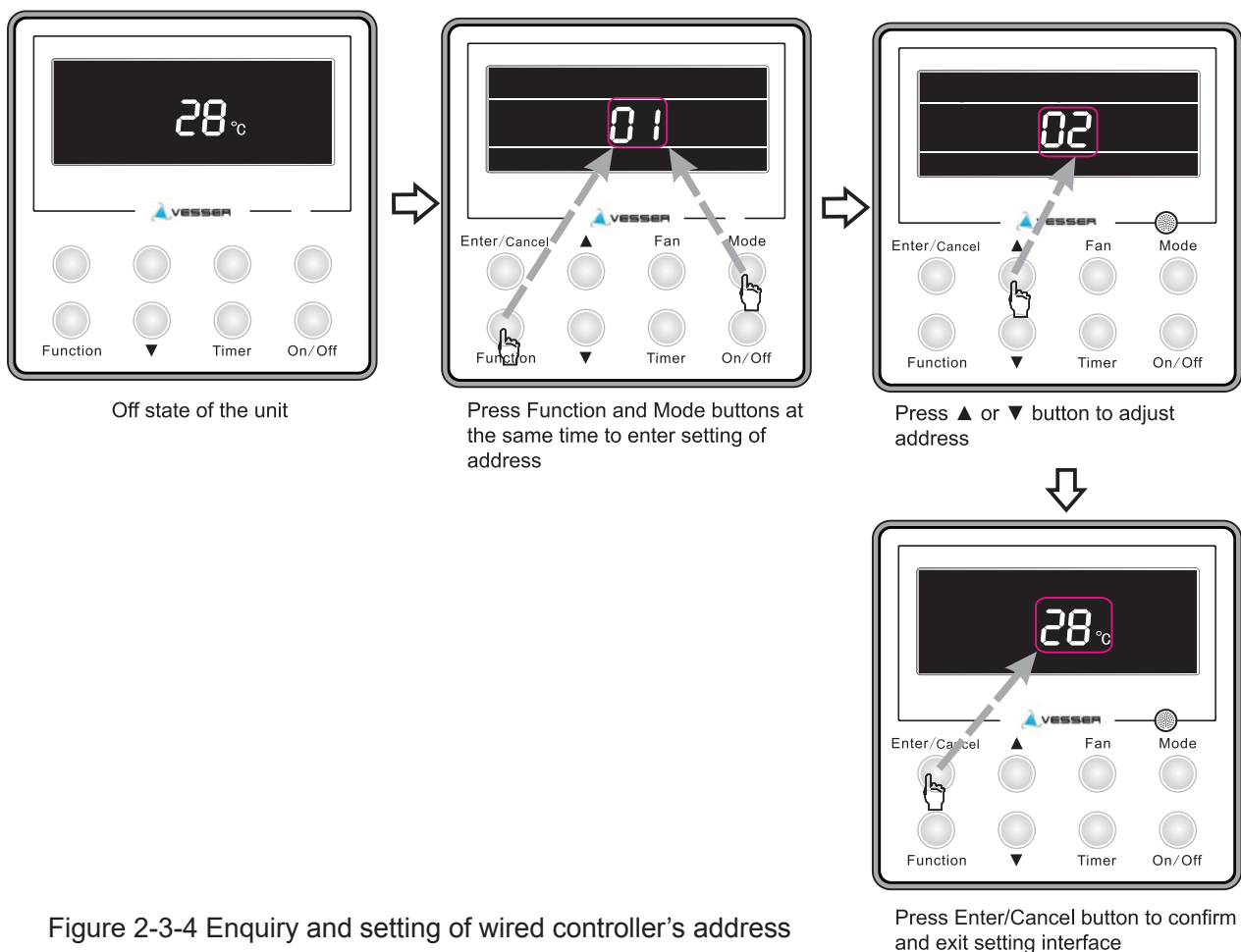



Figure 2-3-4 Enquiry and setting of wired controller's address



### 3.2.3.2 Setting of Master/Slave Wired Controller's Address

Under off status of the unit, press Enter/Cancel and Mode buttons at the same time for 5s to go to the enquiry and setting interface of master/slave wired controller. In this case, LCD displays wired controller's address (01 for master wired controller and 02 for slave wired controller). Press ▲ or ▼ button to adjust address of master/slave wired controller and then press Enter/Cancel button to confirm. If slave wired controller is set, the icon  will be displayed.

Note: If there is only one wired controller, it only can be set as the master; if there are two wired controllers, one should be the master and the other should be the slave.

Setting of master/slave wired controller's address is shown as Figure 2-3-5 below:

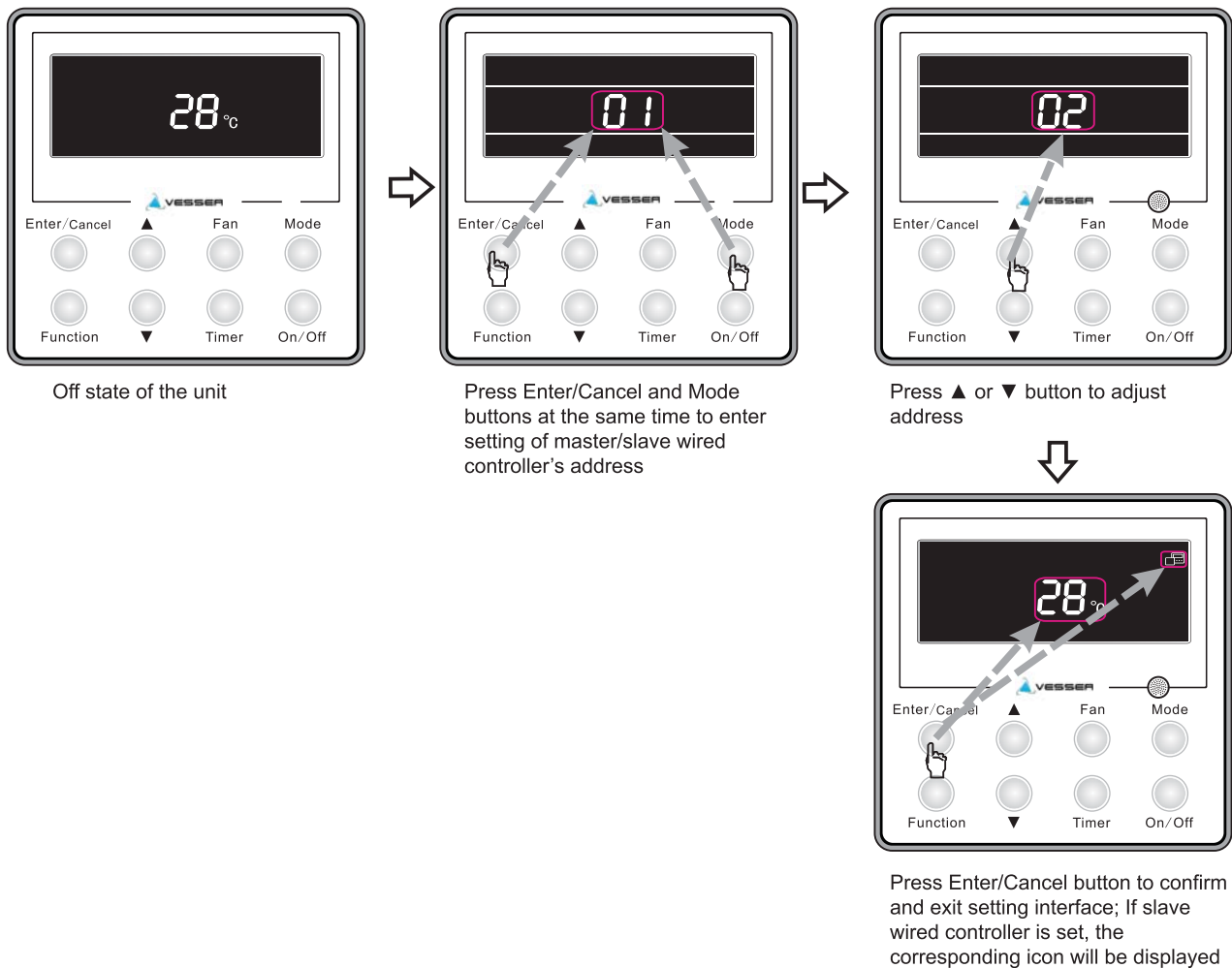



Figure 2-3-5 Enquiry and setting of master/slave wired controller's address


## 4 OPERATION INSTRUCTION OF SPECIAL FUNCTIONS

### 4.1 Door Control Function

Door control function can be selected (More details please refer to Debugging Function).

When door control function is selected, the wired controller will work when the room card is inserted and stop working when the room card is not inserted. When the door control function senses the room card is not inserted, the wired controller will display  icon.

Note:

- (1) In long-distance monitoring or centralized control, no matter the room card is inserted or not, the ON/OFF of unit can be controlled. If long-distance monitoring or centralized control information is received when the room card is not inserted,  icon is cleared. When the card is reinserted, door control function is judged to be turned on. If long-distance monitoring or centralized control information is received when the room card is inserted, it will keep the original status.
- (2) The unit can not be controlled by buttons when the card is not inserted.

## 5 INSTALLATION OF WIRED CONTROLLER

### 5.1 Standard Accessories

Table 2-5-1 Standard Accessories of Wired Controller

Description	Quantity	Note
Socket base box installed in the wall	1	No.1 in Figure 2-5-1
Base plate of wired controller	1	No.2 in Figure 2-5-1
Screw M4×25	2	No.3 in Figure 2-5-1
Panel of wired controller	1	No.4 in Figure 2-5-1

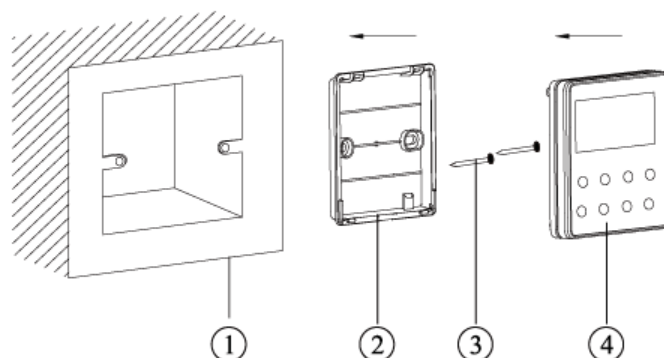


Figure 2-5-1

### 5.2 Installation Position and Requirement

- (1) Prohibit installing the wired controller at the misty place or the place with direct sunlight.
- (2) Prohibit installing the wired controller at the place near high temperature objects or water-splashing places.
- (3) Prohibit installing the wired controller at the place where faces forward to the window, to avoid interference of another remote controller from neighborhood.
- (4) Cut off the power of heavy current wire in the installation hole of the wall. All power should be cut

off during installation.

(5) In order to avoid abnormal operation due to electromagnetic interference, etc., pay attention to the following notes during connecting wires:

- 1) Make sure the tie-in interface of communication wire is correct, otherwise it may lead to communication malfunction.
- 2) The signal wires and communication wires of wired controller should be separated from power cord and connection wire between indoor unit and outdoor unit.
- 3) If the air conditioner is installed at the strong electromagnetic interference place, signal wire and communication wire of wired controller must use shielding twisted wire.

### 5.3 Installation of Wired Controller

Firstly, the selection and connection way of wired controller's signal wire are as below:

- (1) Choose suitable signal wire: 2-core signal wire (wire diameter  $\geq 0.75\text{mm}$ , wire length  $< 30\text{m}$  and the recommended length is 8m).
- (2) Make sure the power of indoor unit is cut off; fix the signal wire of wired controller on the wiring board for wired controller of indoor unit with screws; make sure the signal wire is solid.

Then, the detailed installation procedures of wired controller are as shown in Figure 2-5-2:

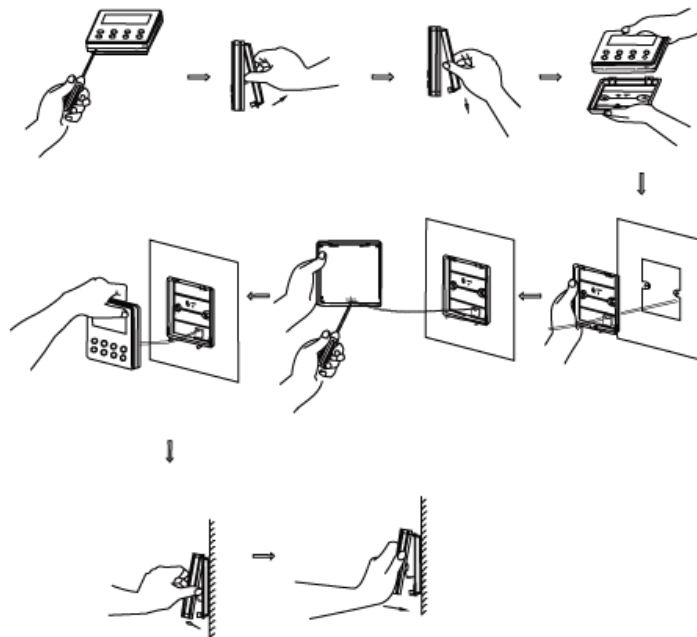


Figure 2-5-2 Installation of wired controller

Brief instructions of installation procedure:

- a) Pull out the 2-core signal wire in the installation hole of the wall and then let this wire go through the hole at the back of wired controller's base plate.
- b) Fix the base plate and installation hole of the wall together with screw M4×25.
- c) Fix the above mentioned 2-core signal wire on the copper insert X1 and X2 with the equipped screws of wired controller.
- d) Fasten the wired controller's panel with its base plate together.

## 5.4 Removal of Wired Controller

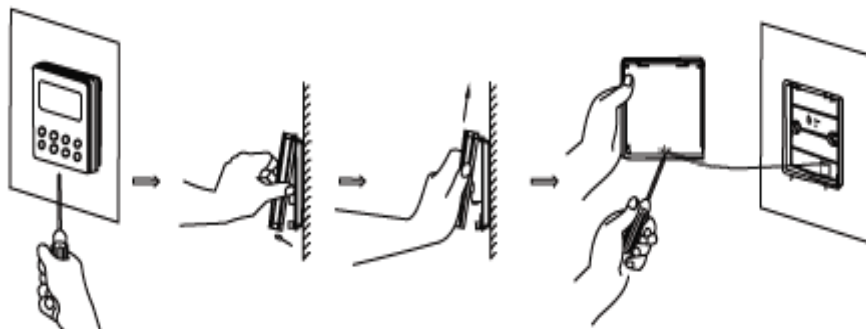


Figure 2-5-3 Removal of wired controller

# 6 TROUBLESHOOTING

## 6.1 Display of Error Code

Table 2-6-1 Error Code List

Number	Error code	Error	Remarks
1	E1	Compressor high pressure protection	
2	E2	Indoor anti-freeze protection	
3	E3	Compressor low pressure protection, refrigerant lack protection and refrigerant collecting mode	
4	E4	Compressor high discharge temperature protection	
5	E6	Communication error	
6	E9	Full water protection	
7	F0	Indoor ambient temperature sensor error	
8	F1	Evaporator temperature sensor error	
9	F2	Condenser temperature sensor error	
10	F3	Outdoor ambient temperature sensor error	
11	F4	Discharge temperature sensor error	
12	F5	Temperature sensor error of wired controller	
13	H3	Compressor overload protection	
14	H4	Overloading	
15	U7	4-way valve direction changing protection	
16	C4	Outdoor unit capacity code error	
17	C5	Indoor unit capacity code error	
18	CC	Long-distance monitor or centralized controller has set the shielding function.	

When there is a malfunction during operation, error will be displayed on the temperature displaying zone of LCD. When several malfunctions occur at the same time, these error codes will be displayed circularly.

When there is a malfunction, please turn off the unit and ask the professional for maintenance.

For example, E1 means high pressure protection during operation.

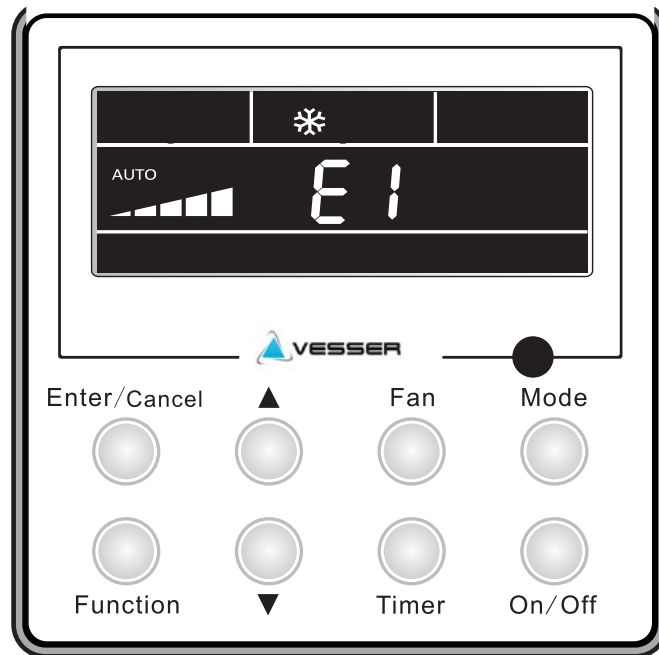


Figure 2-6-1

## 7 CENTRALIZED CONTROLLER

### 7.1 Smart Zone Controller

#### 7.1.1 Function

The smart zone controller can directly control up to 16 sets of indoor units in a control network and is available to check the running status of any unit through the LCD, including running mode, timer, fan speed, centralized control and shielding setting etc.

#### 7.1.2 Outline Drawing of Press Buttons



Figure 2-7-1

## 7.1.3 Functions of Press Buttons

Table 2-7-1 Functions of Press Buttons

No.	Name	Function Description
1	Mode	It is used for the switchover among different modes.
2	Fan	It is used to set the fan speed, high, medium, low or auto.
3	On/Off	It is used to set the on/off status of the indoor unit.
4	▲	1. Under the single/centralized control status: It is used to set the running temperature of the indoor unit with max.30°C anmin.16°C; 2. Under the timing setting status: It is used to set the timing period with max.24 hours and min.0 hour; 3. Under the clock setting status: it is used to set the hour (max.:23, min.: 0) and minute (max.:59, min.: 0) of the clock.
5	▼	
6	Mon 1/9	It is used for the switchover between unit 1 and unit 9; Under the timing or clock setting status, it indicates Monday.
7	Tue 2/10	It is used for the switchover between unit 2 and unit 10; Under the timing or clock setting status, it indicates Tuesday.
8	Wed 3/11	It is used for the switchover between unit 3 and unit 11; Under the timing or clock setting status, it indicates Wednesday.
9	Thu 4/12	It is used for the switchover between unit 4and unit 12; Under the timing or clock setting status, it indicates Thursday.
10	Fri 5/13	It is used for the switchover between unit 5and unit 13; Under the timing or clock setting status, it indicates Friday.
11	Sat 6/14	It is used for the switchover between unit 6 and unit 14; Under the timing or clock setting status, it indicates Saturday.
12	Sun 7/15	It is used for the switchover between unit 7 and unit 15; Under the timing or clock setting status, it indicates Sunday.
13	8/16	It is used for the switchover between unit 8 and unit 16.
14	Timer/Time	It is used to set the timing or on/off time of the selected indoor unit as well as to set the clock of the system.
15	Central	It is used for the switchover between single and centralized control modes.
16	Shield	It is used to deactivate some or all functions of a single or a group the indoor unit(s).
17	All on/off	It is used to start/stop all indoor units.

## 7.1.4 LCD of the Controller

### 7.1.4.1 Outline Drawing of the LCD

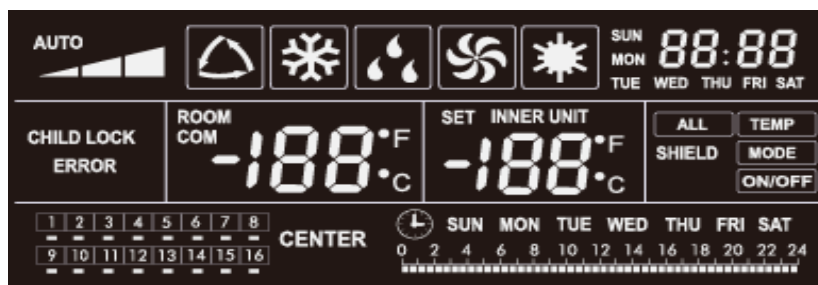


Figure 2-7-2

### 7.1.4.2 Introduction to Symbols on the LCD



Figure 2-7-3

Table 2-7-2 Introduction to the Symbols on the LCD

No.	Name	Description
1	Fan speed	It displays the fan speed of the indoor unit, high, medium, low and auto.
2	Running mode	It displays the running mode of the indoor unit, auto, cool, dry, fan and heat.
3	System clock	It displays the current time (hour and minute) in 24-hour time system and also the week day.
4	Shield	It displays the shield status, "ALL", "TEMP", "MODE" and 'On/Off'.
5	Weekly timer	It displays the timing period (unit: 0.5 hour) which will circulate every week.
6	Set temperature Indoor unit code	It displays the set temperature, indoor unit code (01-16), and symbols of Celsius and Fahrenheit scale.
7	Control mode	It displays "CENTER" under the centralized control mode and no display under the single control mode.
8	Ambient temperature Serial port	It displays the ambient temperature, serial port as well as symbols of Celsius and Fahrenheit scale.
9	Indoor unit code On/off status	Numbers indicate the indoor unit codes which will be displayed when the corresponding indoor unit is online; "" indicates the on/off status of the indoor unit, its flashing for "on" or else for "off"
10	Error Child lock	It displays the error codes when some error(s) arises and also "CHILD LOCK" when this function is activated.

### 7.1.4.3 Network Topology

#### Network Connection of the Smart Zone Controller

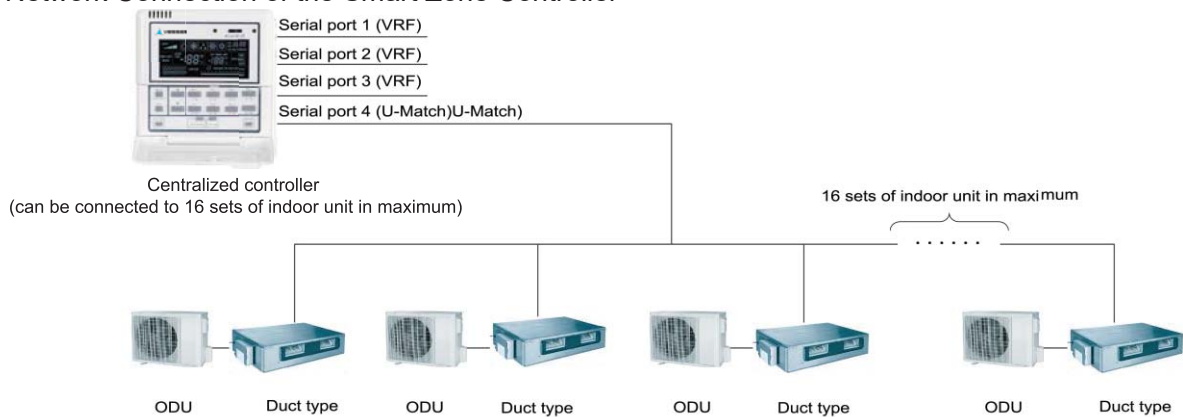


Figure 2-7-4






Table 2-7-3 Door control wiring port

No.	Terminal name	Terminal instruction
1	CN1	CN1 wiring terminal and door control interface of indoor mainboard
2	X1(AC-L, AC-N)	X1(AC-L, AC-N) wiring terminal, connected to door control input signal, rated voltage 220V.
3	X2	X2 wiring terminal, connected to door control input signal

(2) Function instructions:

In order to achieve this function, set it through wired controller and refer to the following operation method. It is defaulted that this function is not activated; if this function is set and door control accessories are connected, the unit will control the ON/OFF of unit according to the card state detected by door control detection board. When the card is not connected, the unit will turn to standby state. If the unit is with wired controller,  icon will be displayed on the wired controller.

If the unit is without wired controller, there will be no display. The unit will control the ON/OFF of unit according to the detected information.

(3) Setting method:

Under off state of the unit, press Function and Timer buttons at the same time for 5s to go to the debugging menu. Press Mode button to adjust to "08" in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

- 1) Without door control function (LCD displays 00)
- 2) With door control function (LCD displays 01)

Choose the second selection and then press Enter/Cancel button to save and exit setting. Now, door control function is activated. The unit will memorize this setting status. The setting value will be memorized after power failure. The detailed setting is as shown in the Figure below:

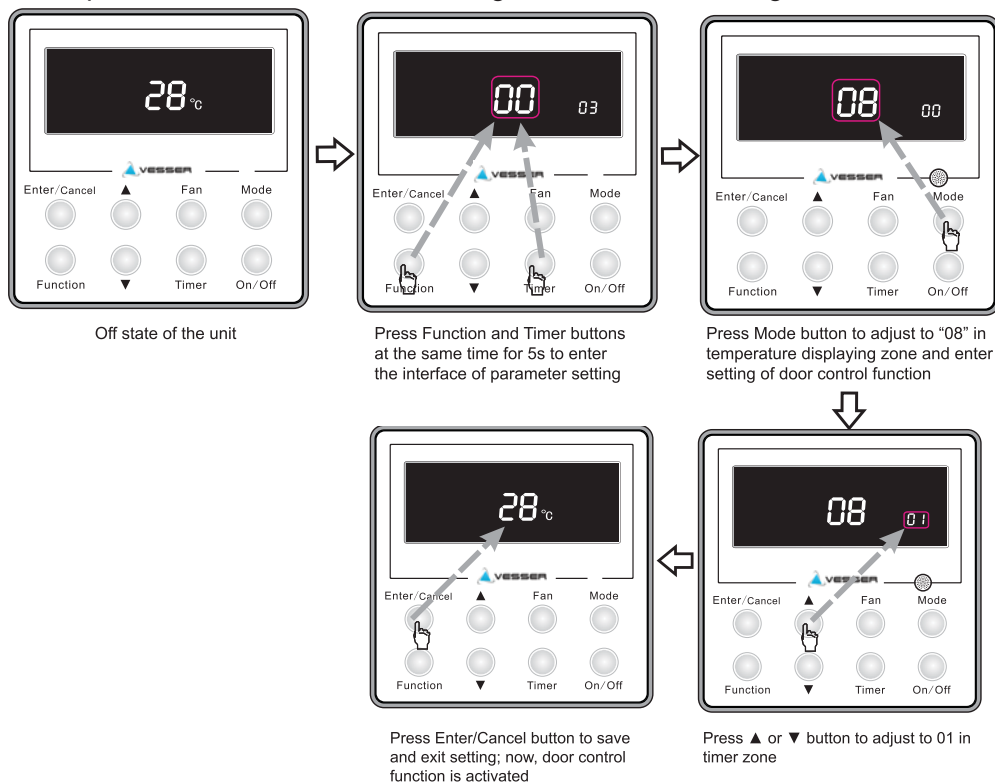


Figure 2-7-7

## 7.2.2 MODBUS interface

The indoor unit of this series has MODBUS interface. If the user needs to connect the unit to the management system of the building, please enquire Gree for the MODBUS protocol.

Choose one of the connection ways

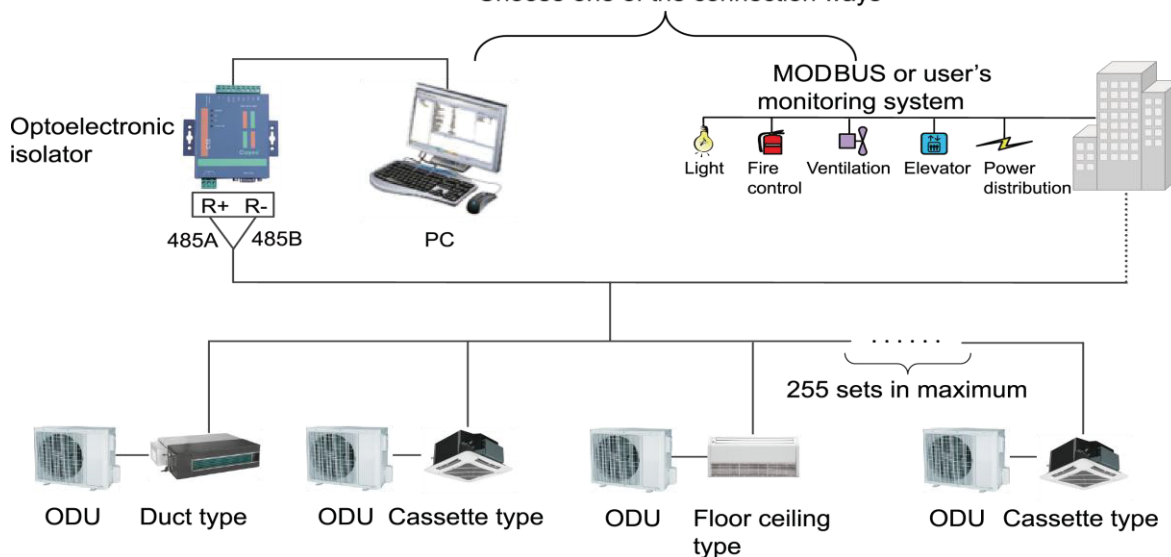


Figure 2-7-8

(1) Interface instruction:

- 1) The printing is COM-BMS1 and the interface type is B4B-XH-K3;
- 2) Electrical characteristic: baud rate: 9600bps; standard: RS485;
- 3) Working principle:

The indoor mainboard can send out the unit operation state through this interface and receive logical control information to realize control and monitor of the unit.

(2) Function instructions:

In order to achieve this function, set the address mode and address through wired controller. Please refer to Point 3 for the setting method. You must set the address mode into long-distance control address mode.

The address mode is defaulted to be connecting to centralized controller mode and the defaulted address is 1.

(3) Setting method:

Firstly, set the address mode of wired controller into centralized controller address mode. The setting method is:

Under off state of the unit, press Function and Timer buttons at the same time for 5s to go to the debugging menu. Press Mode button to adjust to "10" in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

- 1) Centralized controller address mode (LCD displays 00)
- 2) Long-distance control address mode (LCD displays 01)

Choose the second selection and then press Enter/Cancel button to save and exit setting. Now, the address of wired controller is set to match the address of long-distance control. The unit will memorize this setting status. The setting value will be memorized after power failure. The detailed setting is as shown in the Figure below:

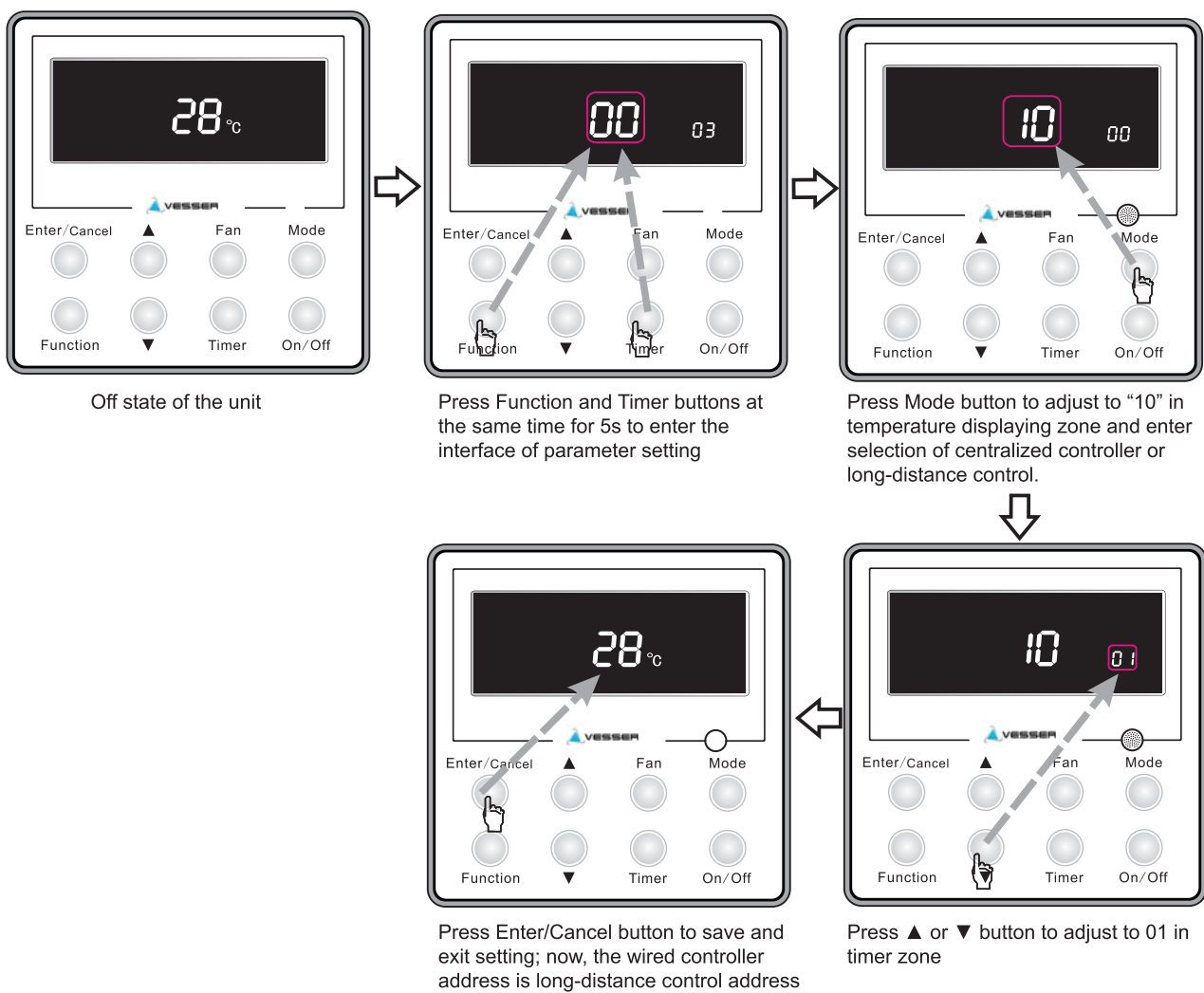


Figure 2-7-9

Address setting of each unit: when the address mode is set to be long-distance control address mode. The address setting value range is 01~255. The setting method is:

Under off state of the unit, press Function and Mode buttons at the same time for 5s to enter setting interface of wired controller address. LCD displays address sequence. Press ▲ or ▼ button to adjust the address sequence and then press Enter/Cancel button to confirm. The setting value will be memorized after power failure. The detailed setting is as shown in the Figure below:

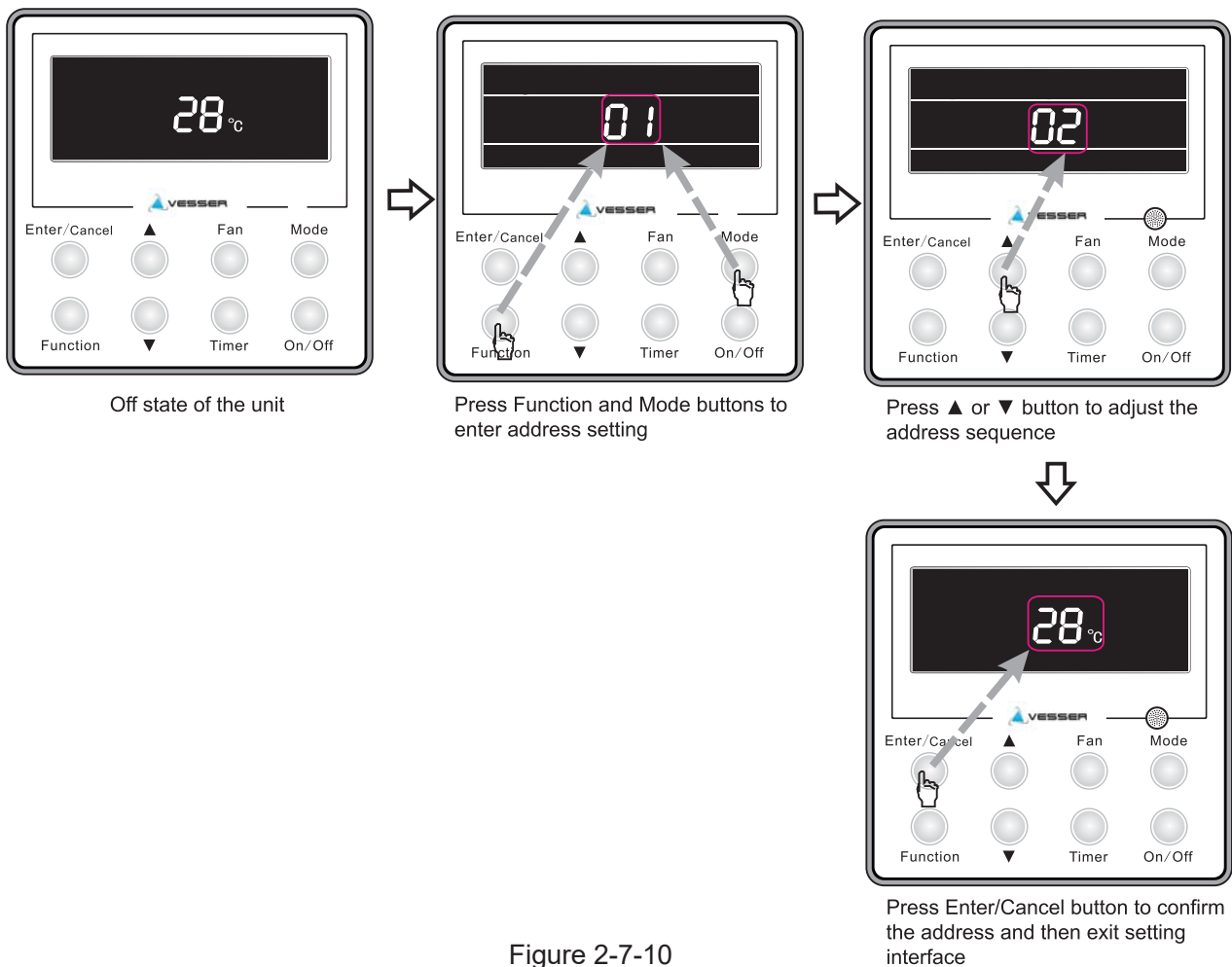


Figure 2-7-10

**Note:**

- ① In order to realize the MODBUS interface function, the address mode of the unit must be set into long-distance control address mode; you can not set it into centralized control address mode, otherwise, this function can not be realized;
- ② The unit can not be connected to MODBUS and centralized controller at the same time; only one of them can be selected;
- ③ 255 sets of unit in maximum can be connected in the same network; the unit addresses in the same network must be different, otherwise, the unit control will be affected;
- ④ Perform wiring when the unit power is cut off.

# INSTALLATION

# INSTALLATION

## 1 INDOOR UNIT INSTALLATION

### 1.1 Installation of Duct Type

#### 1.1.1 Before Installation

After receiving the machine, please check for any transport damage. If finding any surface or internal damage, please immediately report to the transport company or equipment company in writing.

After receiving the machine, please check the unit and accessories in reference to the packing list. Ensure that the model is correct and the machine is in good condition. Please also check if the specification and quantity of accessory parts are correct.

Determine the correct handling route and methods, thus to avoid damaging the unit or causing possible hazard. For the sake of protection and safety, it is suggested to move the unit with the packaging box. Even though it is not permitted to do like this under special occasions, do not remove the packaging box, thus to avoid loosening or falling during handling.

Confirm if the installing foundation is solid. When this unit is to be installed on the metal section of the building, make sure that the electrical insulation must comply with applicable standards.

Ensure that the place of installation is far from the area where the inflammable or explosive substances are stored, thus to avoid possible explosion or fire due to leakage.

#### 1.1.2 Installation Site

Ensure the top hanging piece has strong strength to withstand the weight of the unit.

The drainage pipe has convenient flow of water.

There is no obstacle blocking the return air inlet and exhaust outlet, so as to ensure sound air circulation.

The installation spaces required by the drawing must be ensured, so as to provide enough space for the service and maintenance.

The installation site must be far away from heat source, leakage of inflammable gas or smoke.

The indoor unit is of ceiling mount (indoor unit is hidden inside the ceiling).

The indoor and outdoor units, the power cable and the connecting electrical lines must be at least 1 meter from any TV set or radio. This is to avoid image interference or noise of the TV set or radio. (Even if the distance is 1 meter, noise can also exist if there is strong electric wave.)

#### 1.1.3 Caution for Installation

Generally, the unit is installed indoor on ceiling. For ceiling mounting, ensure that the hangers on ceiling have adequate strength to support the weight of the unit.

To meet the noise and vibration requirements, the unit shall be installed by using rubber pad (thickness  $\geq 20\text{mm}$ ) and rubber connector.

Insert a M10 expansion bolt into the hole. Drive a nail into the bolt. Refer to the profile dimensions drawing of the indoor unit for the distance between the holes. Refer to Figure 3-1-1 for the installation of the expansion bolt.

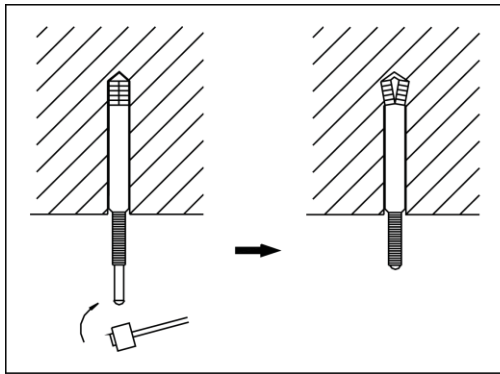


Figure 3-1-1

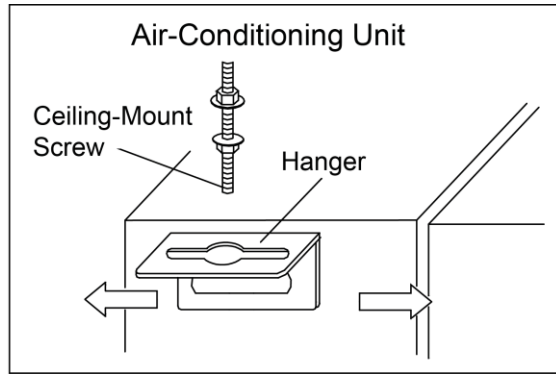


Figure 3-1-2

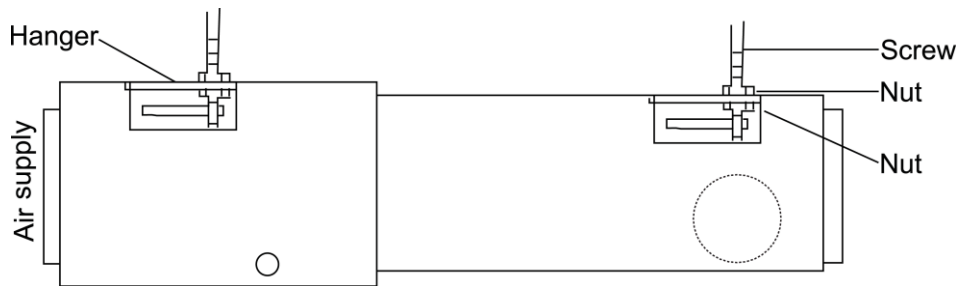


Figure 3-1-3

Install the hanger onto the indoor unit as Figure 3-1-2 and Figure 3-1-3 shows.

Install the indoor unit at the ceiling as Figure Figure 3-1-4 shows.

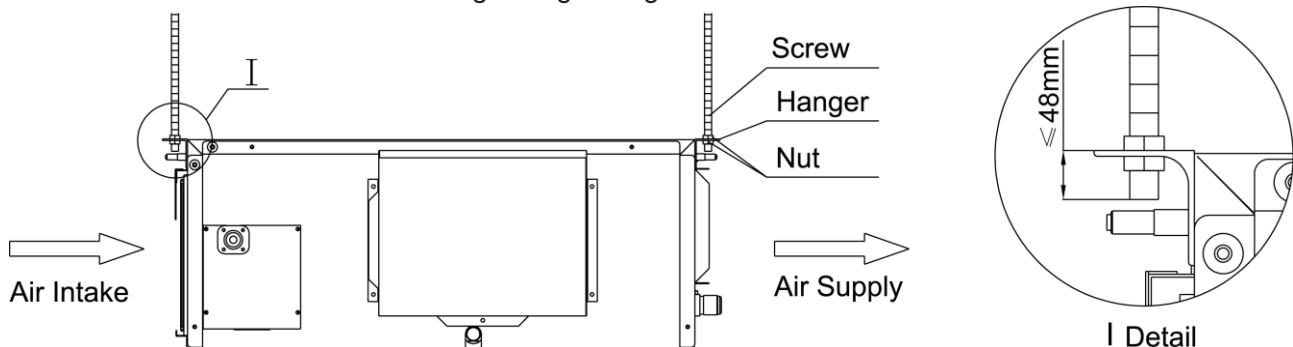


Figure 3-1-4

Precautions for unfavorable installation:

The preparation of all pipes (connecting pipes and drainage pipes) and cables (connecting lines of wire controller, indoor unit and outdoor unit) must be ready before the installation, so as to achieve smooth installation.

Drill an opening on the ceiling. Maybe it is required to support the ceiling to ensure the evenness of it and avoid the vibration of it. Consult with the user or a construction company for details.

In case the strength of ceiling is not enough, use angle iron sections to set up a beam support. Place the unit at the beam and fix it.

Level inspection of the indoor unit

After the indoor unit is installed, it is required to check the level of the whole unit. The unit must be placed horizontally, but the condensate pipe shall be installed obliquely, so as to facilitate the drainage of

Precautions for unfavorable installation:

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In case the strength of ceiling is not enough, use angle iron sections to set up a beam support. Place the unit at the beam and fix it.

Level inspection of the indoor unit

After the indoor unit is installed, it is required to check the level of the whole unit. The unit must be placed horizontally, but the condensate pipe shall be installed obliquely, so as to facilitate the drainage of condensate.

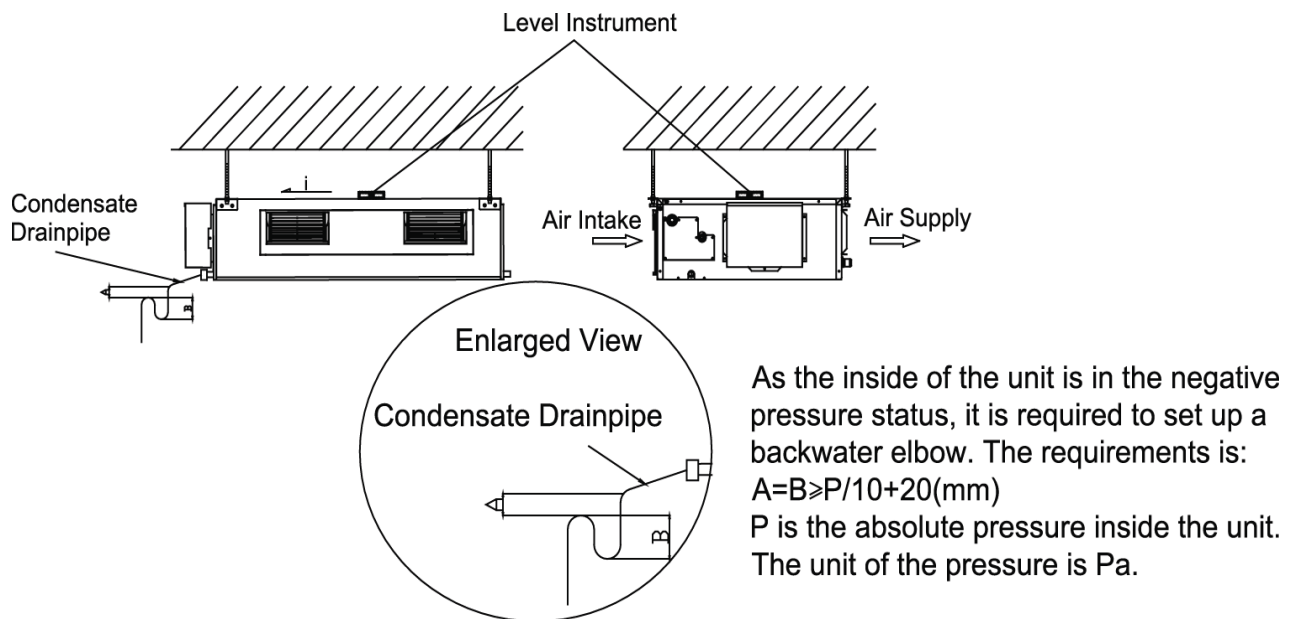


Figure 3-1-5



## 1.1.4 Dimension Data

For the DGU units: 42~60K

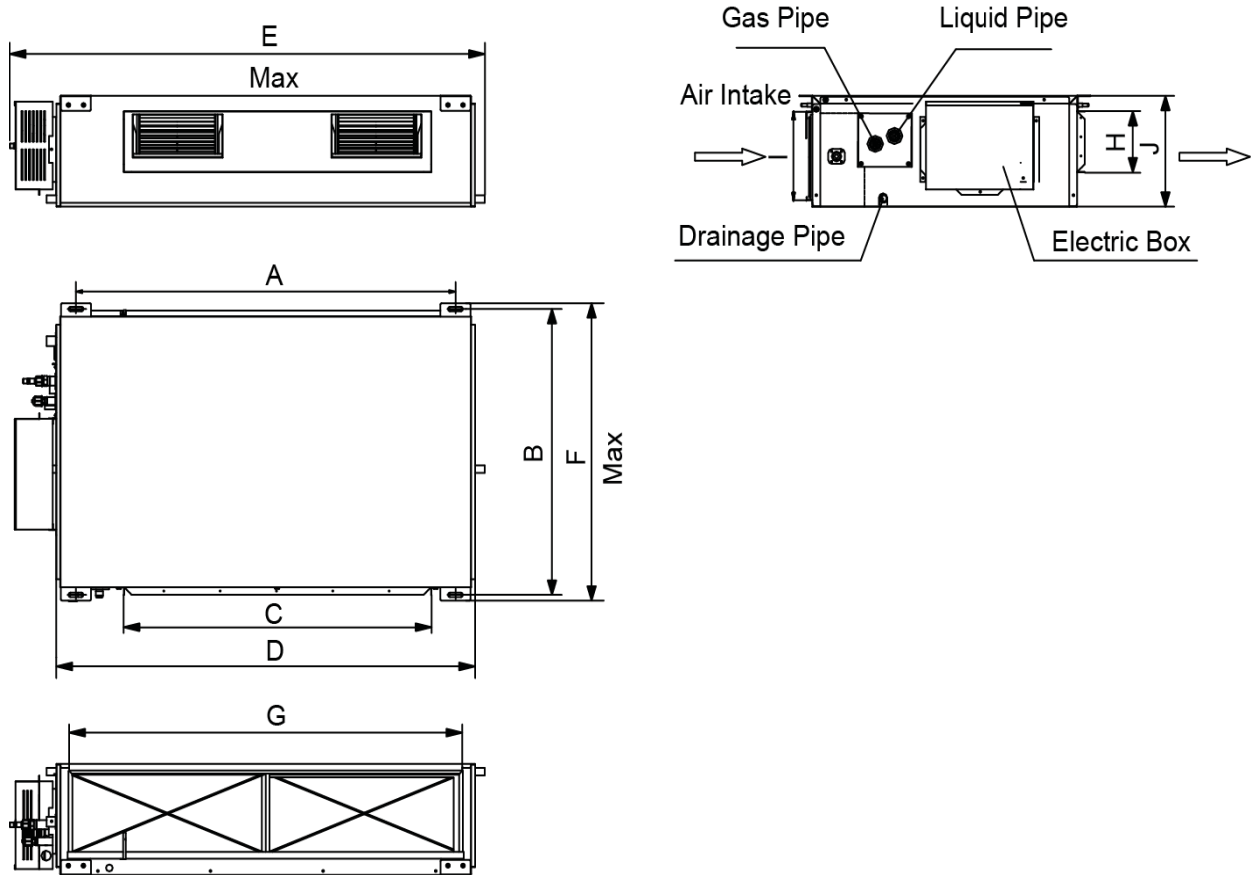


Figure 3-1-7

Table 3-1-1

Item Model	A	B	C	D	E	F	G	H	I	J
DGU 42H	1011	748	820	1115	1230	790	979	160	231	290
DGU 48H	1011	748	820	1115	1230	790	979	160	231	290
DGU 60H	1011	788	820	1115	1235	830	979	160	256	330

Table 3-1-2 Installation Accessories List for Duct-type Indoor Unit

Name & Shape	QTY	Notes
Installation and Operating Instructions	1	
Insulation materials for gas pipe	1	Used for gas pipe connector on indoor unit
Insulation materials for liquid pipe	1	Used for liquid pipe connector on indoor unit
Insulation materials for drainage pipe	2	Used for wrapping the condensate pipe and rubber plug.
Nut M8 with gasket	8	Use for fixing the hanger hook
	4	4 sets, used for ceiling mounting of the indoor unit
Nut and spring gasket	4	
Hook	4	Used for ceiling mounting of the indoor unit
Strap	4 or 8 pcs	4 pcs for 18KBtu/h unit and 8 pcs for others
Wired controller	1	
Remote controller	1	
Battery	2	
Flexibile pipe	0.2 or 4 pcs	0 pc for 18 KBtu/h unit; 2 pcs for 22.5,27KBtu/h unit; and 4 pcs for 36-45KBtu/h unit
Power cord	1 – 2 pcs	2 pcs for36-45 KBtu/h unit and 1 pc for others
Connection wire		

## 1.1.5 Installation Clearance Data

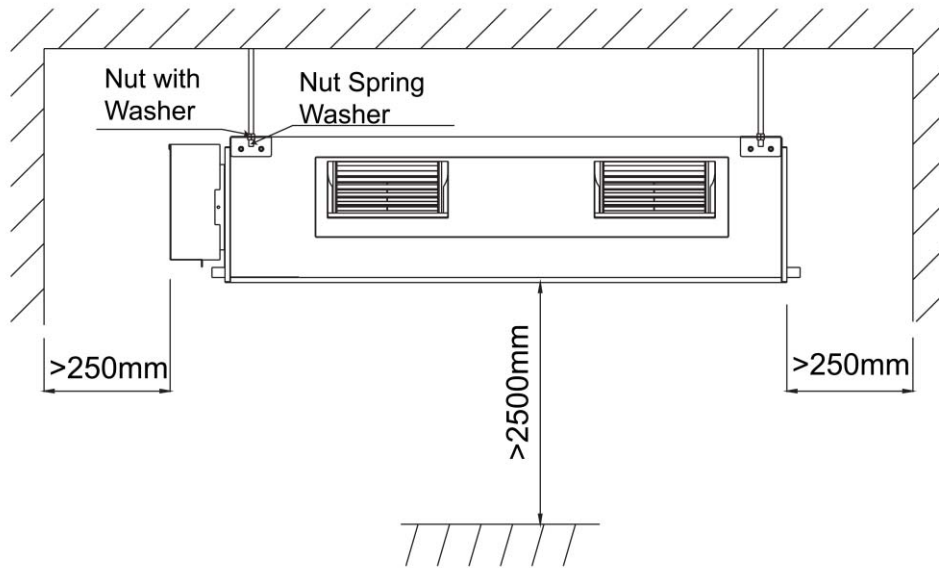


Figure 3-1-8

Warning: The height of installation for the indoor unit should be 2.5m above.

## 1.1.6 Drain Piping Work

Installation of Drainage Pipeline:



**CAUTION!**

Install the drain hose in accordance with the instructions in this installation manual and keep the area warm enough to prevent condensation. Problems with the piping may lead to water leaks.

- (1) Install the drain hose with downward gradient (1/50 to 1/100) and no risers or traps are used for the hose. (Figure 3-1-8)
- (2) Be sure there is no crack or leak on the drain hose to avoid the formation of air pocket. (Figure 3-1-8)
- (3) When the hose is long, install supporters. (Figure 3-1-9)
- (4) Always use the drain hose which has been insulated properly.

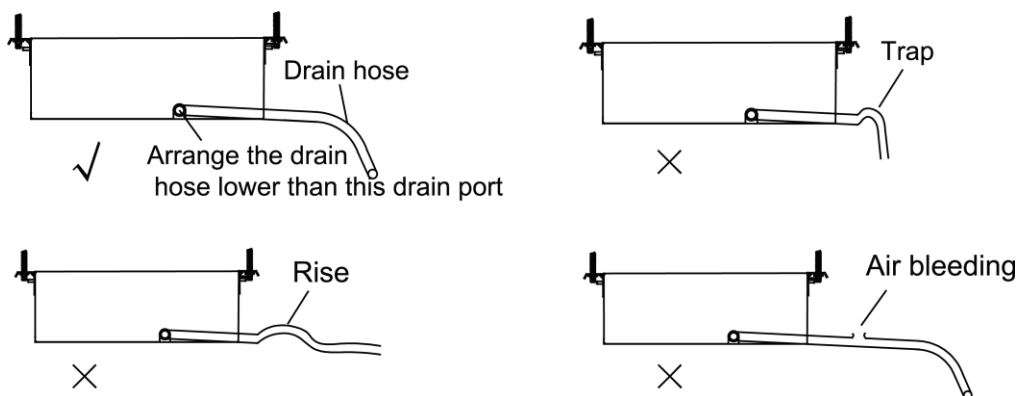


Figure 3-1-9

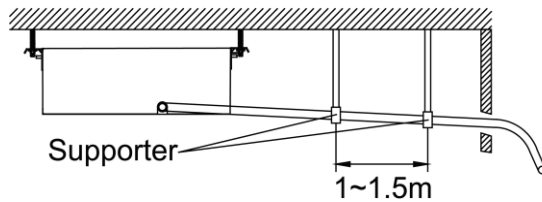


Figure 3-1-10

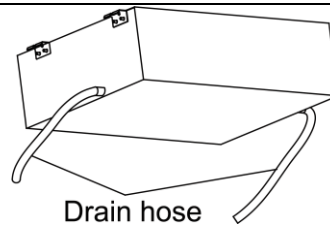


Figure 3-1-11

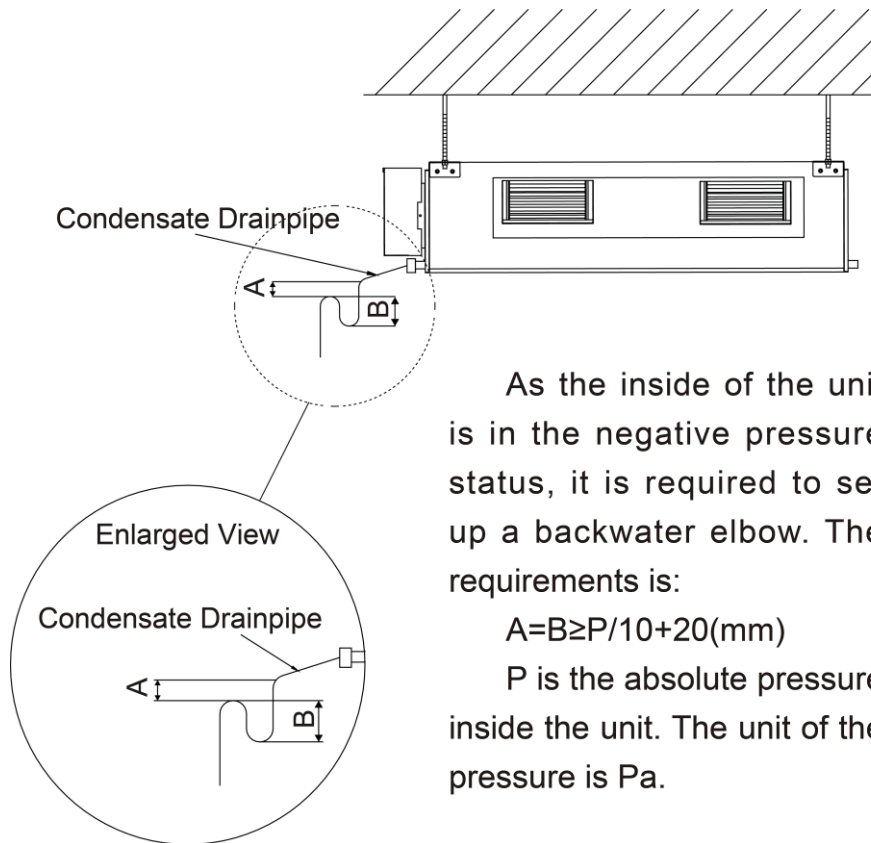


Figure 3-1-12

- (5) Use a suitable drain hose, and see Table 3-2-4 for its size.

- (6) There is a drain port on both the left and right sides.  
Select the drain port to match the local conditions. (Figure 3-1-11)

- (7) When the unit is shipped from the factory, the drain port is defaulted to be the one on the left side (electric box side); the port on right side has been plugged.

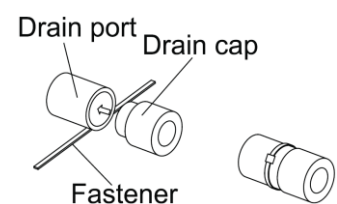


Figure 3-1-13

- (8) When using the drain port on the right side of the unit, reinstall the drain cap to the left side drain port. (Figure 3-1-13)



**CAUTION!**

Always check that the drain cap is installed to the unused drain port and is fastened with the nylon fastener. If the drain cap is not installed, or is not sufficiently fastened by the nylon fastener, water may drip during the cooling operation.

- (9) Be sure to insulate where the drain port and the drain hose is connected. (Figure 3-1-14)  
(10) The unused drain port also should be insulated properly. (Figure 3-1-15)

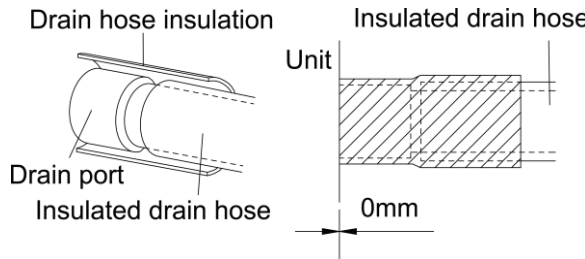


Figure 3-1-14

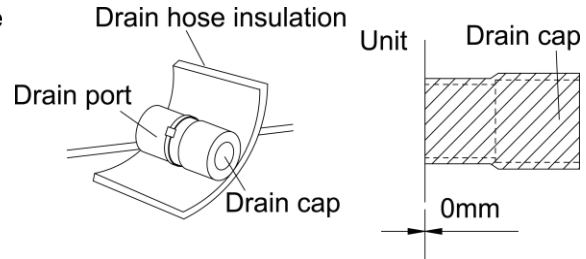


Figure 3-1-15

(11) There is adhesive on one side of the insulation so that after removing the protective paper over it the insulation can be directly attached to the drain hose.

(12) Considerations for the unit with the condensate pump:

- 1) For the unit with the condensate pump, only one drain port at the side close to the electric box is prepared and only through it the drain hose can be connected.
- 2) See table 3 for the size of the drain port of the unit with the condensate pump, which is different from that of the unit without the condensate pump.
- 3) For the unit with the condensate pump, two drain ports at the bottom are defaulted to be factory plugged with drain caps. After the installation of the drain hose, these two drain ports also need to be insulated properly with the same way aforementioned.
- 4) The drain hose for the unit with the condensate pump should be arranged as shown in the figure below.

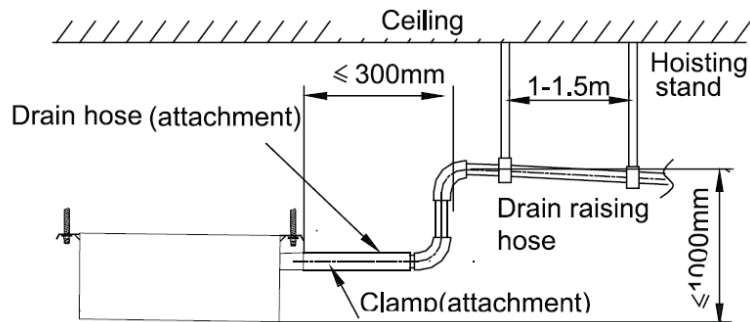


Figure 3-1-16

- a) The vertical height of the drain hose should be 75mm or less so that it is unnecessary for the drain port to withstand additional force.

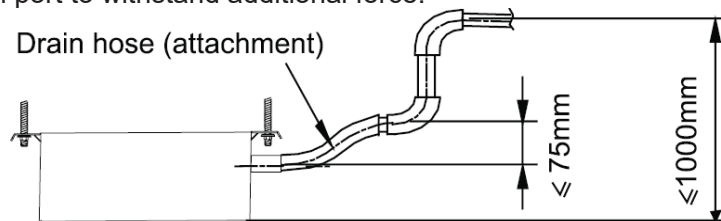


Figure 3-1-17

- b) When multiple drain hoses are used, their installation should be performed as shown in the figure below.

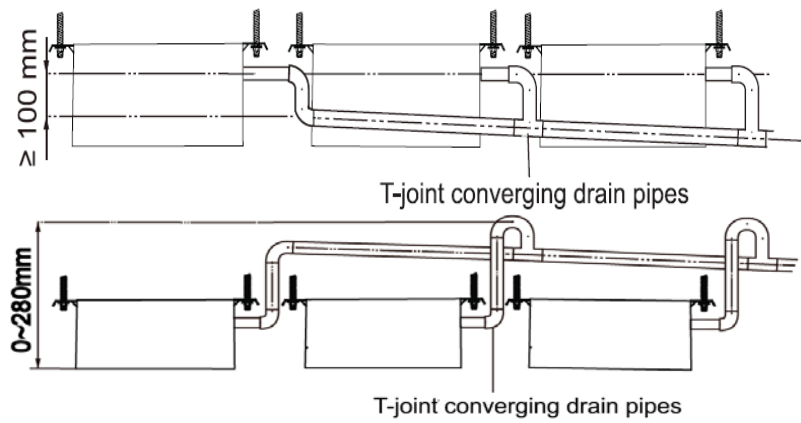


Figure 3-1-18

### 1.1.7 Installation of air duct

Dimensions of the Supply Air Outlet/Return Air Inlet

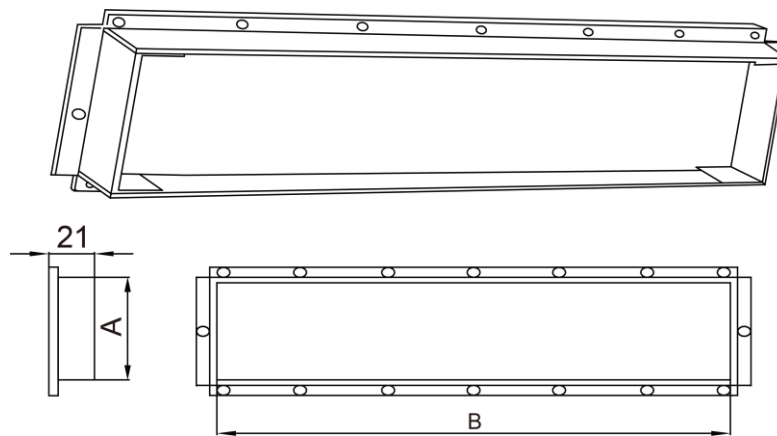


Figure 3-1-19 Supply Air Outlet



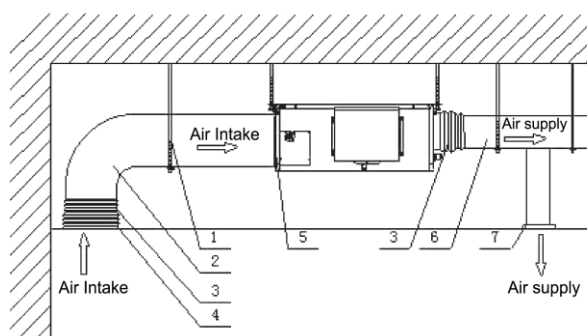
Figure 3-1-20 Return Air Inlet

Table 3-1-3

Model \ Item	Supply Air Outlet		Return Air Inlet	
	A	B	C	D
DGU 42H	158	818	1000	206
DGU 48H	158	818	1000	206
DGU 60H	190	850	940	286

## 1.1.8 Installation of the Supply Air Duct

### (1) Installation of the Rectangular Duct.



No.	Name	No.	Name
1	Hanger	5	Filter
2	Air Intake Pipe	6	Main Air Supply Pipe
3	Canvas Air Pipe	7	Air Supply Outlet
4	Air Intake		

Figure 3-1-21



**CAUTION!**

- ①. The maximum length of the duct means the maximum length of the supply air duct plus the maximum length of the return air duct.
- ②. The duct is rectangular and connected with the air inlet/outlet of the indoor unit. Among all supply air outlets, at least one should be kept open.

(2) The default installation location of the rectangular flange is at the back and the return air cover plate is at the bottom, as shown in Figure 3-1-22.

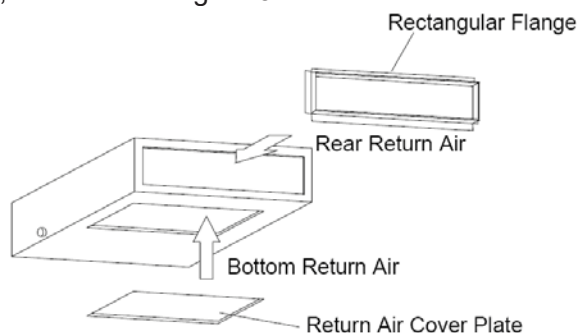


Figure 3-1-22

- (3) If the bottom return air is desired, just change the place of the rectangular flange and the return air cover plate.
- (4) Connect one end of the return air duct to the return air outlet of the unit by rivets and the other to the return air louver. For the sake of the convenience to freely adjust the height, a cutting of canvas duct will be helpful, which can be reinforced and folded by 8# iron wire
- (5) More noise is likely to be produced in the bottom return air mode than the backward return air mode, so it is suggested to install a silencer and a static pressure box to minimize the noise.
- (6) The installation method can be chosen with considering the conditions of the building and maintenance etc., as shown in Figure 3-1-23.

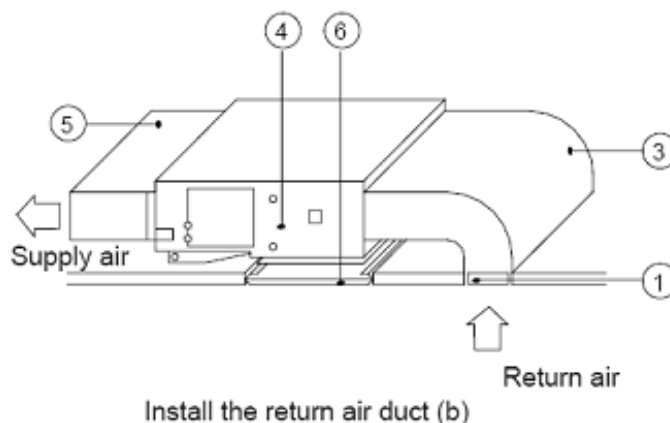


Figure 3-1-23  
Table 3-1-4 Installation of the return air duct

No.	Name	No.	Name
1	Return Air Inlet (with filter)	4	Indoor unit
2	Canvas Duct	5	Supply Air Duct
3	Return Air Duct	6	Grille

## 1.2 Installation of Cassette Type

### 1.2.1 Before Installation

After receiving the machine, please check for any transport damage. If finding any surface or internal damage, please immediately report to the transport company or equipment company in writing.

After receiving the machine, please check the unit and accessories in reference to the packing list. Ensure that the model is correct and the machine is in good condition. Please also check if the specification and quantity of accessory parts are correct.

Determine the correct handling route and methods, thus to avoid damaging the unit or causing possible hazard. For the sake of protection and safety, it is suggested to move the unit with the packaging box. Even though it is not permitted to do like this under special occasions, do not remove the packaging box, thus to avoid loosening or falling during handling.

Confirm if the installing foundation is solid. When this unit is to be installed on the metal section of the building, make sure that the electrical insulation must comply with applicable standards.

Ensure that the place of installation is far from the area where the inflammable or explosive



substances are stored, thus to avoid possible explosion or fire due to leakage.

## 1.2.2 Installation Site

Select an installation site where the following conditions are fulfilled and that meets your customer's approval.

- (1) Obstruct should be put away from the intake or outlet vent of the indoor unit so that the airflow can be blown through all the room.
- (2) Make sure that the installation meets the requirement of the schematic diagram of installation spaces.
- (3) Select the place where can stand 4 times of the weight of the indoor unit and would not increase the operating noise and vibration.
- (4) The horizontality of the installation place should be guaranteed.
- (5) Select the place where is easy to drain out the condensate water, and connect with outdoor unit.
- (6) Make sure that there are enough space for care and maintenance, and the height fall between the indoor unit and ground is above 1800mm.
- (7) When installing the suspension bolt, check if the installation place can stand 4 times of the weight of the unit. If not, reinforce it before installation.

Note: There will be large amount of greasy dirt accumulated on the fan, heat exchanger and water pump located in the dinning room and kitchen, which would reduce the capacity of the heater exchanger, lead to leakage and abnormal operation of the water pump.

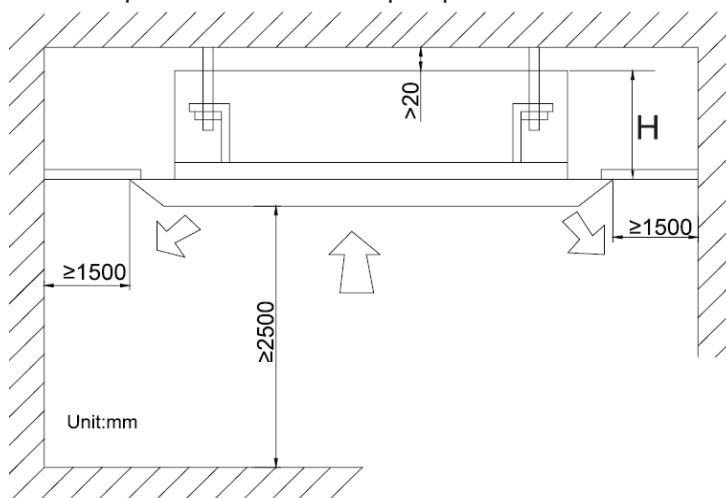


Figure 3-1-24

Table 3-1-6

Models	H(mm)
DGU 42H DGU 48H	320
DGU 60H	290

## 1.2.3 Installing the Main Body Unit

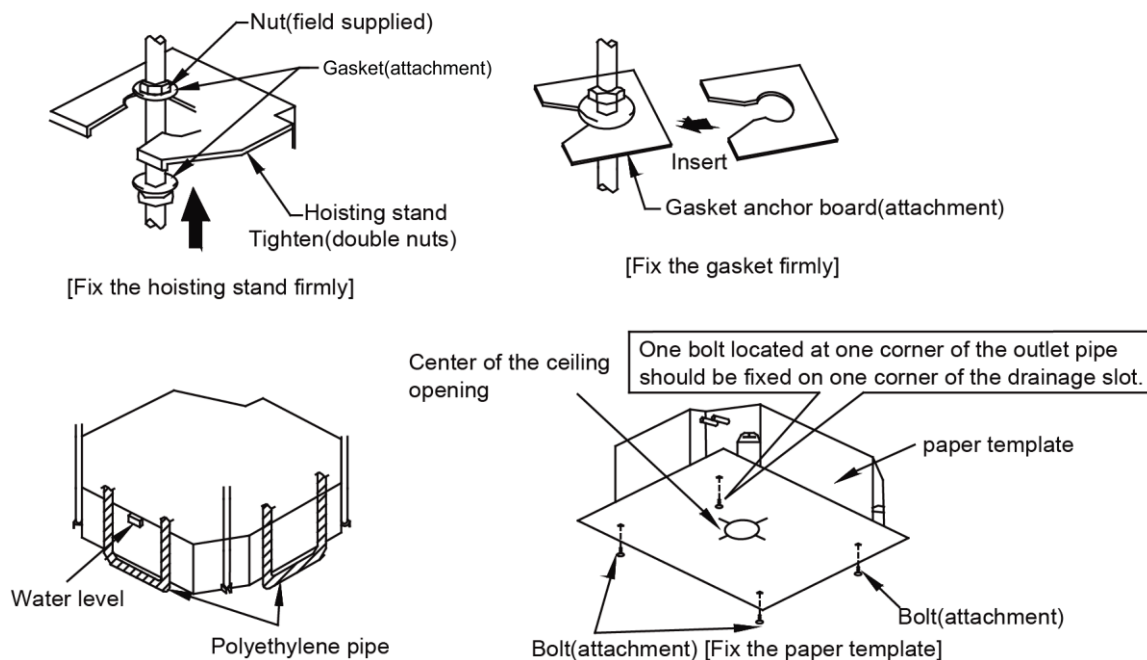


Figure 3-1-25

- (1) Install the hoisting stand on the hoisting screw by using nuts and gaskets at both the upper and lower sides of the hoisting stand. To prevent the gasket from breaking off, a gasket anchor board can be helpful.
- (2) Install the paper template on the unit, and fix the drain pipe at the outlet vent.
- (3) Adjust the unit to the best position.
- (4) Check if the unit is installed horizontally at four directions. If not, the water pump and the float switch would function improperly and even lead to water leakage.
- (5) Remove the gasket anchor board and tighten the nut remained.
- (6). Remove the paper template.

## 1.2.4 Installing the Suspension Bolts

- (1) Using the installation template, drill holes for bolts (four holes). (Figure 3-1-26)
- (2) Install the bolts to the ceiling at a place strong enough to hang the unit. Mark the bolt positions from the installation template. With a concrete drill, drill for 12.7 mm (1/2") diameter holes. (Figure 3-1-27)
- (3) Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer. (Figure 3-1-28)

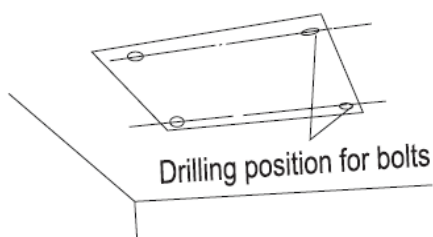


Figure 3-1-26

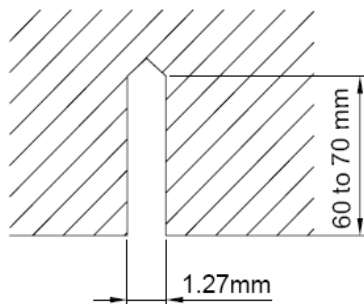


Figure 3-1-27

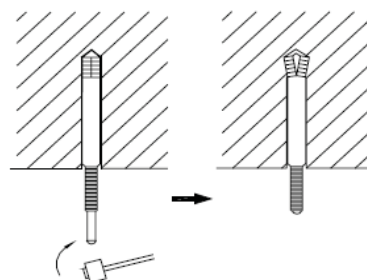


Figure 3-1-28

## 1.2.5 Leveling

The water level test must be done after installing the indoor unit to make the unit is horizontal, as shown below.

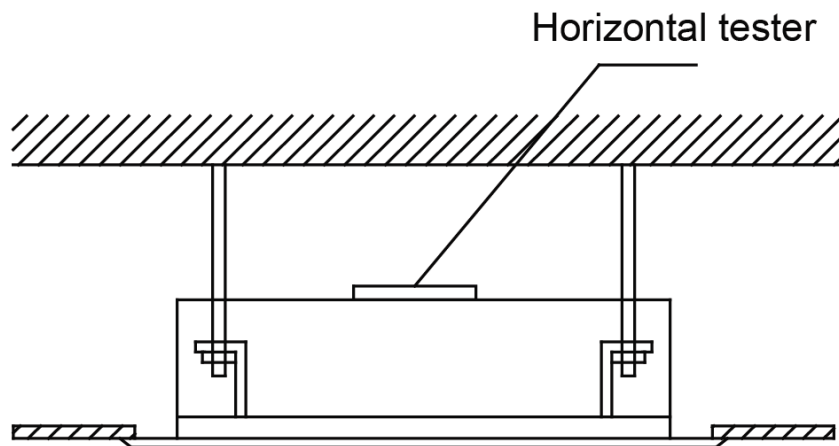


Figure 3-1-29

## 1.2.6 The Panel Installation

(1) See the figure below for the relationship of the front panel and the connecting pipe.

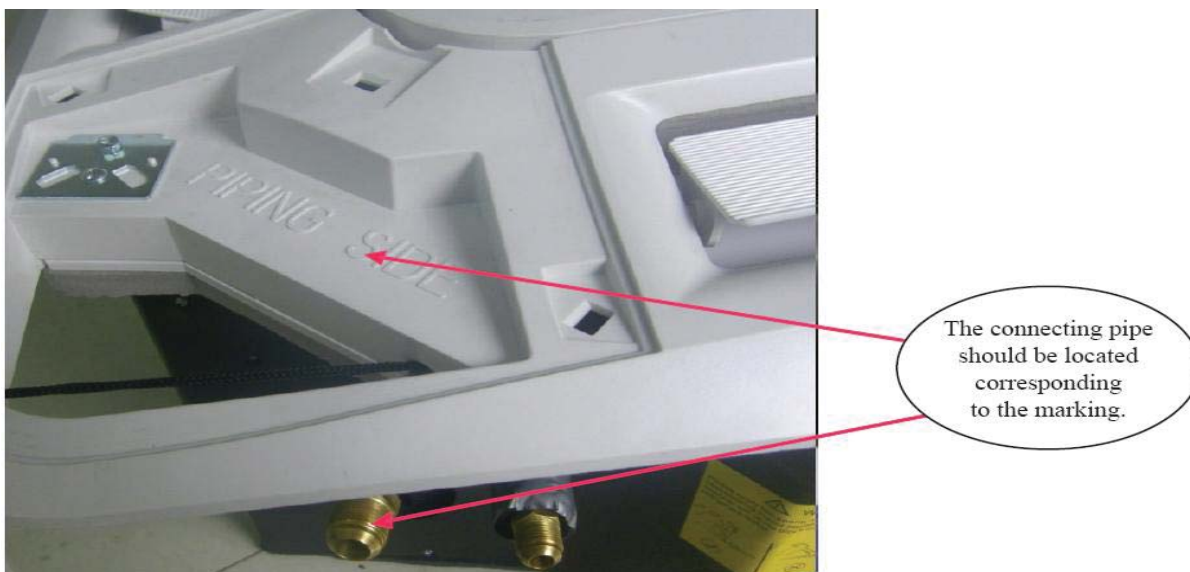


Figure 3-1-30

- (2) Place the panel at the unit, and latch the hooks beside and opposite the swing flap motor.
- (3) Latch other two hooks.
- (4) Tighten four hexagonal screws under the latches about 15mm.
- (5) Adjust the panel along the direction indicated by the arrow as shown in Figure 3-1-31.
- (6) Tighten the screws until the thickness of the sealing material between the panel and the indoor unit reduces to 5-8cm.

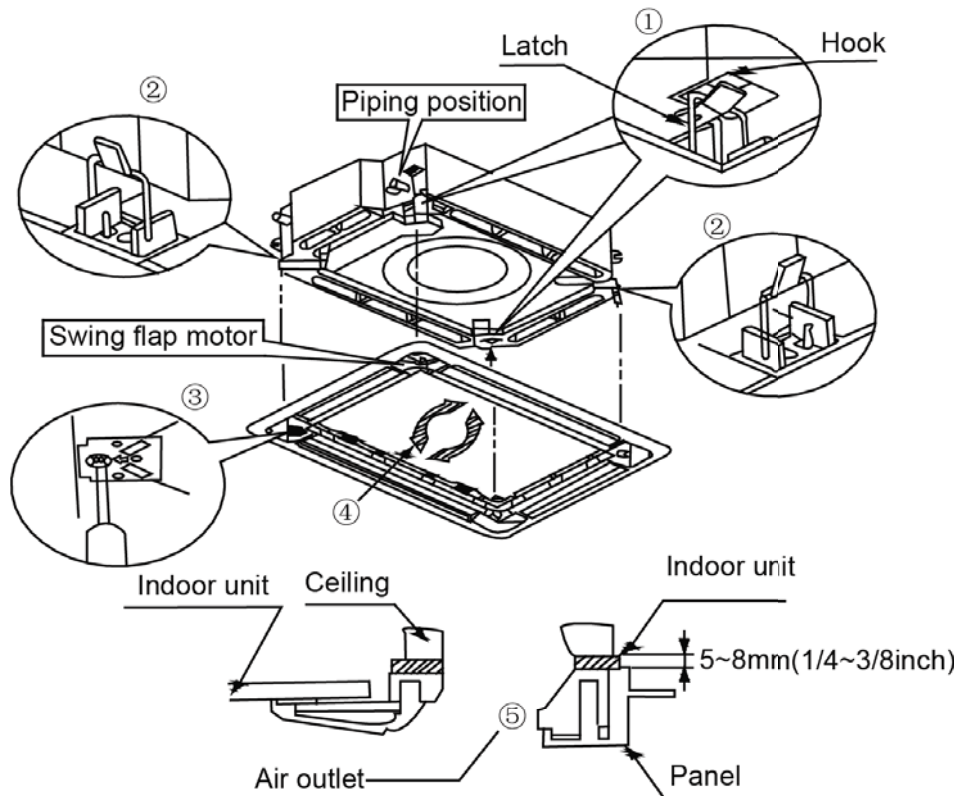


Figure 3-1-31

(7) Improper screwing of the screws may cause the troubles shown in Figure 3-1-32.

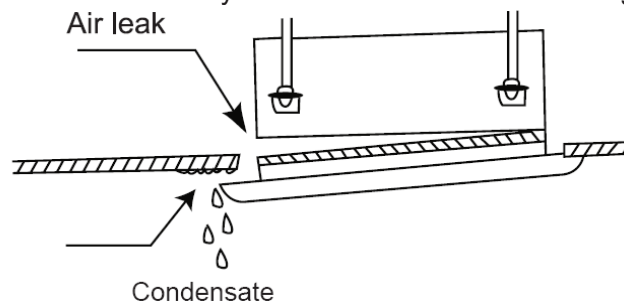


Figure 3-1-32

(8) If gap still exists between ceiling and decoration panel after tightening the screws, readjust the height of the indoor unit. (Figure 3-1-33)

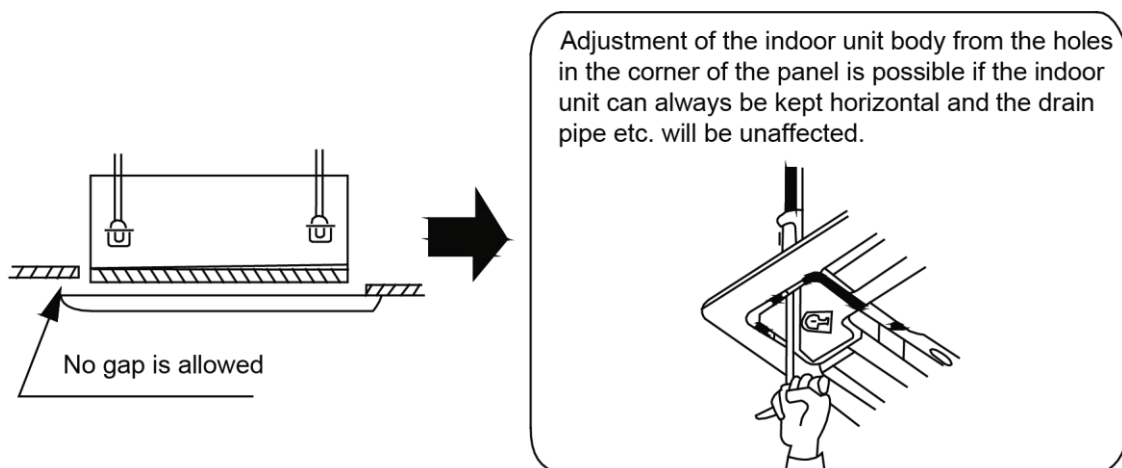


Figure 3-1-33

(9) Wire the swing flap motor as shown in Figure 3-1-34.

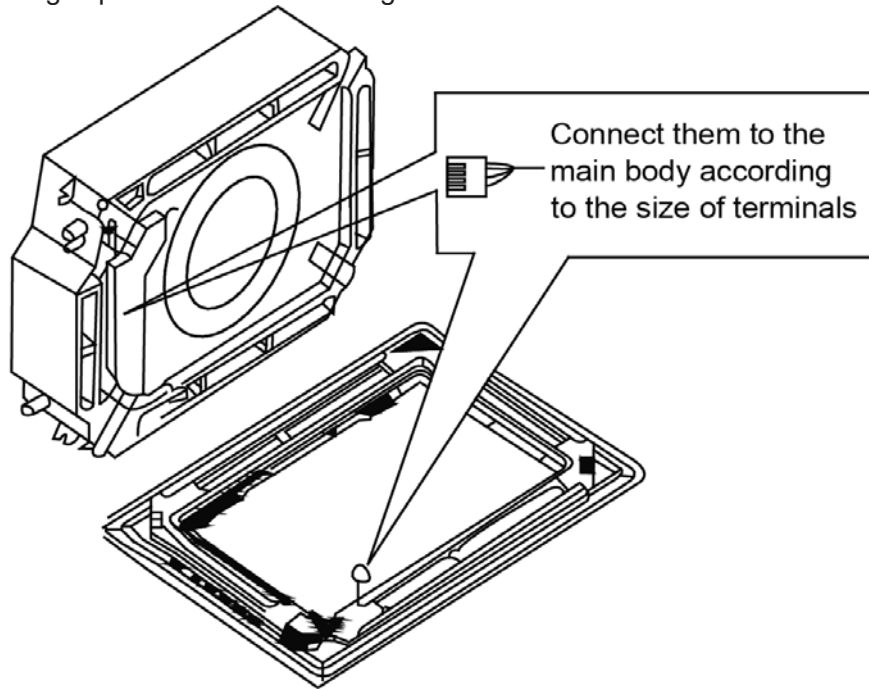


Figure 3-1-34

## 1.2.7 Dimension Data

For the units: 42~60K

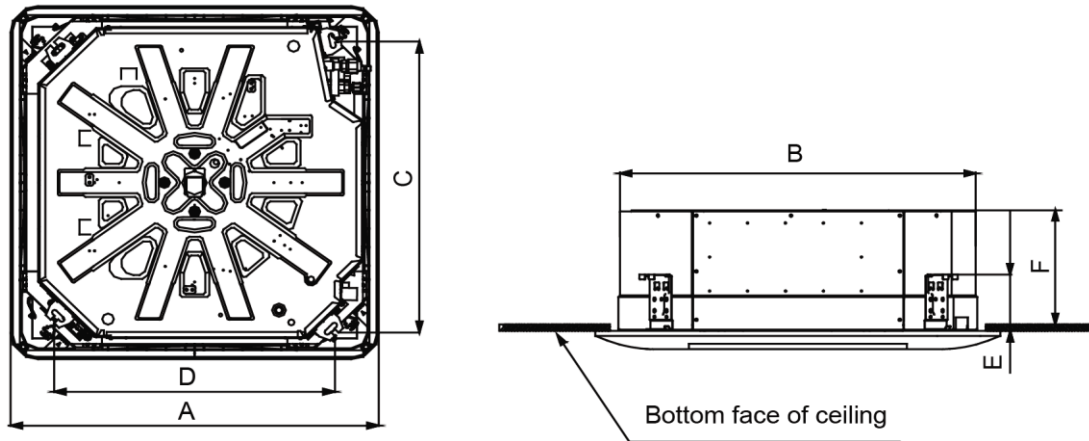


Figure 3-1-36

Table 3-1-8

Model \ Item	A	B	C	D	E	F
CGU 42H	950	840	776	712	134	320
CGU 48H						
CGU 60H	950	840	770	680	134	290

## 1.2.8 Installation of Drain Piping

- (1) Keep piping as short as possible and slope it downwards at a gradient of at least 1/100 so that air may not remain trapped inside the pipe.
- (2) Keep pipe size equal to or greater than that of the connecting pipe.
- (3) Install the drain piping as shown and take measures against condensation. Improperly rigged piping could lead to leaks and eventually wet furniture and belongings.

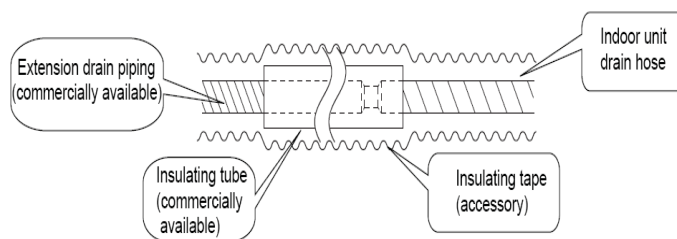


Figure 3-1-37

## 1.2.9 Installing the Drain Pipes

- (1) Insert the drain pipe to the drain outlet of the unit and then tighten the clamp securely with tape.
- (2) Connect the extension drain pipe to the drain pipe and then tighten the clamp with tape.

<p>Tighten the clamp until the screw head is less than 4 mm from the hose.</p> <p>①. Metal clamp ②. Drain hose (accessory) ③. Grey tape (accessory)</p>	<p>Insulate the pipe clamp and the drain hose using heat insulation sponge.</p> <p>①. Metal clamp (accessory) ②. Insulation sponge (accessory)</p>

- (3) When unifying multiple drain pipes, install the pipes as Figure 3-1-38.

Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.  
(take the cassette type unit for example)

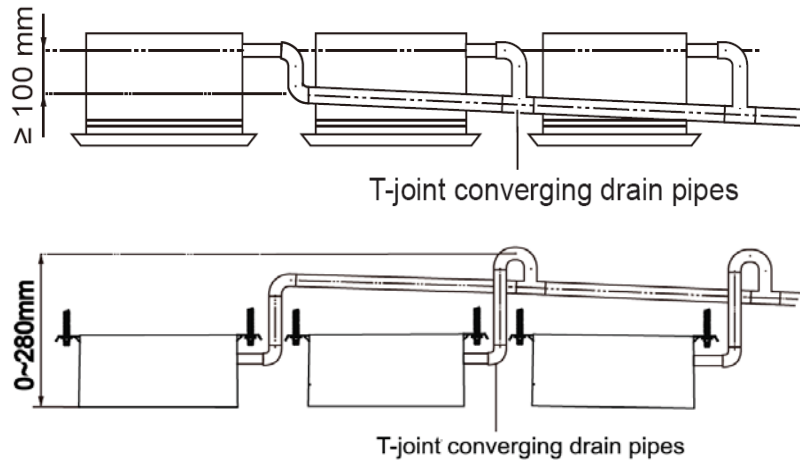


Figure 3-1-38

- (4) When the drain hose cannot keep a sufficient gradient, it is necessary to fit a riser pipe (field supplied) to it.
- (5) If the air flow of indoor unit is high, this might cause negative pressure and result in return suction of outdoor air. Therefore, U-type water trap shall be designed on the drainage side of each indoor unit. (Figure 3-1-39)
- (6) Install one water trap for each unit.
- (7) Installation of water trap shall consider easy cleaning in the future.

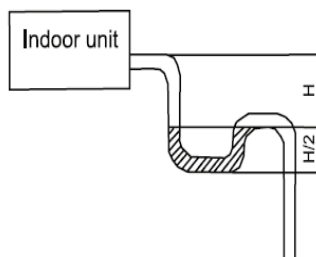


Figure 3-1-39

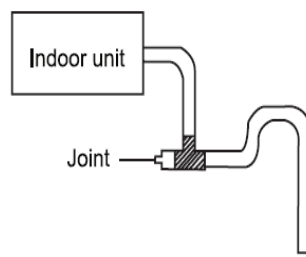


Figure 3-1-40

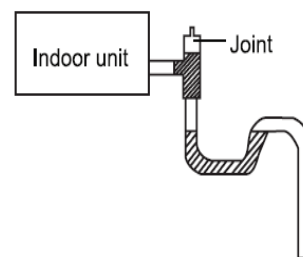


Figure 3-1-41

- (8) Connection of drainage branch pipe to the standpipe or horizontal pipe of drainage main pipe  
The horizontal pipe cannot be connected to the vertical pipe at a same height. It can be connected in a manner as shown below:

NO.1: Attach the 3-way connection of the drainage pipe joint as shown in Figure 3-1-42.

NO.2: Attach the drain elbow as shown in Figure 3-1-43.

NO.3: Attach the horizontal pipe as shown in Figure 3-1-44.

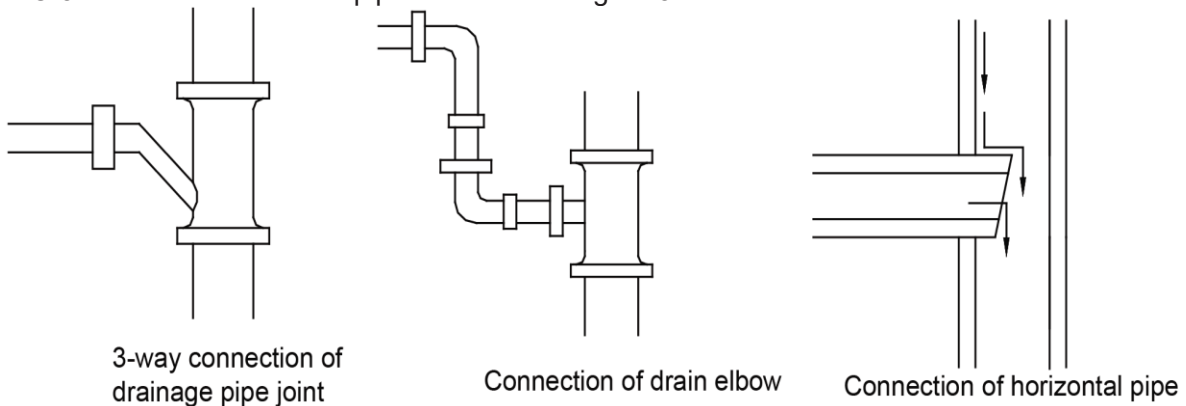


Figure 3-1-42

Figure 3-1-43

Figure 3-1-44

### 1.2.10 Precautions When Doing Riser Piping Work

(1) Make sure that heat insulation work is executed on the following 2 spots to prevent any possible water leakage due to dew condensation.

- 1) Connect the drain hose to the drain lift pipe, and insulate them.
- 2) Connect the drain hose to the drain outlet on the indoor unit, and tighten it with the clamp.

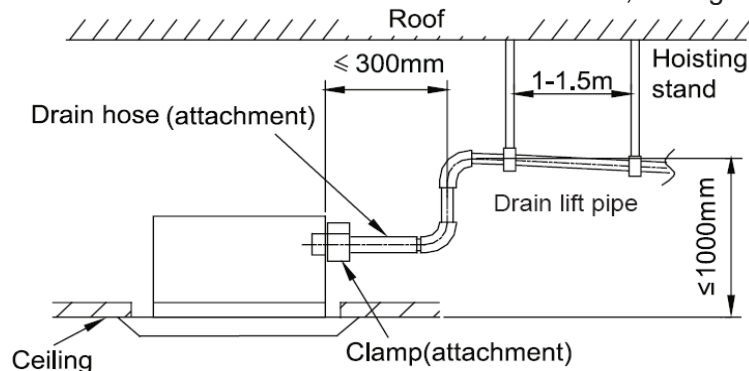


Figure 3-1-45

(2) Make sure the lift pipe is at most 280 mm.

(3) Stand the lift pipe vertically, and make sure it is not further than 300 mm from the base of the drain outlet.

(4) Secure a downward gradient of 1/100 or more for the drain pipe. To accomplish this, mount supporting brackets at an interval of 1 - 1.5 m.

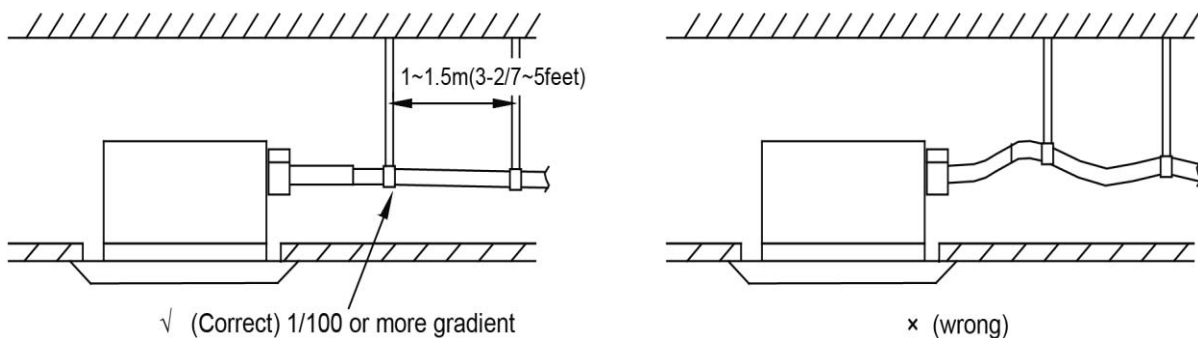


Figure 3-1-46

(5) The incline of attached drain hose should be 75 mm or less so that the drain outlet does not



have to withstand additional force.

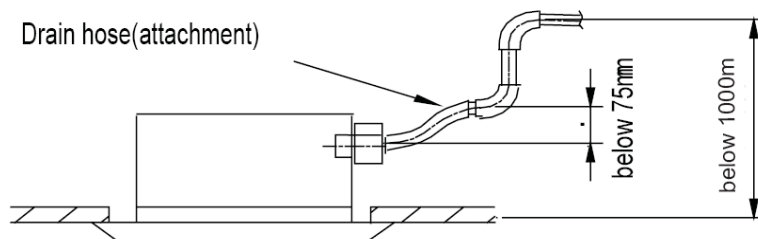


Figure 3-1-47

### 1.2.11 Testing of Drain Piping

After piping work is finished, check if drainage flows smoothly. Shown in the Figure 3-1-48, Add approximately 1liter of water slowly into the drain pan and check drainage flow during COOL running.

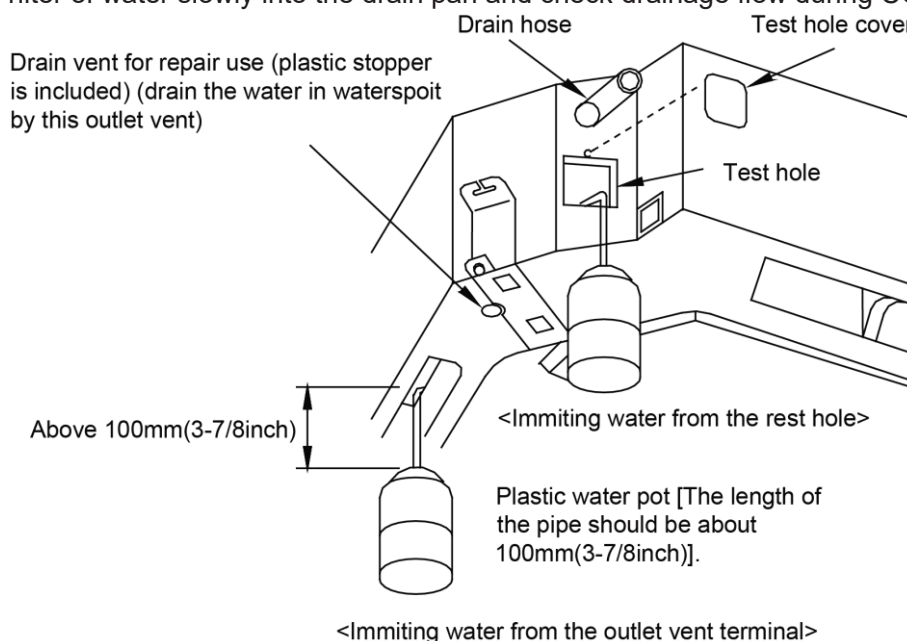


Figure 3-1-48

## 1.3 Installation of Floor Ceiling Type

### 1.3.1 Before Installation

After receiving the machine, please check for any transport damage. If finding any surface or internal damage, please immediately report to the transport company or equipment company in writing.

After receiving the machine, please check the unit and accessories in reference to the packing list. Ensure that the model is correct and the machine is in good condition. Please also check if the specification and quantity of accessory parts are correct.

Determine the correct handling route and methods, thus to avoid damaging the unit or causing possible hazard. For the sake of protection and safety, it is suggested to move the unit with the packaging box. Even though it is not permitted to do like this under special occasions, do not remove the packaging box, thus to avoid loosening or falling during handling.

Confirm if the installing foundation is solid. When this unit is to be installed on the metal section of the building, make sure that the electrical insulation must comply with applicable standards.

Ensure that the place of installation is far from the area where the inflammable or explosive substances are stored, thus to avoid possible explosion or fire due to leakage.

### 1.3.2 Installation Site

- (1) Install the unit at a place where is strong enough to withstand the weight of the unit.
- (2) The air inlet and outlet of the unit should never be clogged so that the airflow can reach every corner of the room.
- (3) Leave service space around the unit as required in Figure 3-1-49.

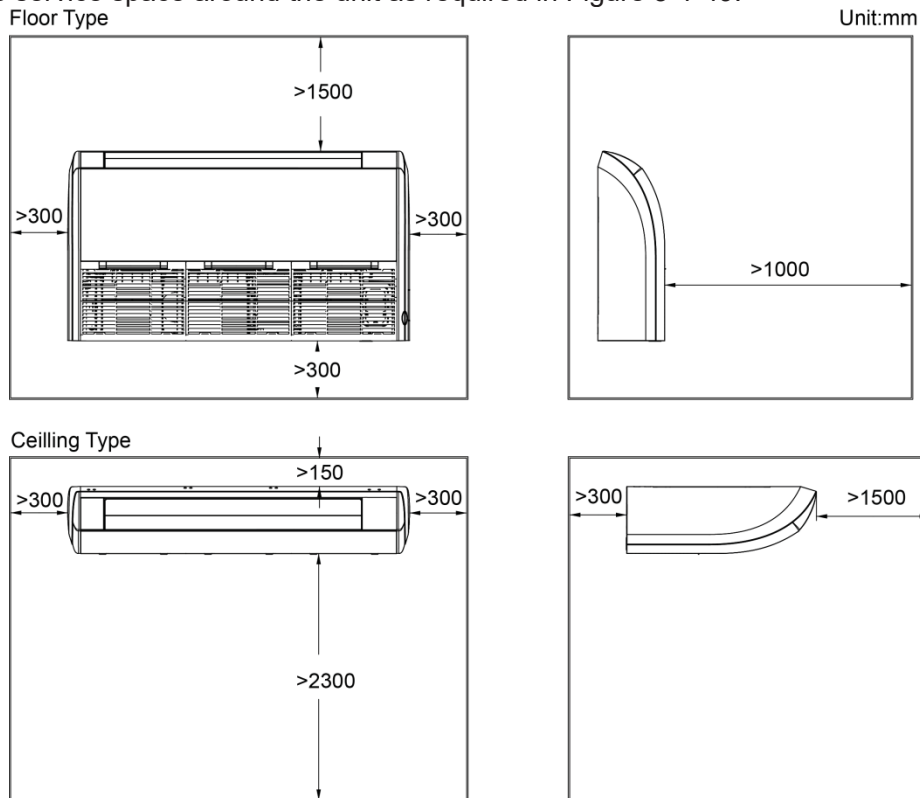


Figure 3-1-49

- (4) Install the unit where the drain pipe can be easily installed.
- (5) The space from the unit to the ceiling should be kept as much as possible so as for more convenient service.

### 1.3.3 Indoor Unit Installation

- (1) Determine the location of the hanger through the paper template, and then remove the paper template.

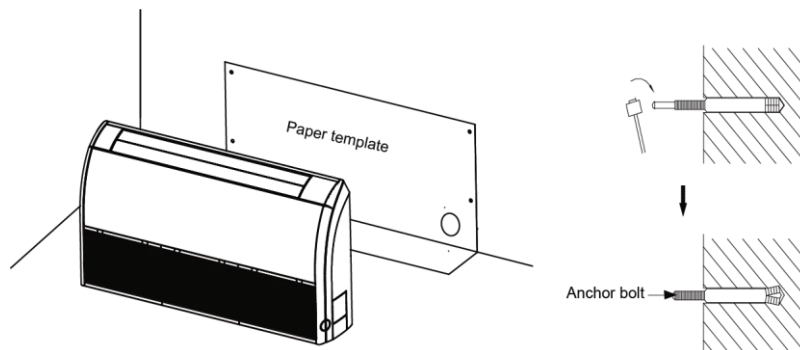


Figure 3-1-50

- (2) Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer.
- (3) Remove the right and left side panels.

- (4) Put the hanger bolt into the clasp of the indoor unit and tighten screws on the hanger to prevent the indoor unit from moving.
- (5) Adjust the height of the unit to make the drain pipe slant slightly downward so that the drainage will become much smoother.

◆ Floor type

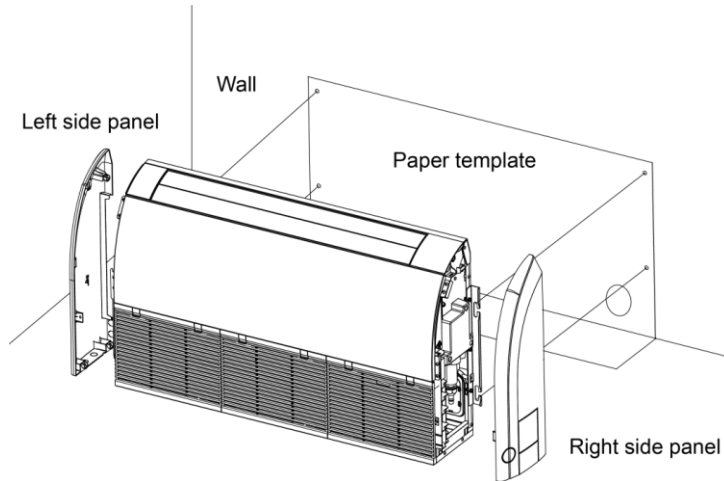


Figure 3-1-51

◆ Ceiling type

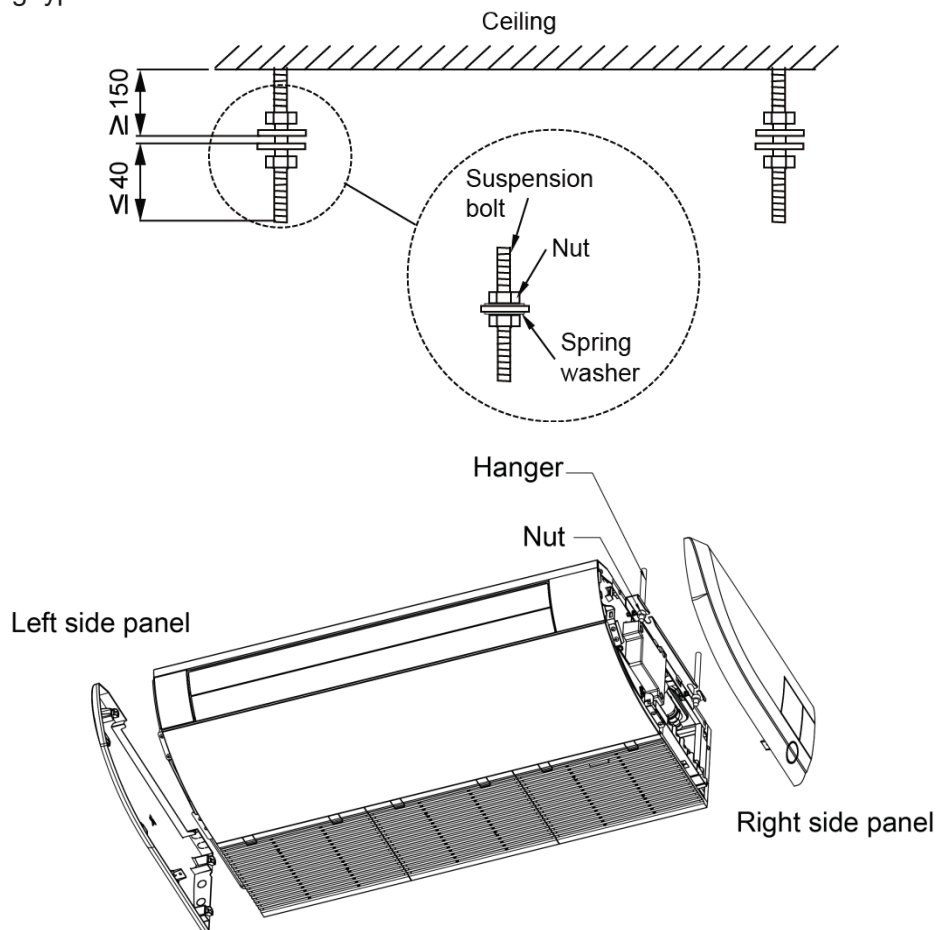


Figure 3-1-52

- (6) Reinstall and tighten the right and left side panel.

### 1.3.4 Leveling

The water level test must be done after installing the indoor unit to make the unit is horizontal, as shown below.

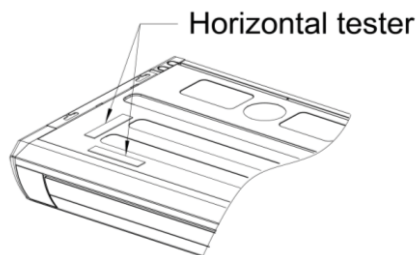


Figure 3-1-53

### 1.3.5 Dimension Data

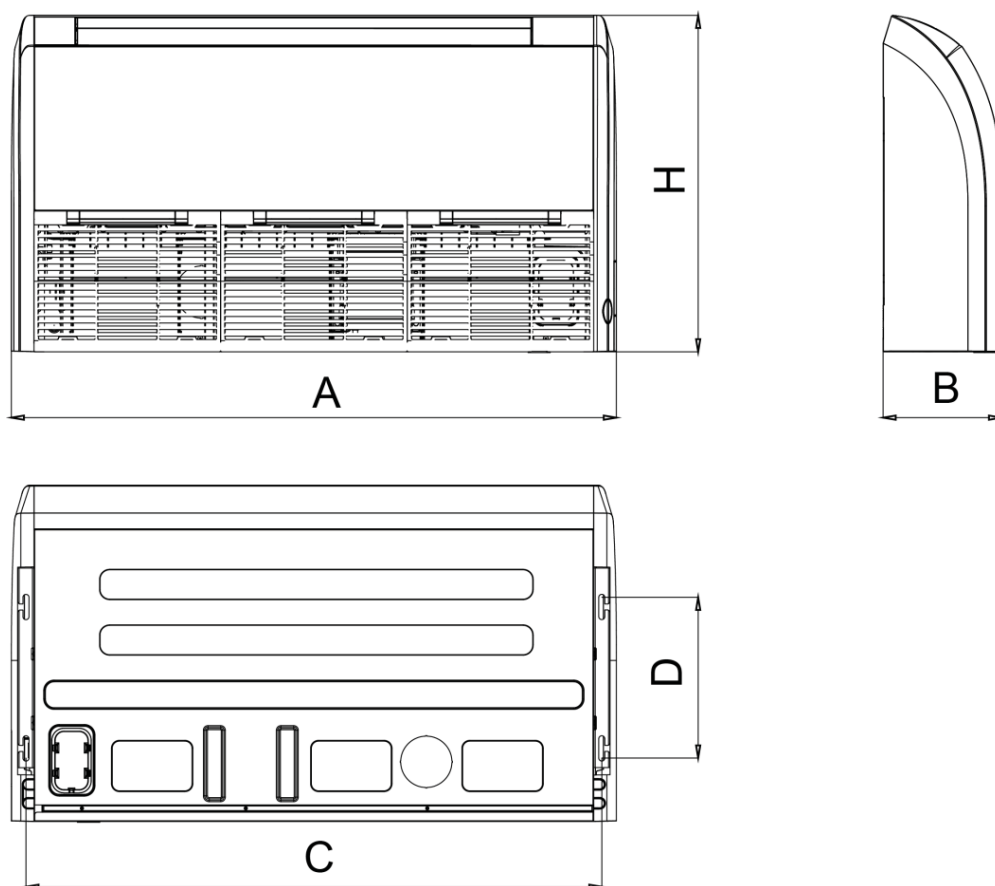


Figure 3-1-54  
Table 3-1-9

Unit: mm

Model	A	B	C	D	H
FGU 42H	1200	235	1142	318	665
FGU 48H	1570	235	1512	318	665
FGU 60H					

## 1.3.6 Drain Piping Work

### 1.3.6.1 Precautions When Doing the Piping Work

- (1) Keep piping as short as possible and slope it downwards at a gradient of at least 1/100 so that air may not remain trapped inside the pipe.
- (2) Keep pipe size equal to or greater than that of the connecting pipe.
- (3) Install the drain piping as shown and take measures against condensation. Improperly rigged piping could lead to leaks and eventually wet furniture and belongings.

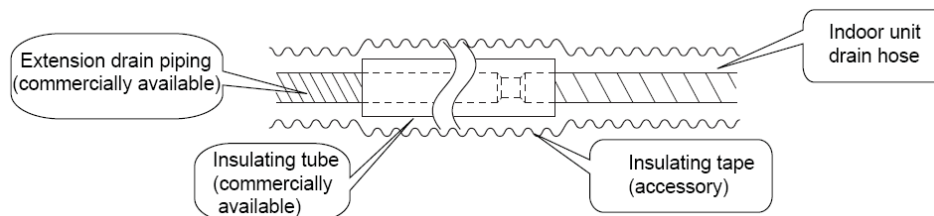


Figure 3-1-55

- (4) Connect the drain hose. (Figure 3-1-56)

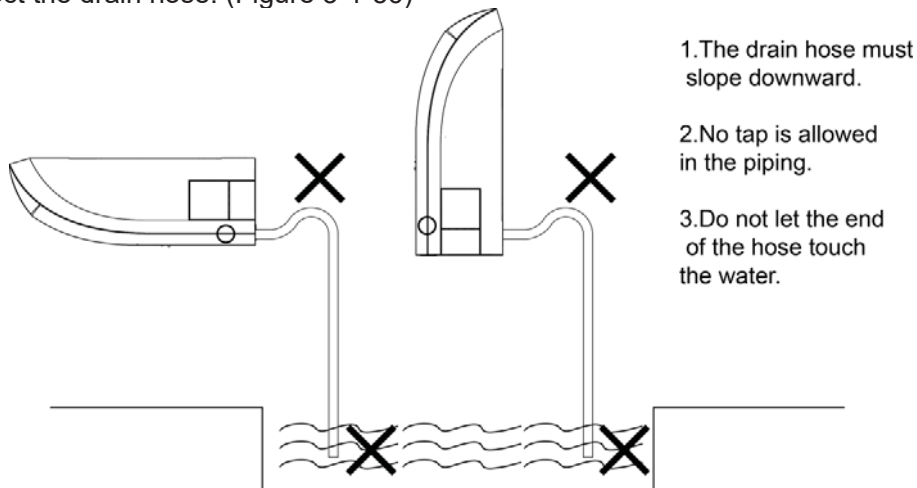


Figure 3-1-56

### 1.3.6.2 Installing the Drain Pipes

- (1) For determining the position of the drain hose, perform the following procedures.
- (2) Insert the drain pipe to the drain outlet of the unit and then tighten the clamp securely with tape. (Figure 3-1-57)
- (3) Connect the extension drain pipe to the drain pipe and then tighten the clamp with tape.

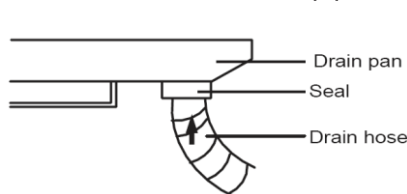


Figure 3-1-57

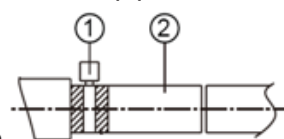


Figure 3-1-58

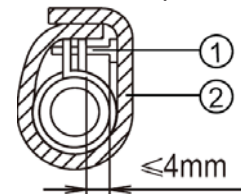


Figure 3-1-59

Tighten the clamp until the screw head is less than 4 mm from the hose. (Figure 3-1-58)

①- Metal clamp ②- Drain hose

Insulate the pipe clamp and the drain hose using heat insulation sponge. (Figure 3-1-59)

- ①- Metal clamp ②- Insulation sponge

(4) When drain hose requires extension, obtain an extension hose commercially available.

(5) After connecting the local drain hose, tape the slits of the heat insulation tube.

(6) Connect the drain hose to the local drain pipe. Position the inter connecting wire in the same direction as the piping.

### 1.3.6.3 Connecting the Drain Hose

(1) Connect the extension auxiliary pipe to the local piping.

(2) Prepare the local piping at the connection point for the drain pipe, as shown in the installation drawings.

Note: Be sure to place the drain hose as shown in the diagram below, in a downward sloping direction.

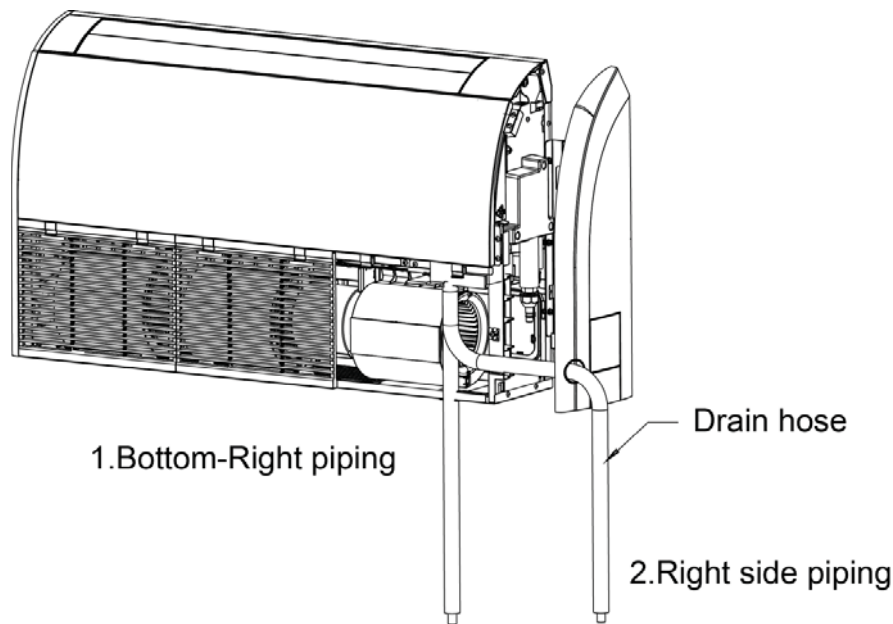


Figure 3-1-60

### 1.2.6.4 Testing of Drain Piping

(1) After piping work is finished, check if drainage flows smoothly.

(2) As shown in the figure, pour water into the drain pan from the right side to check that water flows smoothly from the drain hose.

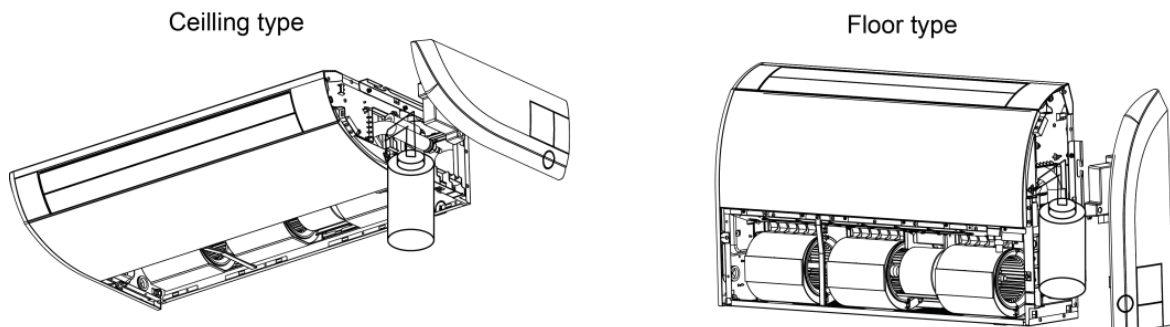


Figure 3-1-61

## 2 OUTDOOR UNIT INSTALLATION

### 2.1 Before Installation

After receiving the machine, please check for any transport damage. If finding any surface or internal damage, please immediately report to the transport company or equipment company in writing.

After receiving the machine, please check the unit and accessories in reference to the packing list. Ensure that the model is correct and the machine is in good condition. Please also check if the specification and quantity of accessory parts are correct.

Determine the correct handling route and methods, thus to avoid damaging the unit or causing possible hazard. For the sake of protection and safety, it is suggested to move the unit with the packaging box. Even though it is not permitted to do like this under special occasions, do not remove the packaging box, thus to avoid loosening or falling during handling.

Confirm if the installing foundation is solid. When this unit is to be installed on the metal section of the building, make sure that the electrical insulation must comply with applicable standards.

Ensure that the place of installation is far from the area where the inflammable or explosive substances are stored, thus to avoid possible explosion or fire due to leakage.

### 2.2 Installation Site

 <b>WARNING</b>
①. Install the unit where it will not be tilted by more than 5°.
②. During installation, if the outdoor unit has to be exposed to strong wind, it must be fixed securely.

If possible, do not install the unit where it will be exposed to direct sunlight. (If necessary, install a blind that does not interfere with the air flow.)

- (1) Install the outdoor unit in a place where it will be free from being dirty or getting wet by rain as much as possible.
- (2) Install the outdoor unit where it is convenient to connect with the indoor unit.
- (3) Install the outdoor unit where the condensate water can be drained out freely during heating operation.
- (4) Do not place animals and plants in the path of the warm air.
- (5) Take the air conditioner weight into account and select a place where noise and vibration are small.
- (6) Install the outdoor unit where is capable of withstanding the weight of the unit and generates as less noise and vibration as possible.
- (7) Provide the space shown in Figure 3-2-1, so that the air flow is not blocked. Also for efficient operation, leave three of four directions of peripheral constructions open.

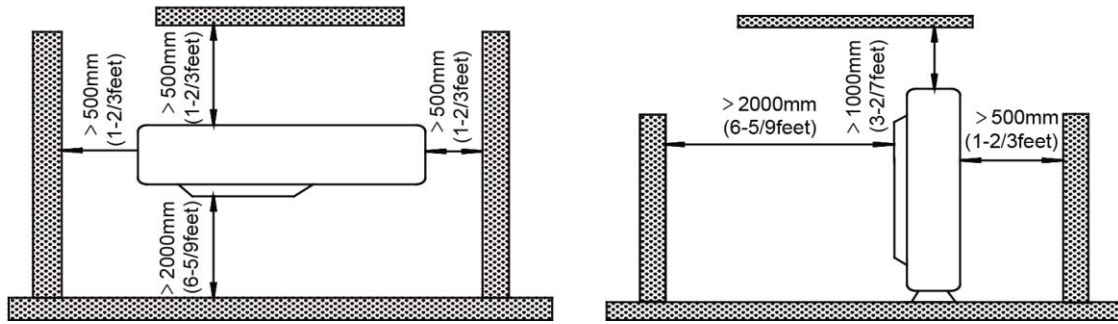


Figure 3-2-1

## 2.3 Caution for Installation

The outdoor unit shall be so installed that the air discharged out of the outdoor unit will not flow back and that enough space shall be maintained around the machine for repair;

The installing position shall be in good ventilation, so that the machine can breathe and exhaust enough air. Ensure that there is no obstruction at the inlet and outlet of the machine. If any, please remove the obstructions blocking the air inlet and outlet.

If the outdoor unit is installed on concrete or solid ground, it shall be fixed by using M10 bolts and nuts. And ensure that the machine is kept vertical and horizontal.

The outdoor unit must be lifted by using the designated lift hole. During lifting, take care to protect the air conditioner and avoid knocking the metal parts, thus to prevent rusting in the future.

To meet the noise and vibration requirements, the outdoor unit shall be installed by using rubber damping pad or spring damper.

To install the drainage pipe, please insert the drainage joint to the drainage hole on the outdoor chassis and connect a drainage pipe on the drainage joint. (The installing height of outdoor unit shall be at least 5cm if drainage joint is to be used).

To insert the pipe through the wall, the wall-cross tube must be installed.

The installing dimension shall comply with the installation requirements in these instructions. The outdoor unit must be fixed at the installing position.

The installation shall be done by specialist technicians.

## 2.4 Dimension Data

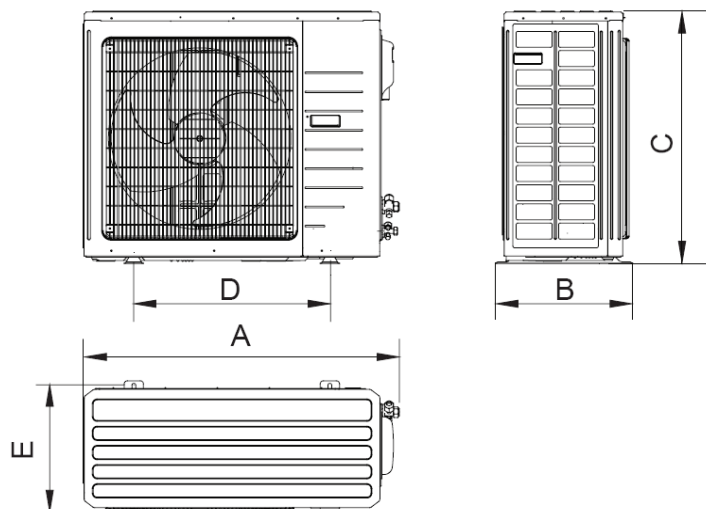


Figure 3-2-2



Table 3-2-1

Unit: mm

Model \ Item	A	B	C	D	E
GU 42H3	1120	440	1100	631	400
GU 48H3	1120	440	1100	631	400
GU 60H3	980	410	1350	572	376

## 3 REFRIGERATION PIPING WORK

### 3.1 Refrigeration Piping Work Procedures and Caution in Connecting

#### 3.1.1 Flare Processing

- (1) Cut the connection pipe with the pipe cutter and remove the burrs.
- (2) Hold the pipe downward to prevent cuttings from entering the pipe.
- (3) Remove the flare nuts at the stop valve of the outdoor unit and inside the accessory bag of the indoor unit, then insert them to the connection pipe, after that, flare the connection pipe with a flaring tool.
- (4) Check if the flare part is spread evenly and there are no cracks (see Figure 3-2-3).

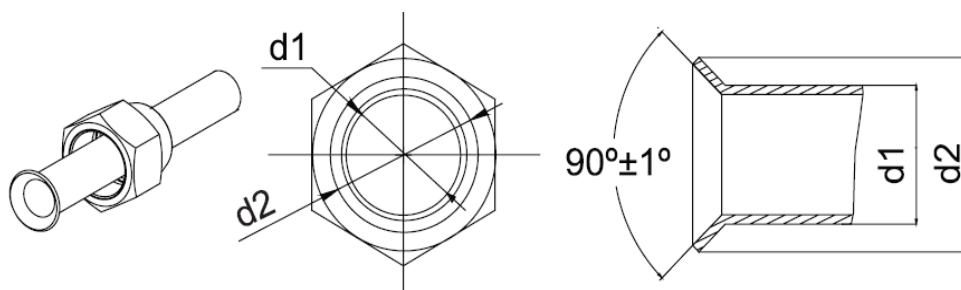


Figure 3-2-3

#### 3.1.2 Bending Pipes

- (1) The pipes are shaped by your hands. Be careful not to collapse them.

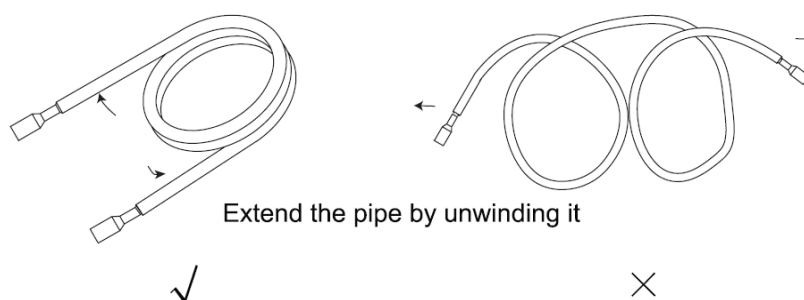


Figure 3-2-4

- (2) Do not bend the pipes in an angle more than 90°.

(3) When pipes are repeatedly bent or stretched, the material will harden, making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than three times.

(4) When bending the pipe, do not bend it as is. The pipe will be collapsed. In this case, cut the heat insulating pipe with a sharp cutter as shown in Figure 3-2-5, and bend it after exposing the pipe. After bending the pipe as you want, be sure to put the heat insulating pipe back on the pipe, and secure it with tape.

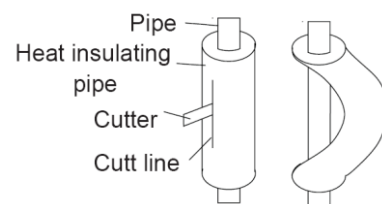


Figure 3-2-5



### CAUTION!

- ①. To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 150 mm or over.
- ②. If the pipe is bent repeatedly at the same place, it will break.

## 3.1.3 Connecting the Pipe at the Indoor Unit Side

Detach the caps and plugs from the pipes.



### CAUTION!

- ①. Be sure to apply the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.
- ②. Do not remove the flare nut until the connection pipe is to be connected so as to prevent dust and impurities from coming into the pipe system.

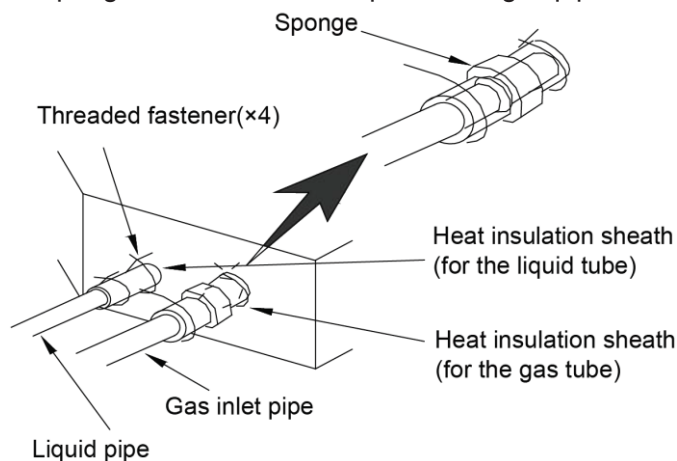
When connecting the pipe to the unit or removing it from the unit, please do use both the spanner and the torque wrench. (Figure 3-2-6)

When connecting, smear both inside and outside of the flare nut with refrigeration oil, screw it hand tight and then tighten it with the spanner.

Refer to Table 10 to check if the wrench has been tightened properly (too tight would mangle the nut and lead to leakage).

Examine the connection pipe to see if it leaks, then take the treatment of heat insulation, as shown in the Figure 3-2-6.

Use the medium-sized sponge to insulate the coupler of the gas pipe.



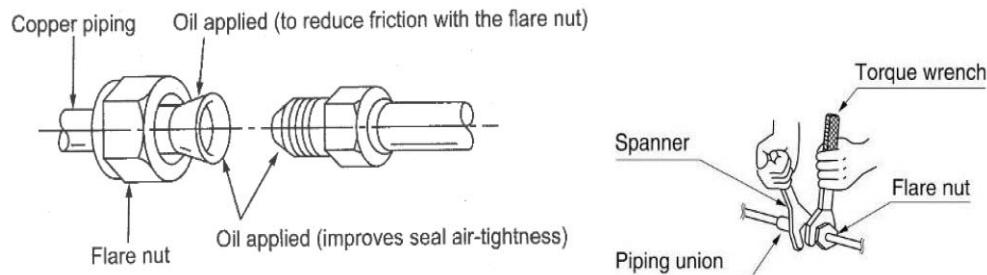


Figure 3-2-6

Table 3-2-2 Flare nut tightening torque

Pipe Diameter	Tightening Torque
1/4" (Inch)	15-30 (N·m)
3/8" (Inch)	35-40 (N·m)
1/2" (Inch)	45-50 (N·m)
5/8" (Inch)	60-65 (N·m)
3/4" (Inch)	70-75 (N·m)
7/8" (Inch)	80-85 (N·m)



**CAUTION!**

Be sure to connect the gas pipe after connecting the liquid pipe completely.

### 3.1.4 Connecting the Pipe at the Outdoor Side Unit

Tighten the flare nut of the connection pipe at the outdoor unit valve connector. The tightening method is the same as that as at the indoor side.

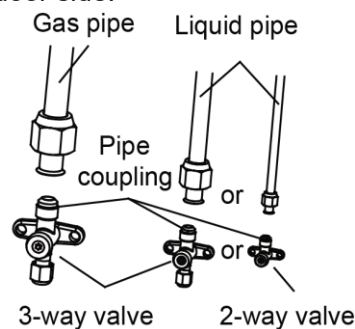


Figure 3-2-2

### 3.1.5 Checking the Pipe Connections for Gas Leaking

For both indoor and outdoor unit side, check the joints for gas leaking by the use of a gas leakage detector without fail when the pipes are connected.

### 3.1.6 Heat Insulation on the Pipe Joints (Indoor Side Only)

Stick coupler heat insulation (large and small) to the place where connecting pipes.

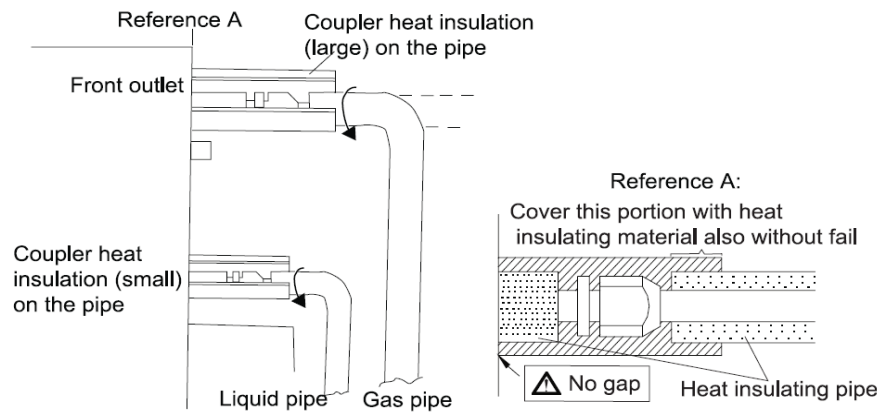


Figure 3-2-3

### 3.1.7 Vacuum and Gas Leakage Inspection



**CAUTION!**

Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation! There is no extra refrigerant in the outdoor unit for air purging!

#### 3.1.7.1 Vacuum

- (1) Remove the caps of the liquid valve, gas valve and also the service port.
- (2) Connect the hose at the low pressure side of the manifold valve assembly to the service port of the unit's gas valve, and meanwhile the gas and liquid valves should be kept closed in case of refrigerant leak.
- (3) Connect the hose used for evacuation to the vacuum pump.
- (4) Open the switch at the lower pressure side of the manifold valve assembly and start the vacuum pump. Meanwhile, the switch at the high pressure side of the manifold valve assembly should be kept closed, otherwise evacuation would fail.
- (5) The evacuation duration depends on the unit's capacity, generally, not less than 45 minutes for the 42/48/60k units. And verify if the pressure gauge at the low pressure side of the manifold valve assembly reads -1.0Mp (-75cmHg), if not, it indicates there is leak somewhere. Then, close the switch fully and then stop the vacuum pump.
- (6) Wait for some time to see if the system pressure can remain unchanged, 10 minutes for the units more than 42K~60k. During this time, the reading of the pressure gauge at the low pressure side can not be larger than 0.005Mp (0.38cmHg).
- (7) Slightly open the liquid valve and let some refrigerant go to the connection pipe to balance the pressure inside and outside of the connection pipe, so that air will not come into the connection pipe when removing the hose. Note that the gas and liquid valve can be opened fully only after the manifold valve assembly is removed.
- (8) Place back the caps of the liquid valve, gas valve and also the service port.

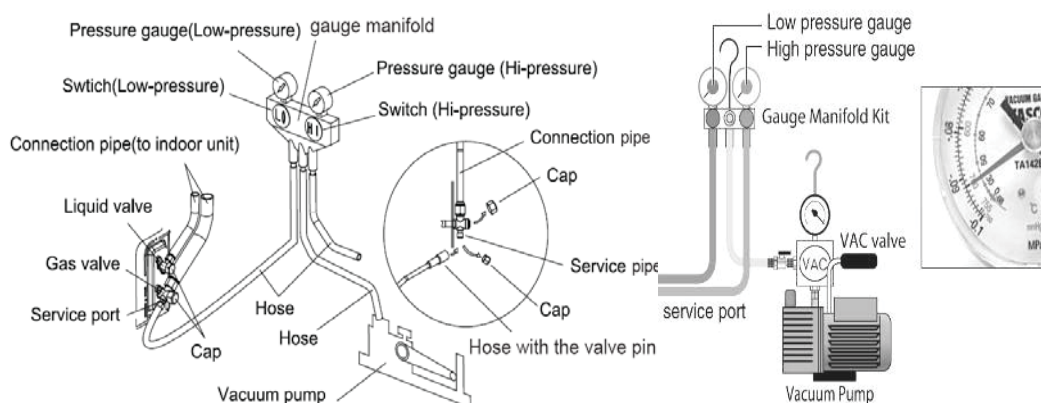


Figure 3-2-4

Note: For the large-sized unit, it has the service port for both the gas valve and the liquid valve. During evacuation, it is available to connect two hoses of the manifold valve assembly to two service ports to quicken the evacuating speed.

### 3.1.7.2 Additional Charge

Refrigerant suitable for a piping length of 5m is charged in the 42k outdoor unit at the factory, and for 48~60k outdoor unit refrigerant is charged for a piping length of 7.5m.

When the piping of 42k unit is longer than 5.0m or the piping of 48~60k unit is longer than 7.5m, additional charging is necessary.

For the additional amount, see Table 3-2-3.

Table 3-2-3

Units		Item	Standard Pipe Length	Unnecessary Charge Pipe Length	Additional Refrigerant Amount for Extra Pipe
42~48k		Duct type and Cassette IDU	5.0m	≤7.0m	90 g/m
		Floor ceiling type IDU	7.5m	≤9.5m	90 g/m
All units 60k			7.5m	≤9.5m	90 g/m

When the height difference between the indoor unit and outdoor unit is larger than 10 meters, an oil bend should be employed for every 6 meters.

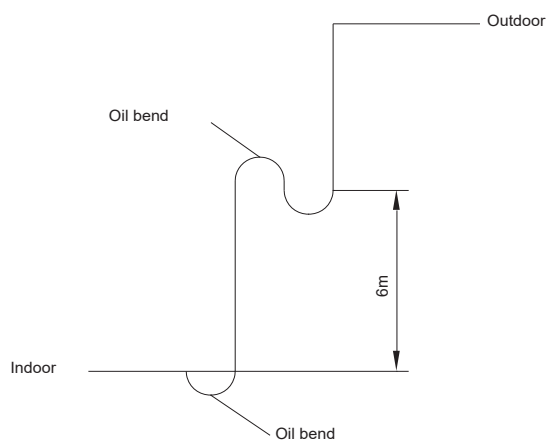


Figure 3-2-5

## 3.2 Specification of Connection Pipe

Table 3-2-4


Model \ Item	Size of Fitting Pipe(Inch)		Max. Pipe Length (m)	Max. Height Difference between Indoor Unit and Outdoor Unit (m)	Drainage pipe(Outer Diameter × wall thickness) (mm)
	Liquid	Gas			
GU 42H	1/2	3/4	50	30	Φ16X2.0
GU 48H	1/2	3/4	50	30	Φ16X2.0
GU 60H	1/2	3/4	50	30	Φ16X2.0


The connection pipe should be insulated with proper water-proof insulating material.

The pipe wall thickness shall be 0.5-1.0 mm and the pipe wall shall be able to withstand the pressure of 6.0 MPa. The longer the connecting pipe, the lower the cooling and heating effect performs.

# 4 ELECTRIC WIRING WORK

## 4.1 Wiring Precautions

 <b>WARNING</b>
①. Before obtaining access to terminals, all supply circuits must be disconnected.
②. The rated voltage of the unit is as shown as Table 1-4-1 and Table 1-4-2
③. Before turning on, verify that the voltage is within the 185~264V range (for single phrase unit) or 342~456V range (for three-phrase unit).
④. Always use a special branch circuit and install a special receptacle to supply power to the air conditioner.
⑤. Use a special branch circuit breaker and receptacle matched to the capacity of the air conditioner.
⑥. The special branch circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3 mm between the contacts of each pole.
⑦. Perform wiring work in accordance with standards so that the air conditioner can be operated safely and positively.
⑧. Install a leakage special branch circuit breaker in accordance with the related laws and regulations and electric company standards.

 <b>WARNING</b>
①. The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
②. When the voltage is low and the air conditioner is difficult to start, contact the power company to raise the voltage.

## 4.2 Electrical Wiring

### (1) For solid core wiring (Figure 3-2-6)

- 1) Cut the wire end with a wire cutter or wire-cutting pliers, and then strip the insulation about 25 mm (15/16").
- 2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
- 3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- 4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.

### (2) For strand wiring (Figure 3-2-6)

- 1) Cut the wire end with a wire cutter or wire-cutting pliers, and then strip the insulation about 10 mm (3/8").
- 2) Using a screwdriver, remove the terminal screw (s) on the terminal board.
- 3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- 4) Position the round terminal wire, and replace and tighten the terminal screw with a screwdriver. (Figure 3-2-7)

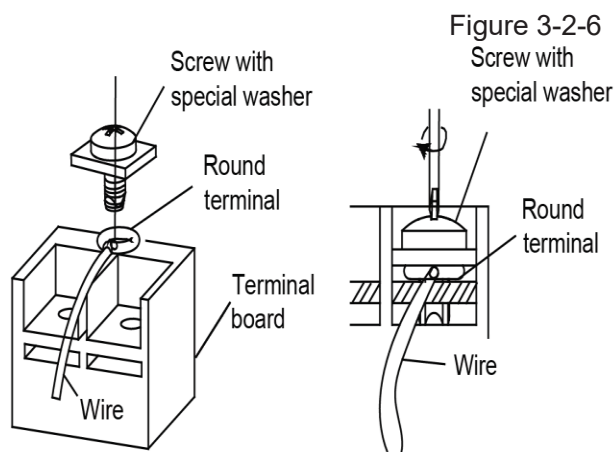
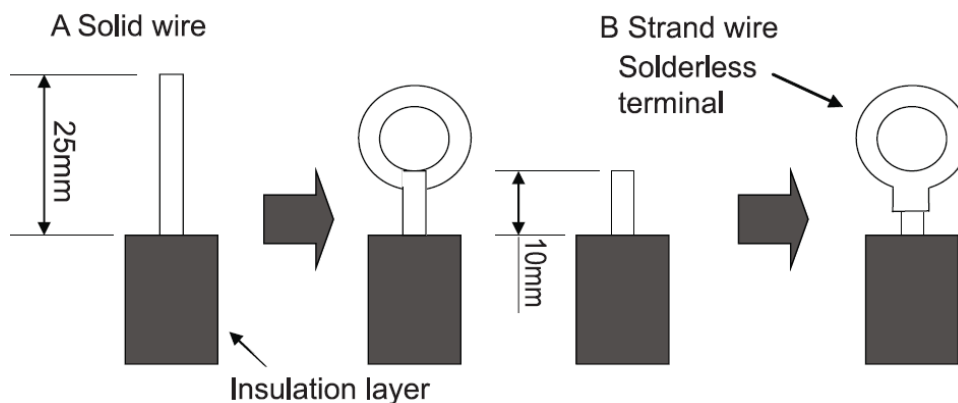


Figure 3-2-7

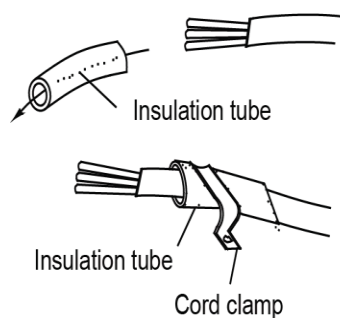


Figure 3-2-8

### (3) How to fix connection cord and power cord by cord clamp

After passing the connection cord and power cord through the insulation tube, fasten it with the cord clamp. (Figure 3-2-8)



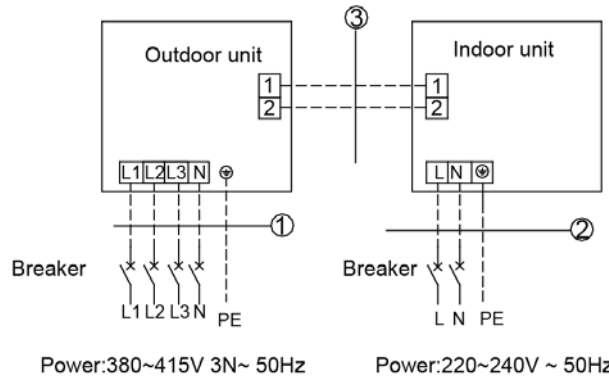
#### WARNING

- ①. Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.
- ②. Match the terminal block numbers and connection cord colors with those of the indoor unit side.
- ③. Erroneous wiring may cause burning of the electric parts.
- ④. Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- ⑤. Always fasten the outside covering of the connection cord with cord clamps. (If the insulator is not clamped, electric leakage may occur.)
- ⑥. Always connect the ground wire.



(4) Electric wiring between the indoor and outdoor Three -phase units (42~60k)

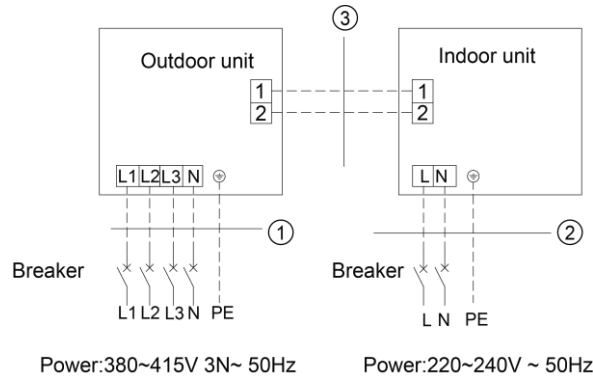
**Duct Type Unit**



- |         |  |
|---------|--|
| GU 42H3 | + DGU 42H  |
| GU 48H3 | + DGU 48H3   |
| GU 60H3 | + DGU 60H3   |
| ①.      | Power cord 5×2.5 mm <sup>2</sup> (H07RN-F)           |
| ②.      | Power cord 3×1.0 mm <sup>2</sup> (H05VV-F)           |
| ③.      | Communication Cords 2×0.75 mm <sup>2</sup> (H05VV-F) |

Figure 3-2-9

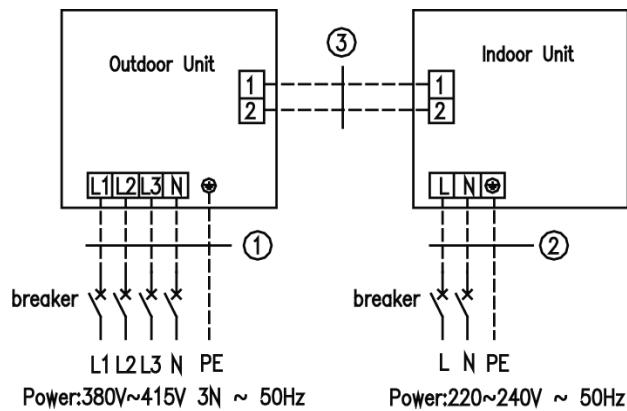
**Cassete Type Unit**



- |         |  |
|---------|--|
| GU 42H3 | + CGU 42H  |
| GU 48H3 | + CGU 48H  |
| GU 60H3 | + CGU 60H  |
| ①.      | Power cord 5×2.5 mm <sup>2</sup> (H07RN-F)           |
| ②.      | Power cord 3×1.0 mm <sup>2</sup> (H05VV-F)           |
| ③.      | Communication Cords 2×0.75 mm <sup>2</sup> (H05VV-F) |

Figure 3-2-10

**Floor Ceiling Type Unit**



- |                 |    |   |
|-----------------|----|---|
| GU 42H3+FGU 42H | ①. | Power cord 5×2.5mm <sup>2</sup> (H07RN-F)           |
| GU 48H3+FGU 48H | ②. | Power cord 3×1.0mm <sup>2</sup> (H05RN-F)           |
| GU 60H3+FGU 60H | ③. | Communication Cords 2×0.75mm <sup>2</sup> (H05RN-F) |

Figure 3-2-11

### (5) Electric wiring of indoor unit side

Remove the electric box cover from the electric box sub-assy and then connect the wire.

#### Duct Type Unit:

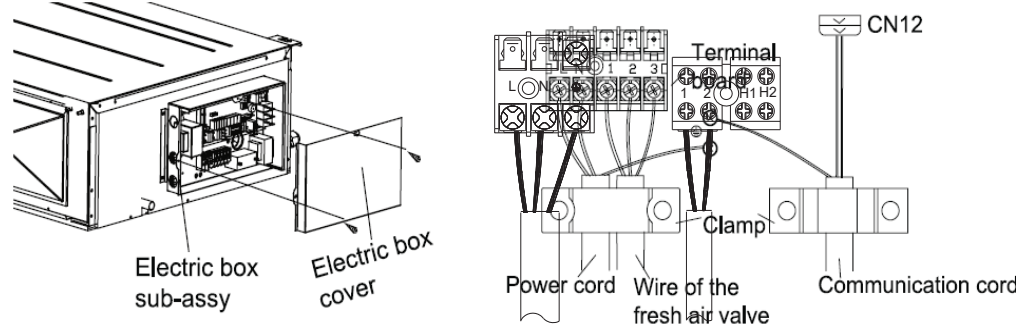


Figure 3-2-12

#### Cassette Type Unit:

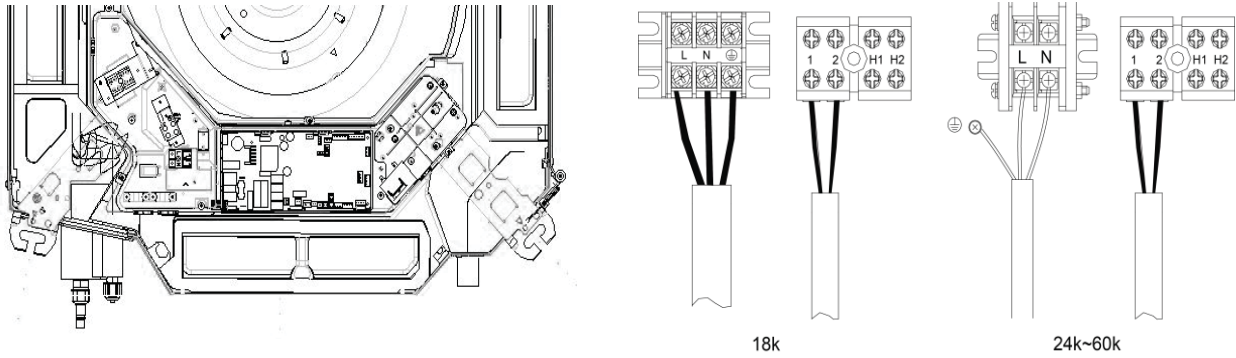


Figure 3-2-13

#### Floor Ceiling Type Unit:

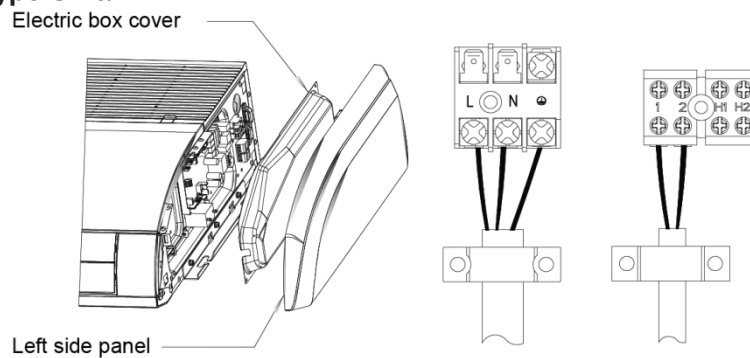


Figure 3-2-14



# CAUTION!

- ①. The power cord and the wire of the fresh air valve are high-voltage, while the communication cord and connection wire of the wired controller are low-voltage. They should run separately against electromagnetic interference.
- ②. The high-voltage and low-voltage lines should pass through the rubber rings at different electric box covers.
- ③. Do not bundle the connection wire of the wired controller and the communication cord together, or arrange them in parallel, otherwise improper operation would occur.
- ④. The high-voltage and low-voltage lines should be fixed separately and securely, with internal big clamps for the former and small clamps for the latter.
- ⑤. Tighten the indoor/outdoor connection cord and power cord respectively on the terminal boards with screws. Faulty connection may cause a fire.
- ⑥. If the indoor unit connection cord (to the outdoor unit) and power supply are wired incorrectly, the air conditioner may be damaged.
- ⑦. Connect the indoor unit connection cord properly based on the corresponding marks as shown in Figure 3-2-9.
- ⑧. Ground both the indoor and outdoor units by attaching a ground wire.
- ⑨. Unit shall be grounded in compliance with the applicable local and national codes.

## (6) Electric wiring of outdoor unit side

Note: When connecting the power supply cord, make sure that the phase of the power supply matches with the exact terminal board. If not, the compressor will rotate reversely and run improperly.

Remove front board (42k~60k) of the outdoor unit and insert the end of the communication cord and the power cable into the terminal board.

Three-phase:

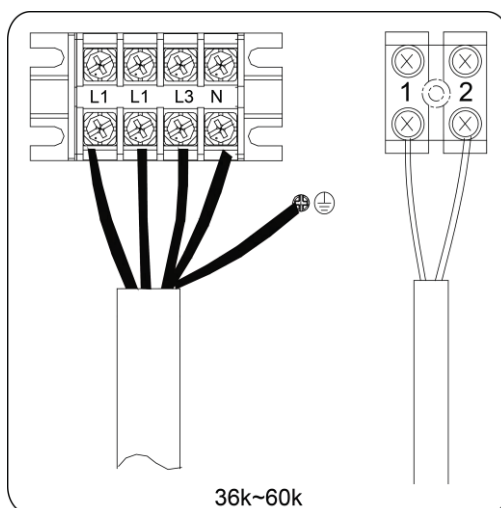


Figure 3-2-14

# MAINTENANCE

# MAINTENANCE

## 1 TROUBLE TABLE

### 1.1 Main Control Malfunction

Table 1 Fault Display on Indoor Wired Controller

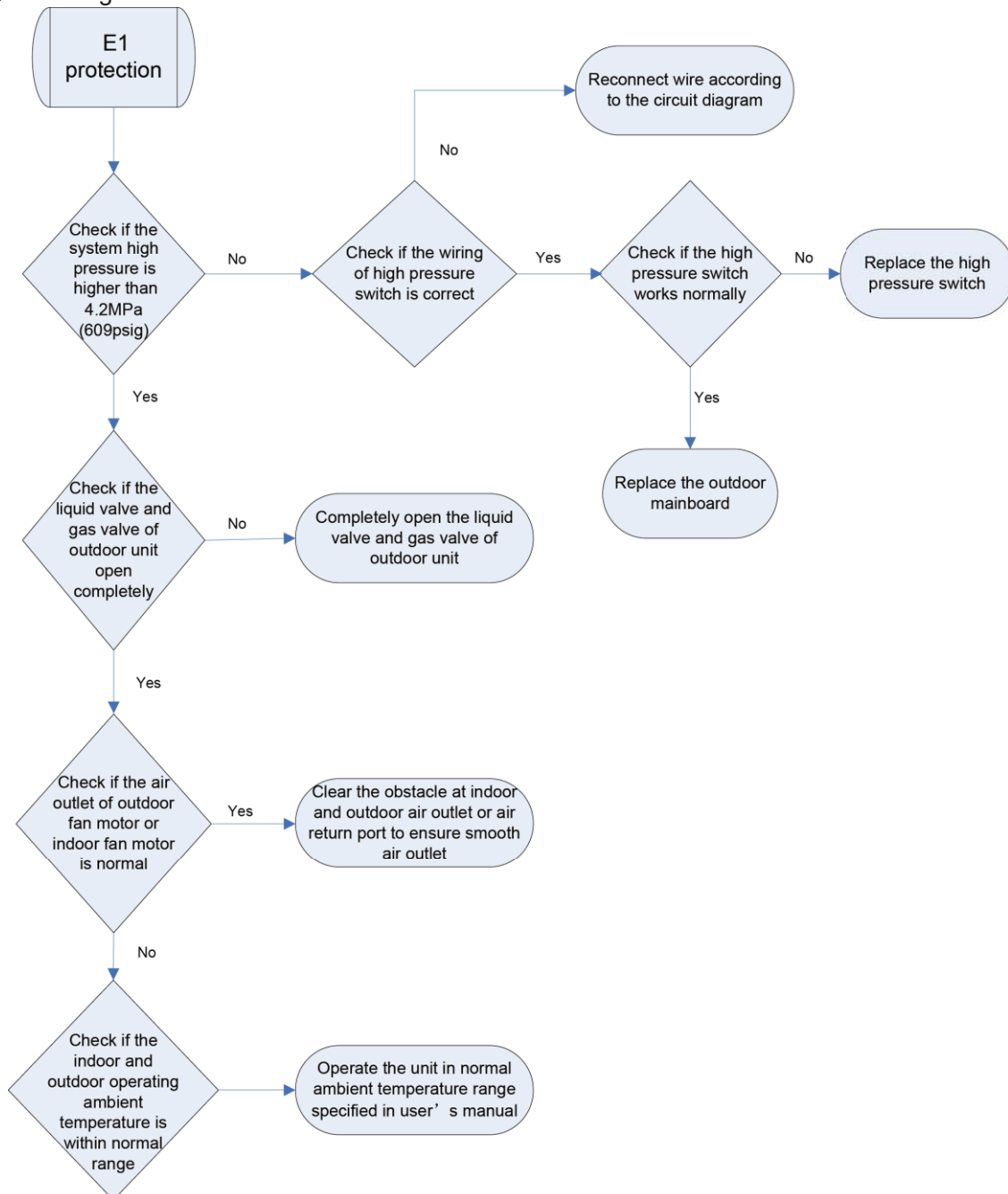
No.	Error code	Malfunction name	Origin of malfunction signal	Control description
1	E1	High pressure protection	High pressure switch	When outdoor unit detects the high pressure switch is cut off for 3s successively, high pressure protection will occur. All the loads (except the 4-way valve in heating mode) will be switched off. In this case, all the buttons and remote control signals except ON/OFF button will be disabled and cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.
2	E2	Freeze protection	Indoor evaporator temperature sensor	If detecting that the evaporator temperature is lower than protective temp. Value after the unit has been running for a period of time under cooling or dry mode, the unit will report this fault, in which case the compressor and outdoor fan motor will be stopped. The unit will not run until evaporator temperature is higher than the protective temp. value and the compressor is stopped for 3min.
3	E3	Low pressure protection	Low pressure switch	If it is detected within 30s successively that the low-pressure switch is cut off under ON or standby state, the unit will report low pressure protection. If the fault occurs successively 3 times within 30min, the unit cannot be recovered automatically.
		Refrigerant lacking protection	-	If the unit reports system refrigerant lacking within 10min after turning on the unit, the unit will stop operation. If the fault occurs successively 3 times, the unit cannot be recovered automatically.
		Refrigerant recycling mode	-	If enter refrigerant recycling mode through special operation, E3 will be displayed. After exiting refrigerant recycling mode, the code will disappear.
4	E4	Compressor high discharge temperature protection	Compressor discharge temperature is high	If outdoor unit detects that the discharge temperature is higher than protective temp. Value, the unit will report high discharge temperature protection. If the protection occurs over 6 times, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.
6	E6	Communication malfunction	Communication between indoor and outdoor mainboard	If the outdoor unit does not receive data from indoor unit, communication malfunction will be reported. If there is communication abnormality between display board and indoor unit, communication malfunction will be reported too.
9	E9	Full water protection	Water level switch	If cut-off of water level switch is detected for 8s successively once energized, the system will enter full water protection. In this case, switch off the unit and then switch it on to eliminate this malfunction.
10	F0	Malfunction of indoor ambient temperature sensor at air return port	Indoor ambient temperature sensor	If the indoor ambient temperature sensor is detected of open circuit or short circuit for 5s successively, indoor ambient temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If indoor ambient temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit can work normally.
11	F1	Malfunction of evaporator temperature sensor	Evaporator temperature sensor	If the indoor evaporator temperature sensor is detected of open circuit or short circuit for 5s successively, evaporator temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If evaporator temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit can work normally.
12	F2	Malfunction of condenser temperature sensor	Condenser temperature sensor	If the outdoor condenser temperature sensor is detected of open circuit or short circuit for 5s successively, condenser temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If condenser temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit can work normally.

No.	Error code	Malfunction name	Origin of malfunction signal	Control description
13	F3	Malfunction of outdoor ambient temperature sensor	Outdoor ambient temperature sensor	If the outdoor ambient temperature sensor is detected of open circuit or short circuit for 5s successively, outdoor ambient temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If outdoor ambient temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit can work normally.
14	F4	Malfunction of discharge temperature sensor	Discharge temperature sensor	If the outdoor discharge temperature sensor is detected of open circuit or short circuit for 5s successively after the compressor has been operating for 3min, outdoor discharge temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears.
15	F5	Malfunction wired controller temperature sensor	Wired controller	If the wired controller detects open circuit or short circuit of its temperature sensor for 5s successively, wired controller temperature sensor malfunction will be reported.
20	H3	Compressor overload protection	Compressor overload switch	If it is detected within 3s successively that the overload switch is cut off under ON or standby state, the unit will report overload protection. If the fault occurs successively 3 times, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.
21	H4	Overload protection	Evaporator temperature, condenser temperature	If outdoor unit detects that the tube temperature is higher than protective temp. Value, the unit will report overload protection. The unit will not restart operation until tube temperature is lower than the protective temp. Value and the compressor is stopped for 3min. If the protection occurs over 6 times, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.
22	CC	Long-distance monitor or centralized controller has set the shielding function	long-distance monitor or centralized controller	When the unit is connected to long-distance monitor or centralized controller, shielding function (including ON/OFF setting for shielding function, temperature setting for shielding function, SE setting for shielding function or all lock setting) can be set through long-distance monitor or centralized controller. When all lock is set, "cc" code will be always displayed on the indoor unit. When setting other shielding function, "CC" code will be displayed for 1s after receiving the remote control signal. This is the normal function for the unit. After cancel shielding function through long-distance monitor or centralized controller, this code will disappear automatically.

# 2 FLOW CHART OF TROUBLESHOOTING

## 2.1 Troubleshooting Flow Chart of Main Control Malfunction

### ◆ E1 High Pressure Protection



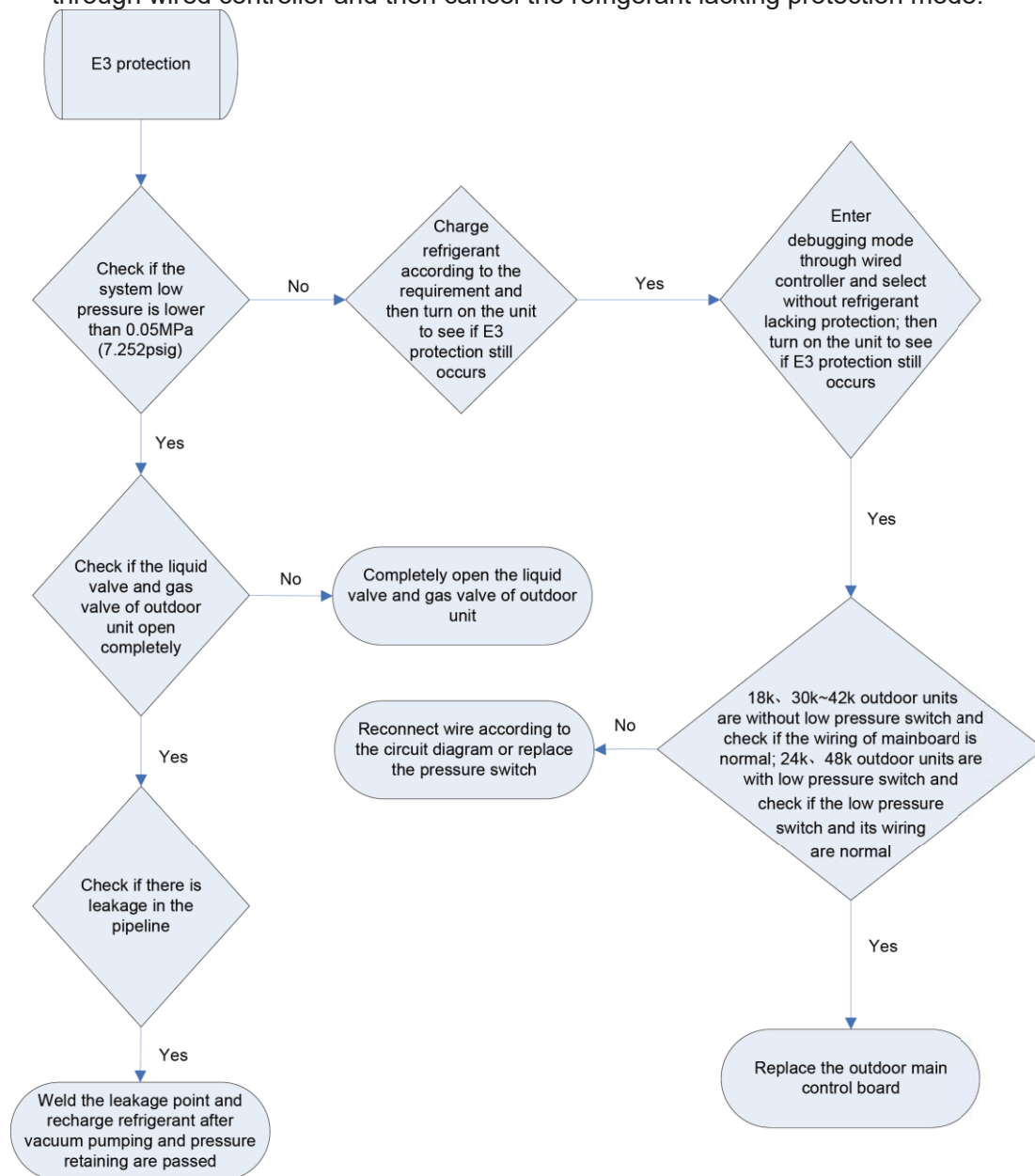
### ◆ E2 Freeze Protection

Freeze protection is normal protection but not abnormal malfunction. If freeze protection occurs frequently during operation, please check if the indoor filter is with filth blockage or if the indoor air outlet is abnormal. The user is required to clean the filter, check the air outlet and air return pipe periodically to ensure smooth air return and air outlet.

### ◆ E3 stands for three statuses:

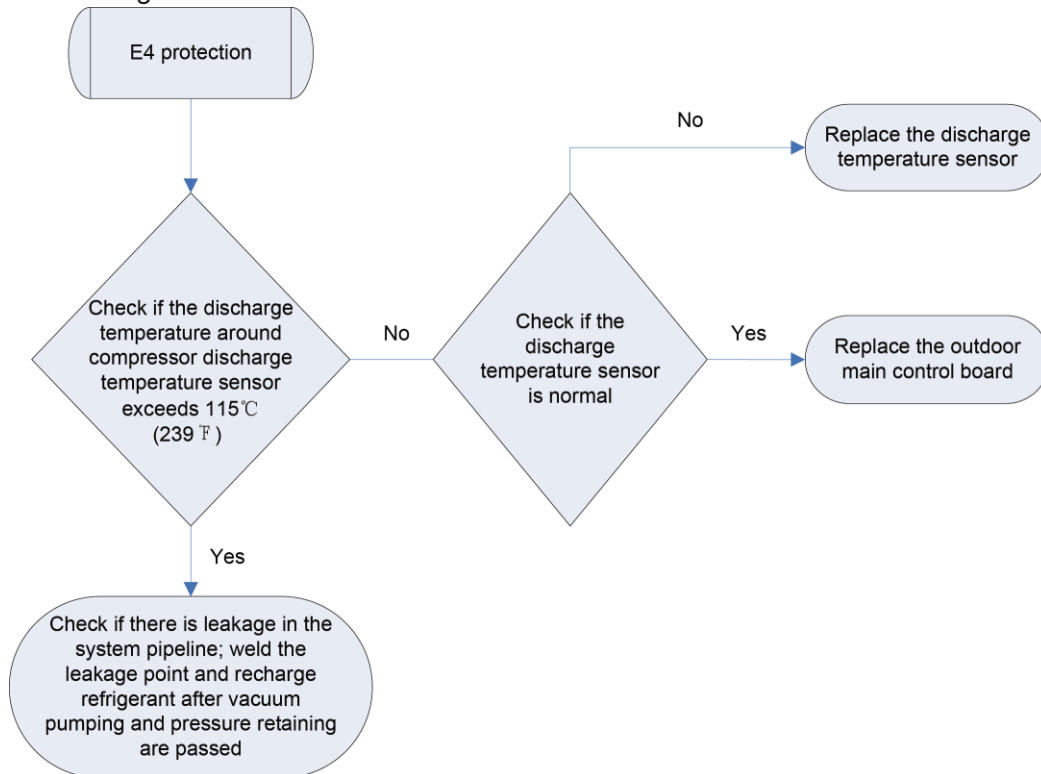
- (1) Low pressure protection (48k/60k);
- (2) Refrigerant lacking protection;
- (3) Refrigerant recycling mode;

- ① If enter refrigerant recycling mode through special operation, the displayed E3 is not an error code. It will be eliminated when exiting refrigerant recycling mode.
- ② If you do not want to have refrigerant lacking protection, you can enter the debugging mode through wired controller and then cancel the refrigerant lacking protection mode.

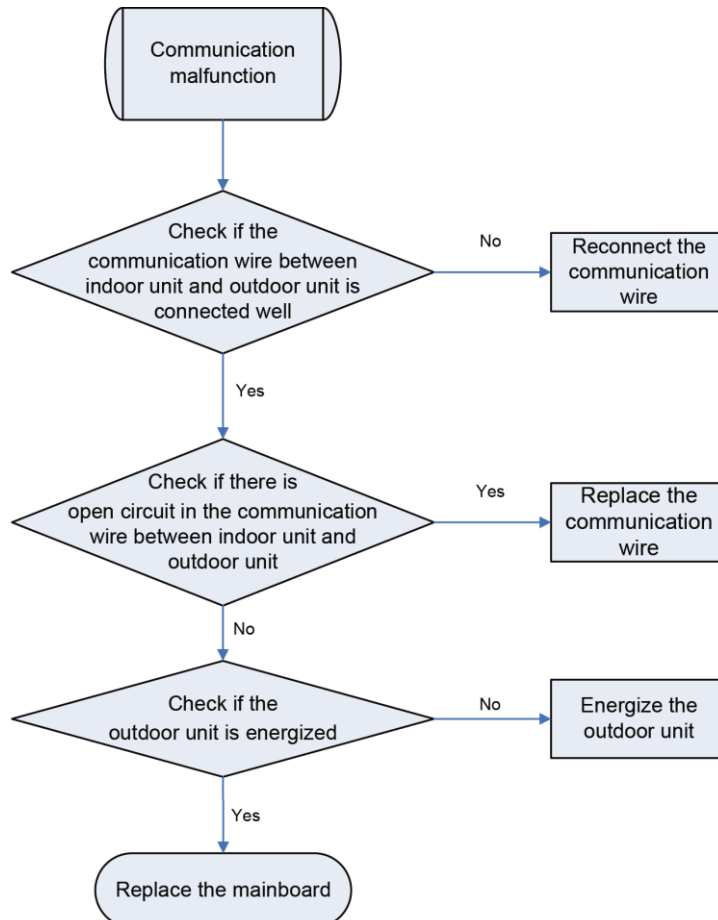




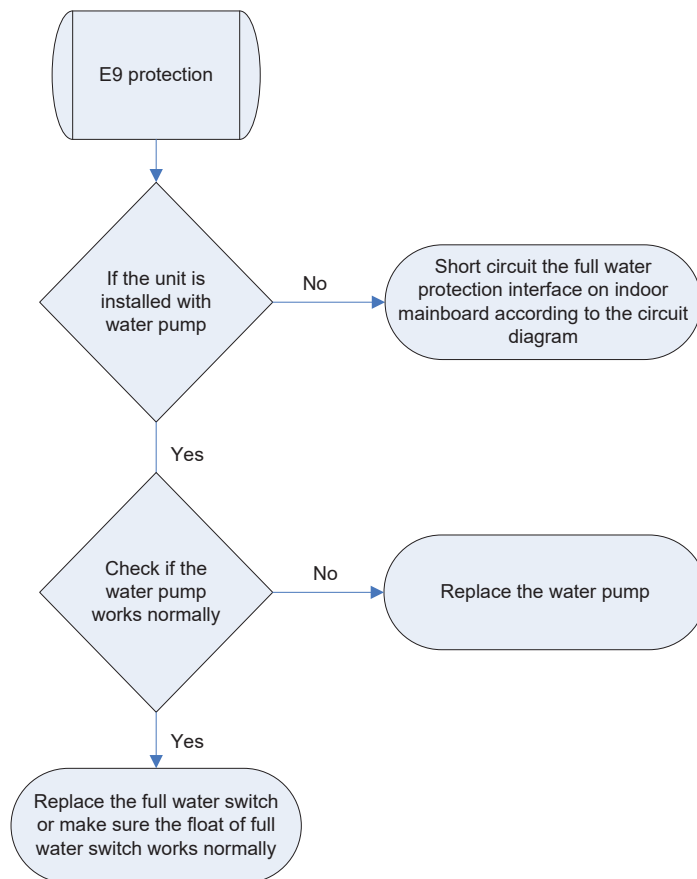
#### ◆ E4 Discharge Protection



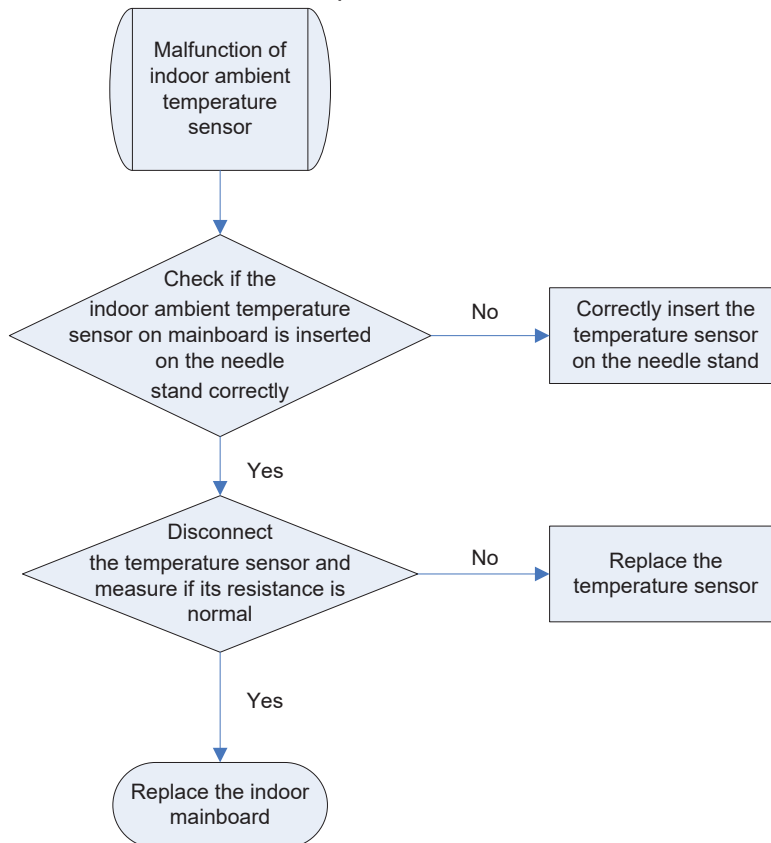
#### ◆ E6 Communication Malfunction



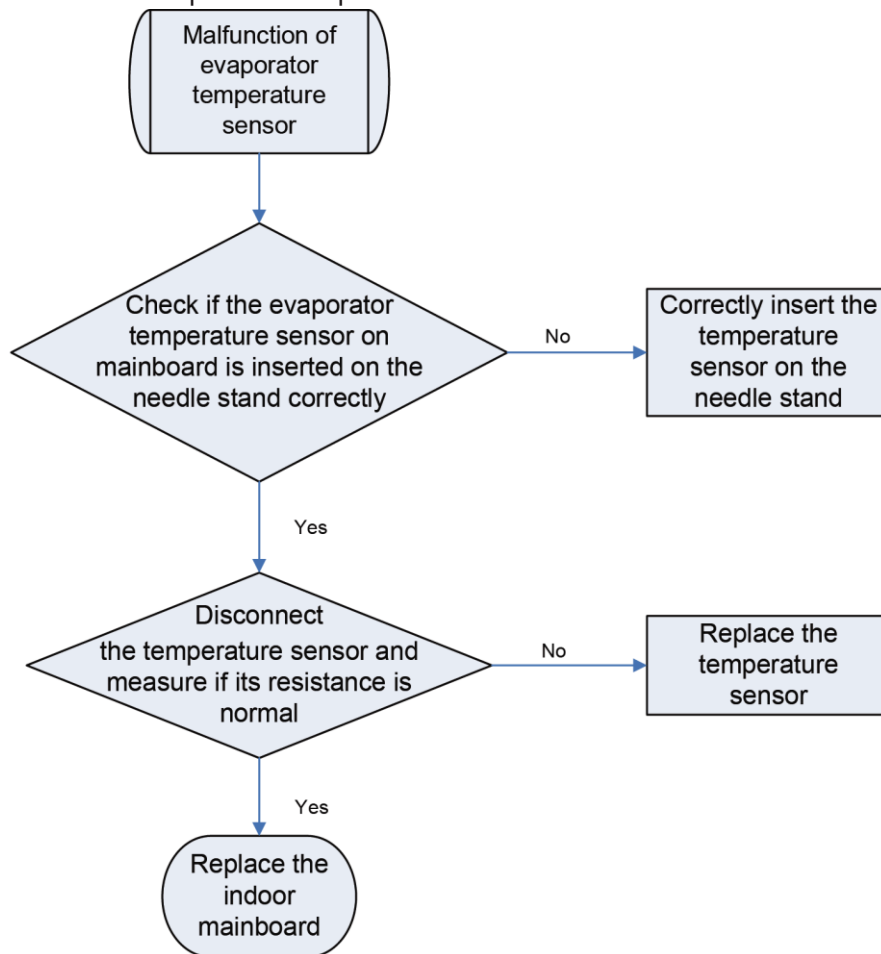
◆ E9 Full Water Protection



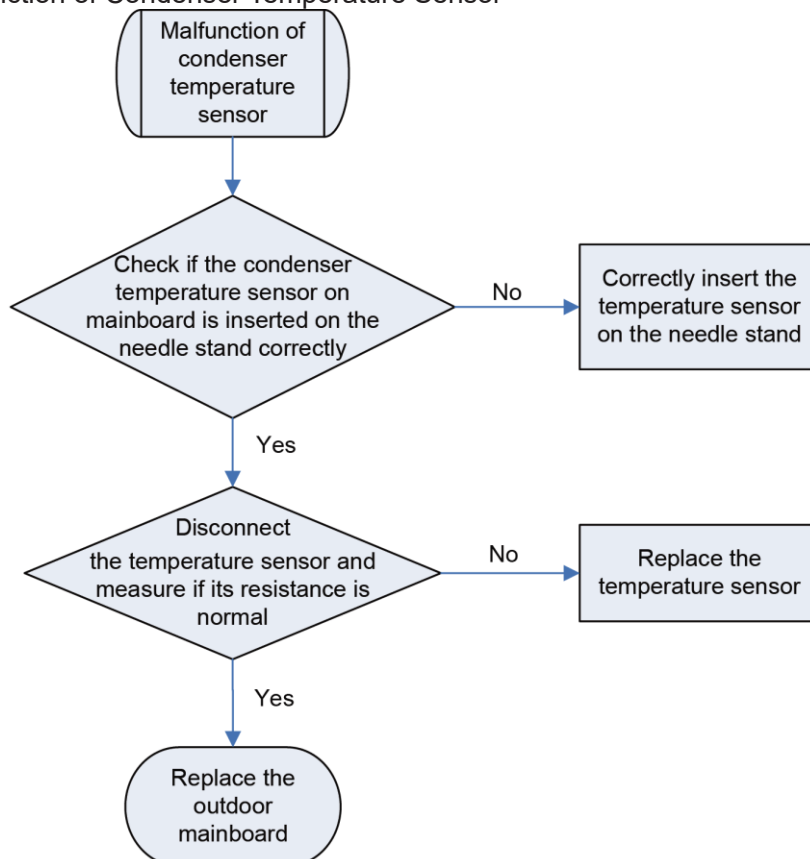
◆ F0 Malfunction of Indoor Ambient Temperature Sensor



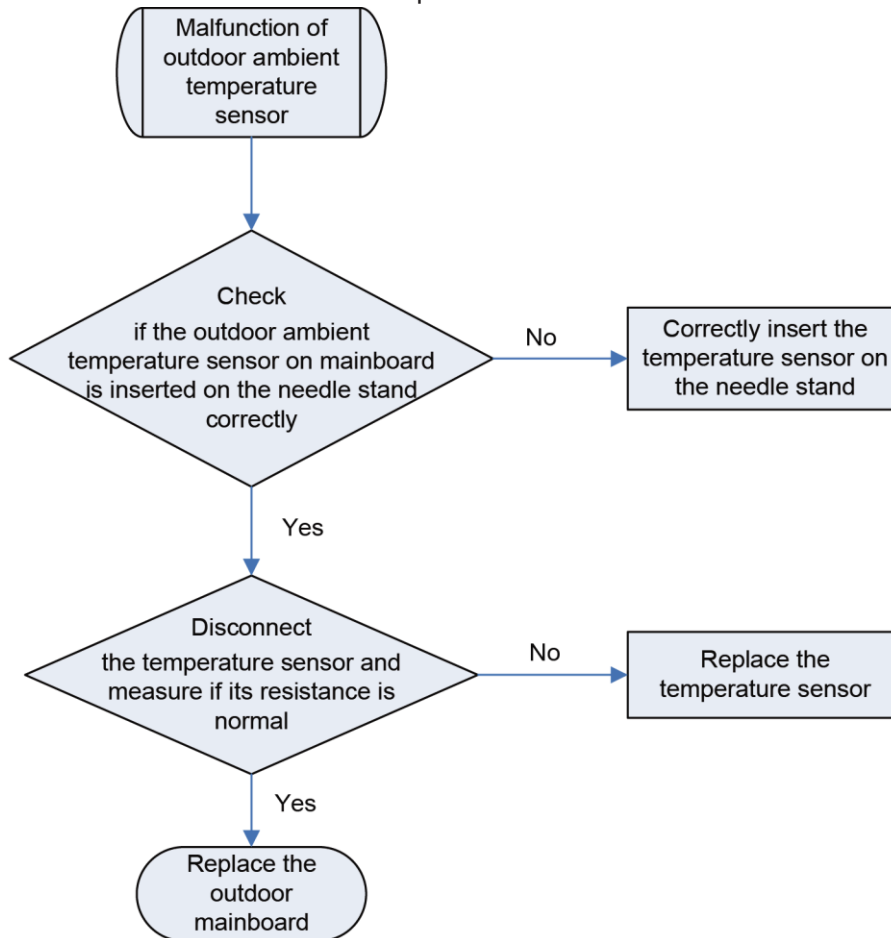
◆ F1 Malfunction of Evaporator Temperature Sensor



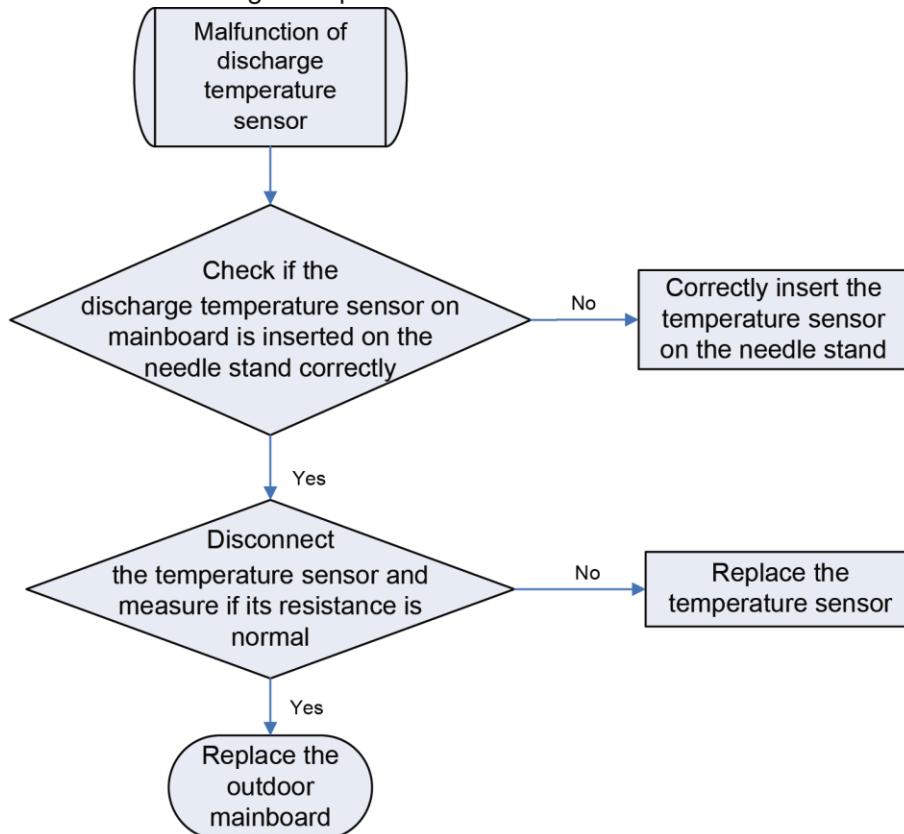
◆ F2 Malfunction of Condenser Temperature Sensor



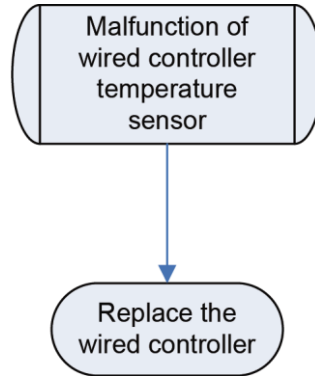
◆ F3 Malfunction of Outdoor Ambient Temperature Sensor



◆ F4 Malfunction of Discharge Temperature Sensor

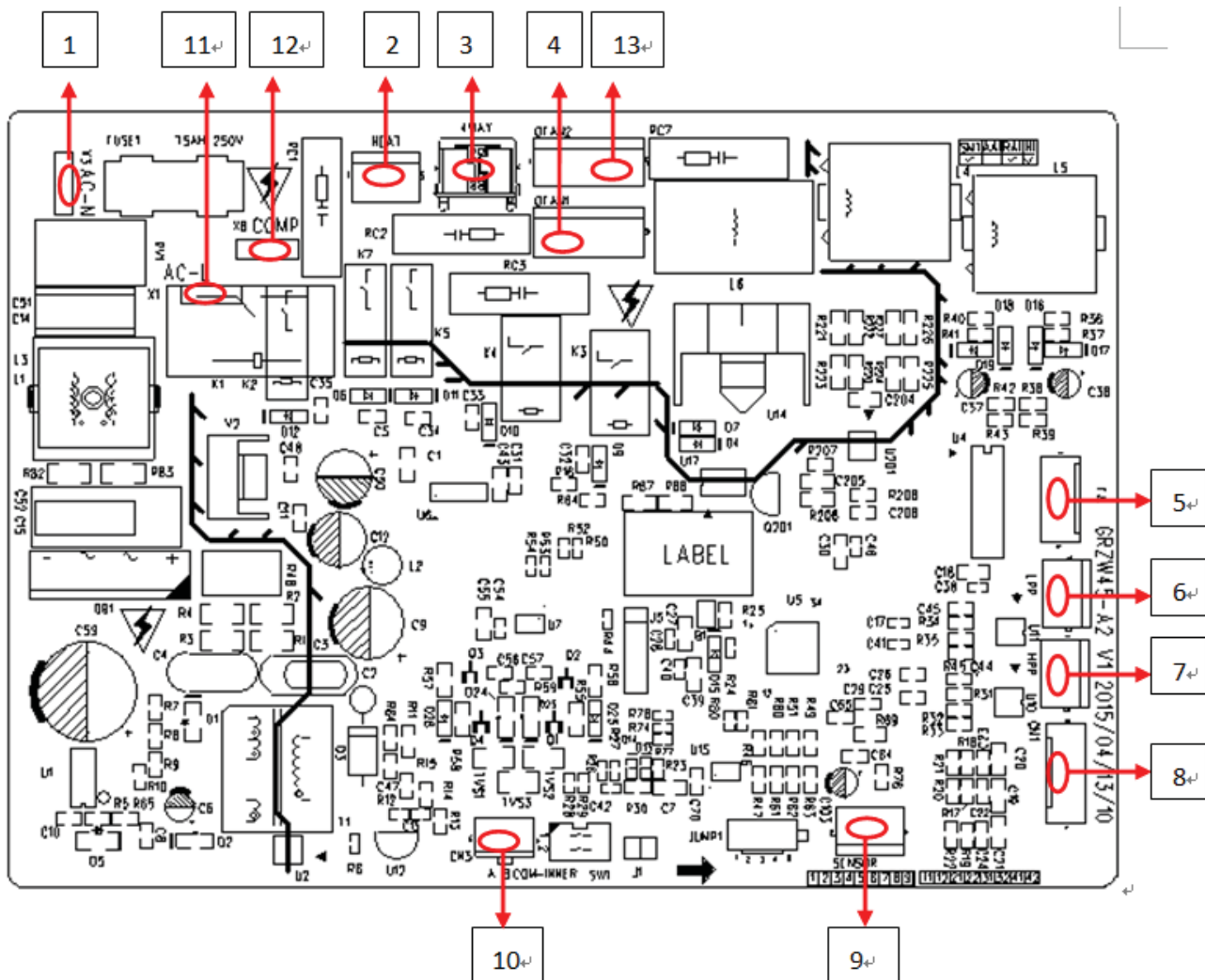


◆ F5 Malfunction of Wired Controller Temperature Sensor



## 2.2 Interface

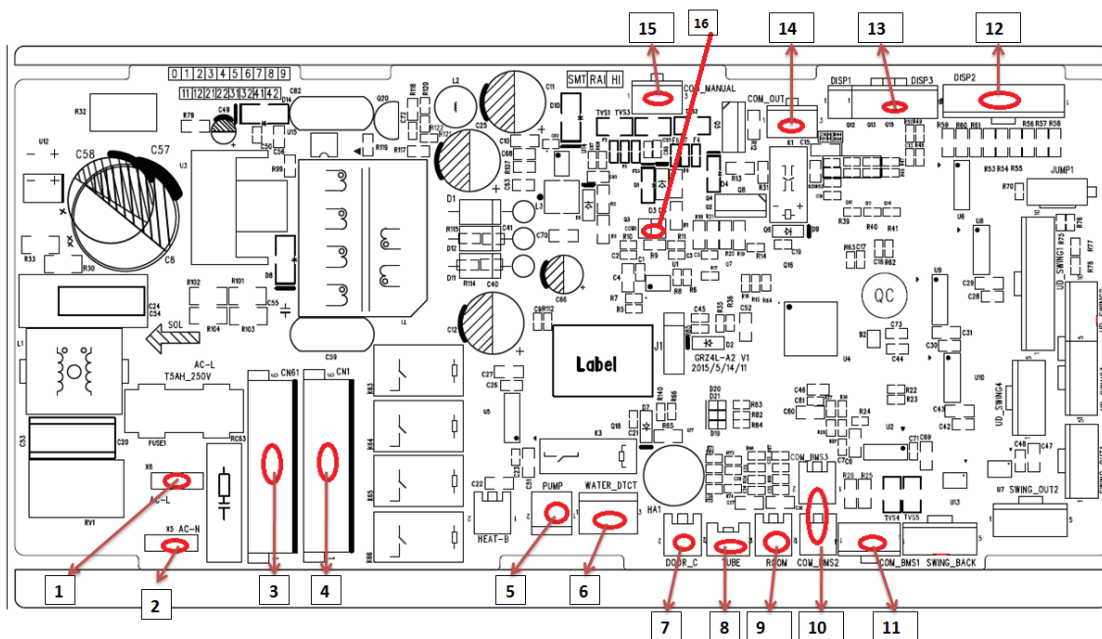
GU 42H3 / GU 48H3 / GU 60H3 Main Control Board



NO.	SILK-SCREEN	INTERFACE	INTERFACE INSTRUCTION
1	AC-N	Neutral wire input	Neutral wire input
2	HEAT	Compressor electrical heater	Compressor electric heating belt
3	4WAY	4-way valve	4-way valve
4	OFAN1	AC fan motor 1	AC fan motor 1
5	FA	Electronic expansion valve line 1 to 4-pin: Drive impulse output;5-pin: +12V;	Interface of electronic expansion valve: 1 to 4-pin: Drive impulse output; 5-pin: +12V;
6	LPP	Low pressure switch for system protection (obligate)	Interface of low pressure protection
7	HPP	High pressure switch for systemprotection(obligate)	Interface of high pressure protection
8	CN1	1&2 pin: Tube sensor 3&4 pin: Ambient temperature 5&6 pin: Air discharge	1&2 pin: Case temperature sensor 3&4 pin: Ambient temperature sensor 5&6 pin: Discharge temperature sensor
9	SENSOR	High pressure switch for fan speed adjustment	Pressure protection switch for fan speed adjustment
10	COM-INNER	Communication interface	Communication interface
11	AC-L	Live wire input	Live wire input
12	COMP	Compressor AC Contactor	Compressor AC Contactor
13	OFAN2	AC fan motor 2	AC fan motor 2

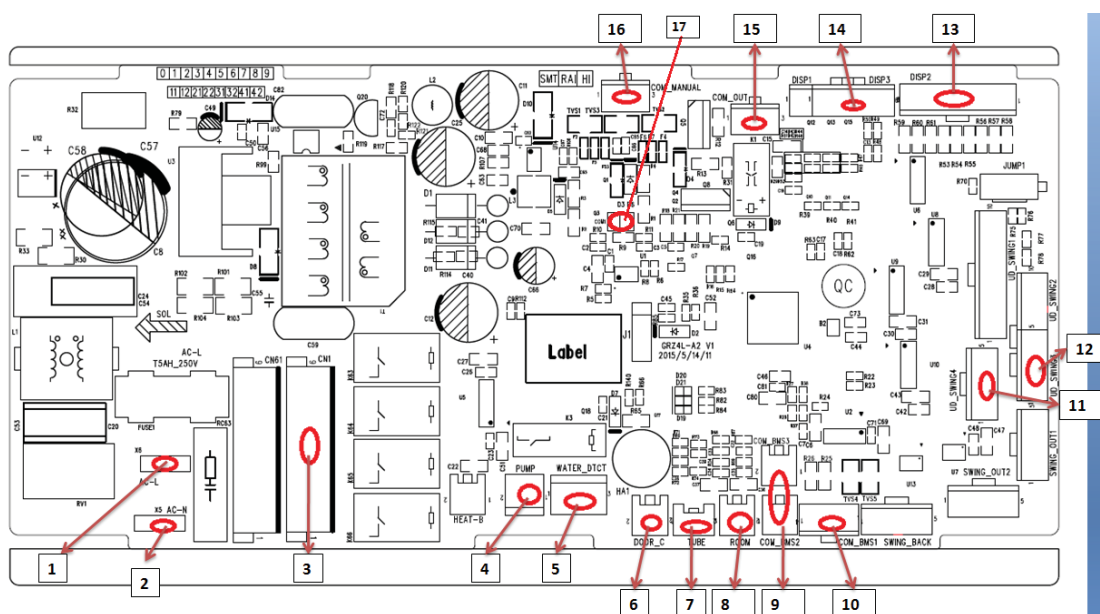
DGU 42H / DGU 48H / DGU 60H

Main Control Board



NO.	SILK-SCREEN	INTERFACE	NO.	SILK-SCREEN	INTERFACE
1	AC-L	Power live wire	2	AC-N	Power neutral wire
3	CN61	Interface of fan motor 1	4	CN1	Interface of fan motor 2
5	PUMP	Water pump interface	6	WATER_DCDT	Full water detection
7	DOOR_C	Door control	8	TUBE	Evaporator temperature sensor
9	ROOM	Ambient temperature sensor	10	COM_BMS2	Communication port of centralized controller
11	COM_BMS1	MOUDBUS interface	12	DISP2	Interface of light board 2
13	DISP1	Interface of light board 1	14	COM_OUT	Interface of outdoor unit
15	COM_MANUAL	Interface of wired controller	16	COM1	Interface of monitor

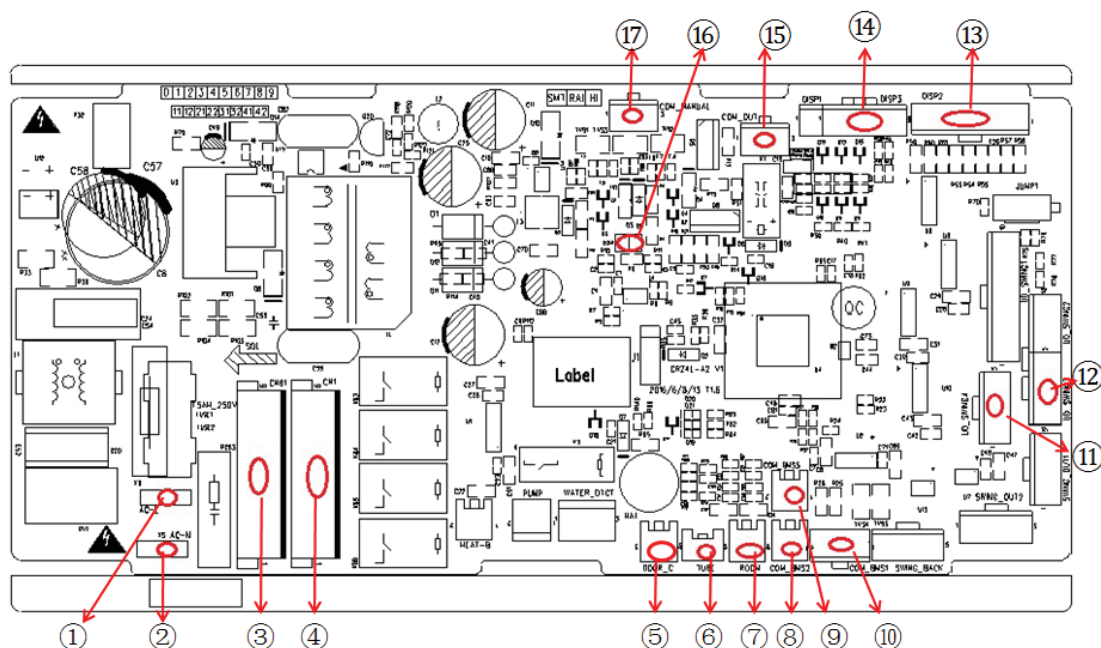
CGU 42H / CGU 48H / CGU 60H Main Control Board



NO.	SILK-SCREEN	INTERFACE	NO.	SILK-SCREEN	INTERFACE
1	AC-L	Power live wire	2	AC-N	Power neutral wire
3	CN1	Interface of fan motor	4	PUMP	Water pump interface
5	WATER_DCDT	Full water detection	6	DOOR_C	Door control
7	TUBE	Evaporator temperature sensor	8	ROOM	Ambient temperature sensor
9	COM_BMS2	Communication port of centralized controller	10	COM_BMS1	MOUDBUS interface
11	UD_SWING4	Swing motor 1	12	UD_SWING3	Swing motor 2
13	DISP2	Interface of light board 1	14	DISP3	Interface of light board 2
15	COM_OUT	Interface of outdoor unit	16	COM_MANUAL	Interface of wired controller
17	COM1	Interface of monitor			



FGU 42H / FGU 48H / FGU 60H Main Control Board



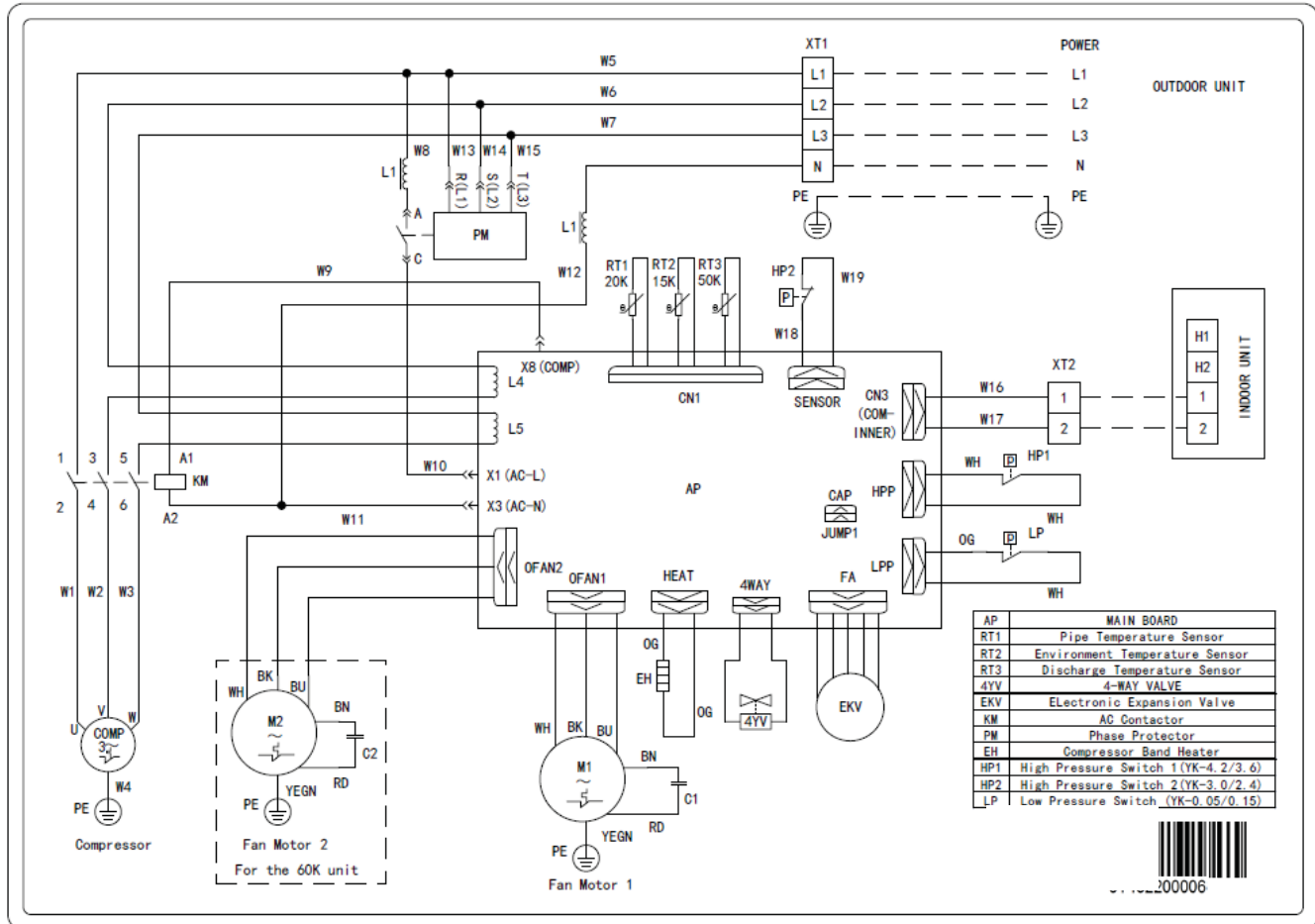
NO.	SILK-SCREEN	INTERFACE	NO.	SILK-SCREEN	INTERFACE
1	AC-L	Power live wire	2	AC-N	Power neutral wire
3	CN61	Interface of fan motor 1	4	CN1	Interface of fan motor 2
5	DOOR_C	Door control	6	TUBE	Evaporator temperature sensor
7	ROOM	Ambient temperature sensor	8	COM_BMS2	Communication port of centralized controller 2
9	COM_BMS1	Communication port of centralized controller 1	10	COM_BMS1	MOUDBUS interface
11	UN_SWING4	Swing motor 1	12	UN_SWING3	Swing motor 2
13	DISP2	Interface of light board 2	14	DISP1	Interface of light board 1
15	COM_OUT	Interface of outdoor unit	16	COM_MANUAL	Interface of wired controller
17	COM1	Interface of monitor			

# 3 WIRING DIADRAM

## 3.1 Outdoor unit

The actual wiring should always refer to the wiring diagram of the unit.

Model: GU 42H3, GU 48H3, GU 60H3

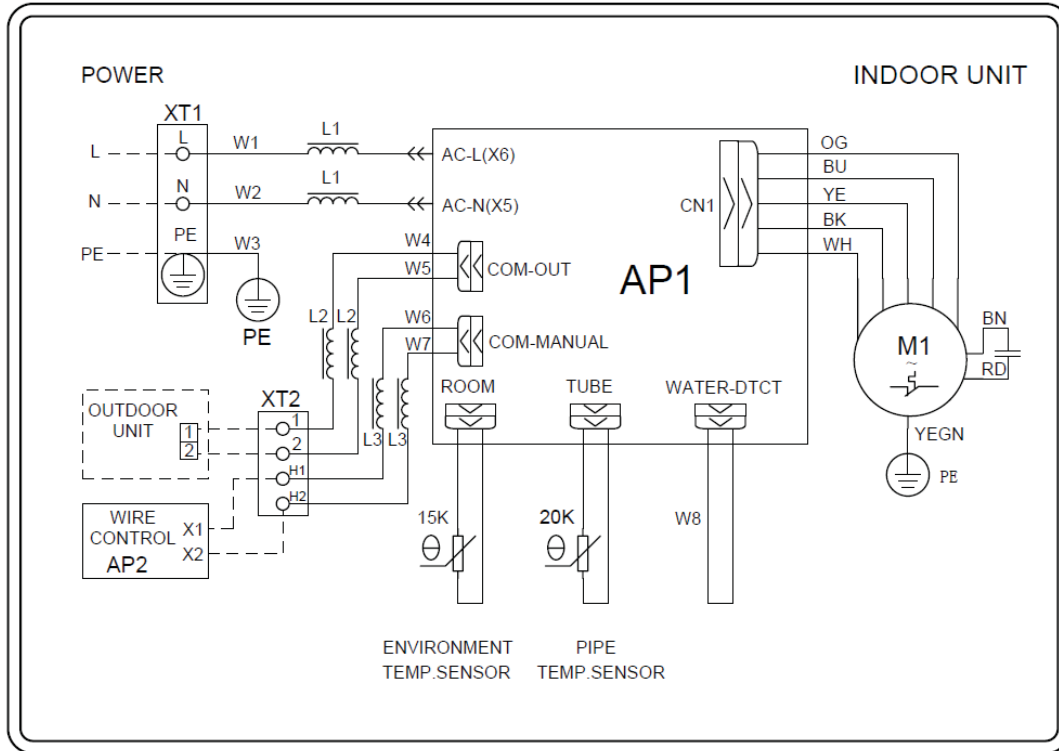


## 3.2 Indoor unit

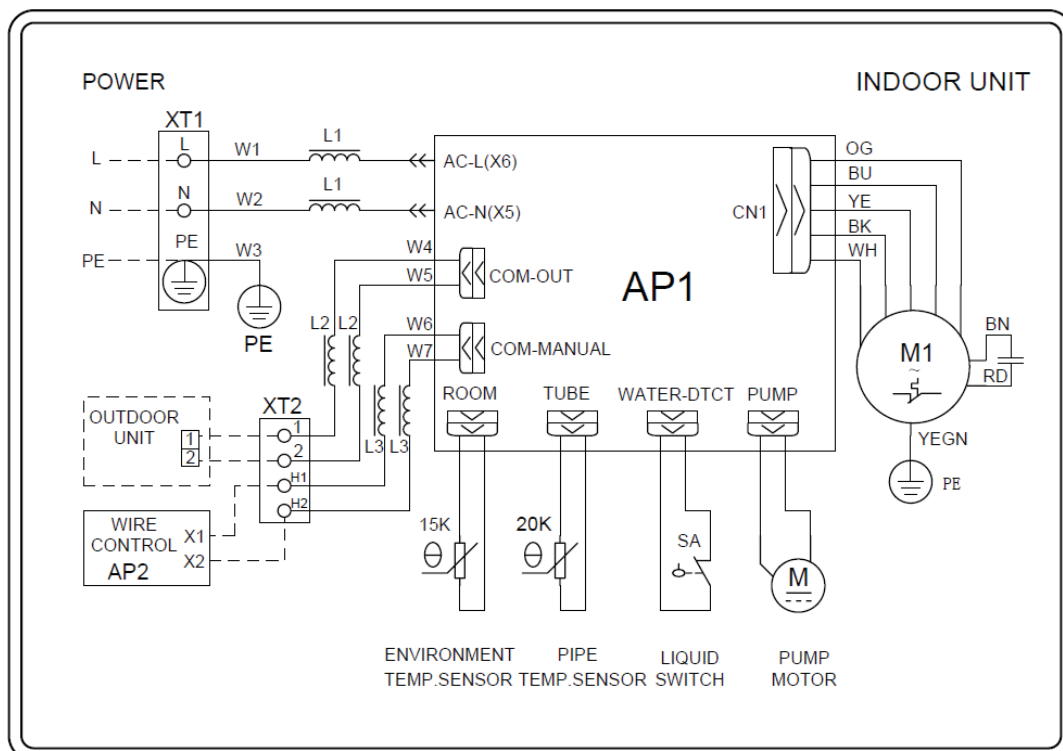
The actual wiring should always refer to the wiring diagram of the unit.

### 3.2.1 Duct Type

◆ Model:DGU 42H, DGU 48H, DGU 60H



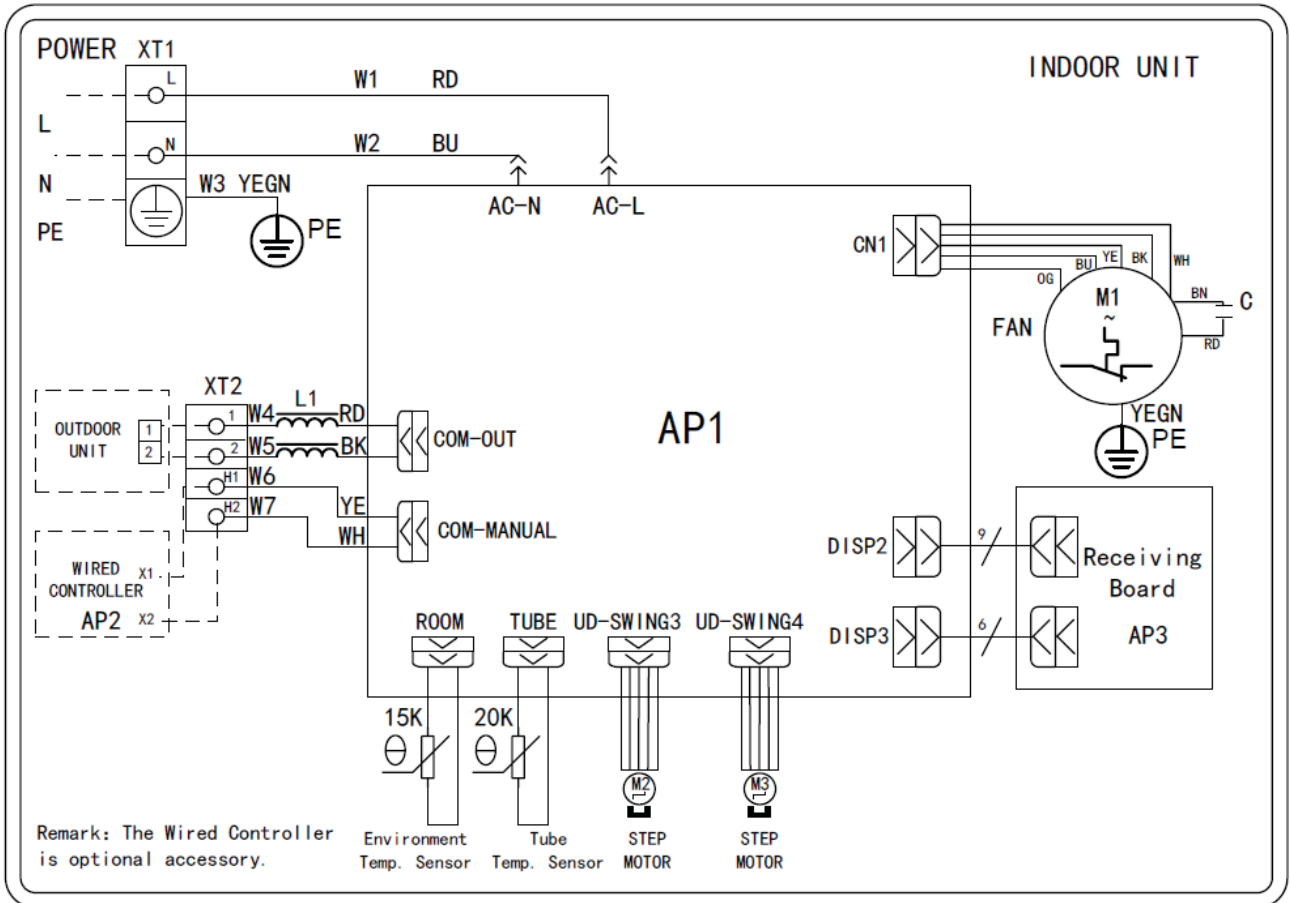
◆ Model:DGU 42H, DGU 48H, DGU 60H WITH WATER PUMP (OPTIONAL)





### 3.2.3 Floor Ceiling Type

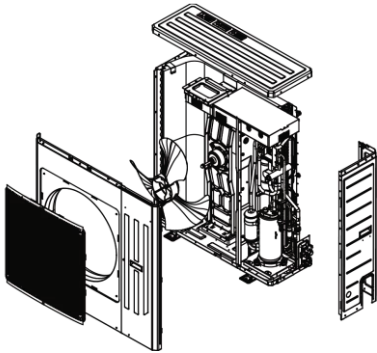
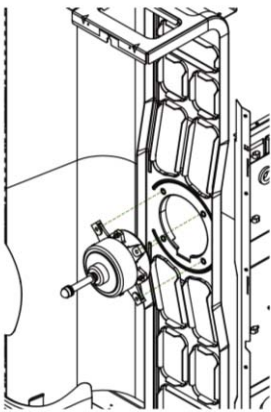
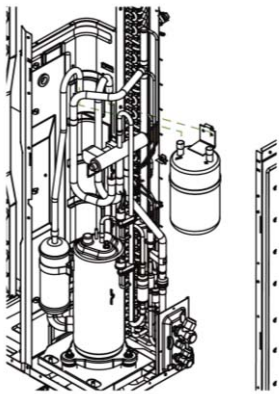
◆ Model: FGU 42H, FGU 48H, FGU 60H

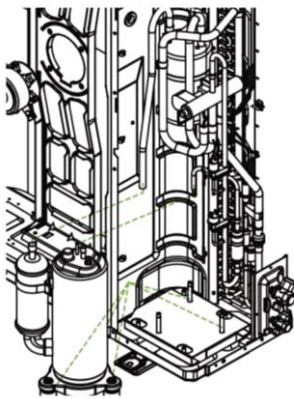
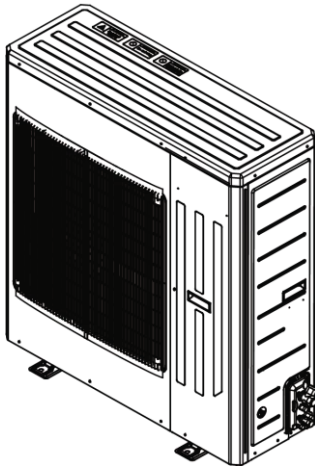


## 4. DISASSEMBLY AND ASSEMBLY PROCEDURE OF MAIN PARTS

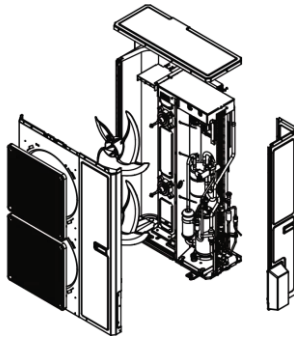
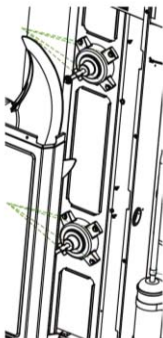
### 4.1 Outdoor Unit

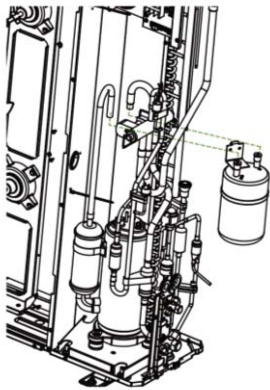
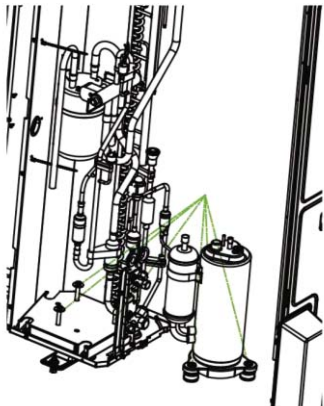
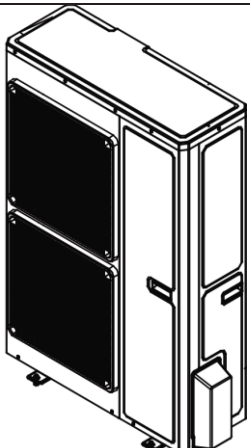
◆ 42k/48k

Disassembly and Assembly of external casing		
Remark :		
Step	Illustration	Handling Instruction
1. Remove external casing		<ol style="list-style-type: none"> <li>1. Remove the top cover and handle;</li> <li>2. Remove the grille, outer case and right side plate.</li> </ol>
2. Remove motor		<ol style="list-style-type: none"> <li>1. Remove the blade nut and then remove the blade;</li> <li>2. Remove the motor from motor support.</li> </ol>
3. Remove gas liquid separator		<ol style="list-style-type: none"> <li>1. Discharge the refrigerant inside the pipeline and recycle the refrigerant during discharging;</li> <li>2. Unsolder the 4-way valve assy from gas liquid separator;</li> <li>3. Remove the gas liquid separator.</li> </ol>

4. Remove compressor		<ol style="list-style-type: none"> <li>1. Discharge the refrigerant inside the pipeline and recycle the refrigerant during discharging;</li> <li>2. Unsolder the 4-way valve assy from compressor;</li> <li>3. Remove the nut fixing compressor;</li> <li>4. Take away the compressor from chassis.</li> </ol>
5. Assemble unit		<p>Assemble the unit in the reverse procedures of disassembly.</p>

◆ 60k:

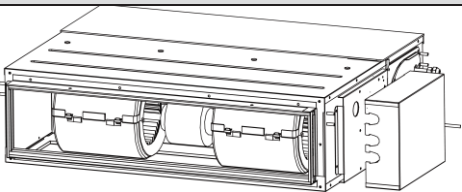
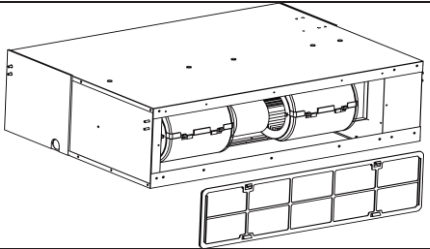
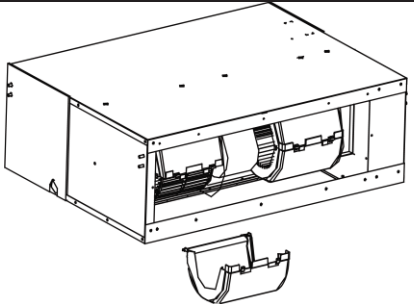
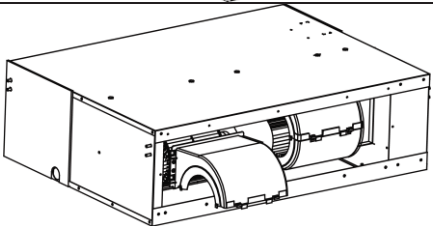
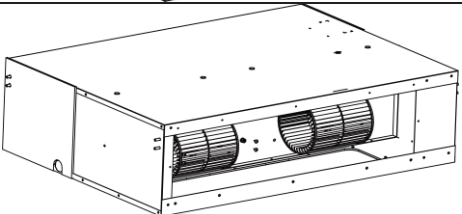
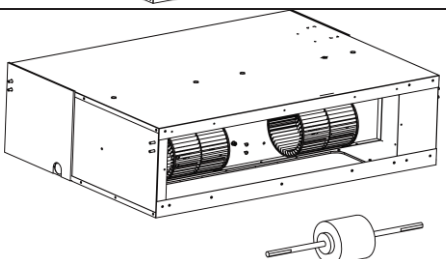
Disassembly and Assembly of external casing		
Remark :		
Step	Illustration	Handling Instruction
1. Remove external casing		<ol style="list-style-type: none"> <li>1. Remove the top cover and handle;</li> <li>2. Remove the grille, outer case and right side plate.</li> </ol>
2. Remove motor		<ol style="list-style-type: none"> <li>1. Remove the blade nut and then remove the blade;</li> <li>2. Remove the motor from motor support.</li> </ol>

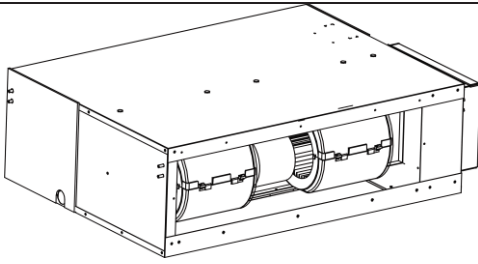
<p>3. Remove gas liquid separator.</p>		<ol style="list-style-type: none"> <li>1. Discharge the refrigerant inside the pipeline and recycle the refrigerant during discharging;</li> <li>2. Unsolder the 4-way valve assy from gas liquid separator;</li> <li>3. Remove the gas liquid separator.</li> </ol>
<p>4. Remove compressor</p>		<ol style="list-style-type: none"> <li>1. Discharge the refrigerant inside the pipeline and recycle the refrigerant during discharging;</li> <li>2. Unsolder the 4-way valve assy from compressor;</li> <li>3. Remove the nut fixing compressor;</li> <li>4. Take away the compressor from chassis.</li> </ol>
<p>5. Assemble unit</p>		<p>Assemble the unit in the reverse procedures of disassembly.</p>

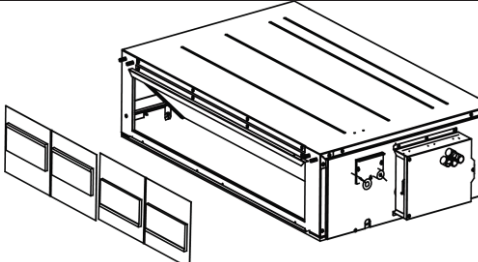


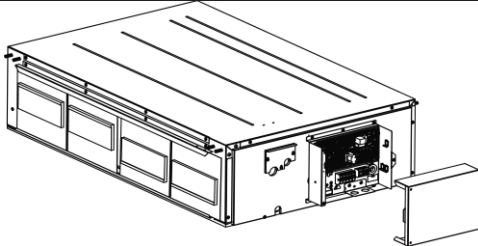
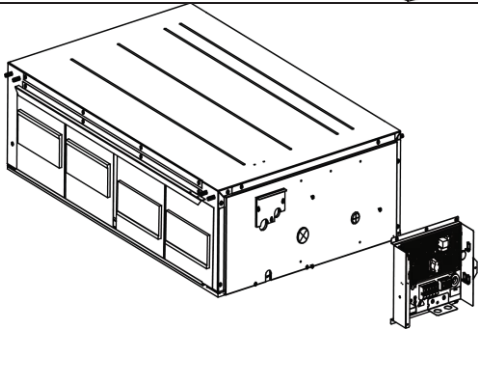
## 4.2 Indoor Unit

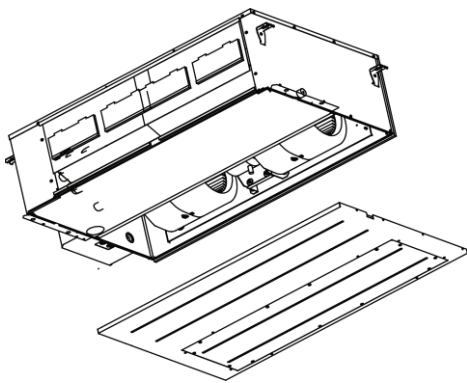
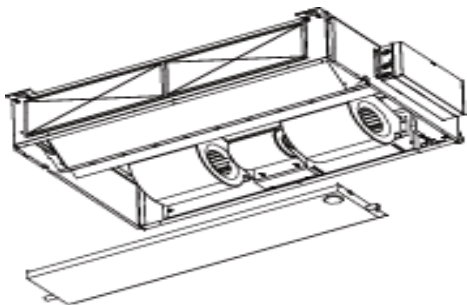
### 4.2.1 Duct type

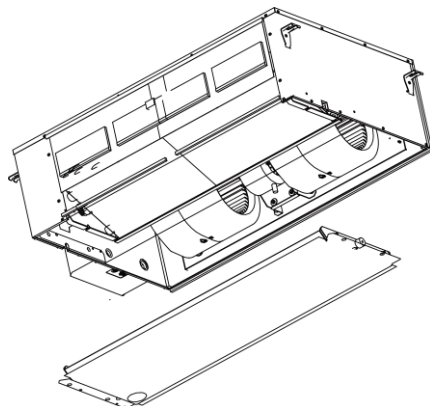
Removal and Assembly of Fan Motor		
Remarks: Before removing the fan, make sure to cut off the power firstly.		
Step	Illustration	Handling Instruction
1. Unplug the motor cables		Cut off the power supply of indoor unit. Use screwdriver to remove the electric box cover and unplug the motor cables in electric box.
2. Remove the filter sub-assembly and air inlet cover board		Remove the filter sub-assembly from the air inlet frame and use screwdriver to remove the air inlet cover board.
3. Remove the screws on fan sub-assembly.		Remove the screws on fan sub-assembly.
4. Overturn the propeller housing		Rotate the propeller housing to the air inlet according to arrow direction.
5. Loosen the fan and motor.		Use inner hexagonal spanner to loosen the screws on fan and remove the clamp fixing the motor.
6. Replace the motor		Firstly, disengage the motor from motor support. Then, sequentially disengage the fan sub-assembly from the motor shaft. Remove the motor from the air inlet and replace with new motor. In which, for the motor with automatic motor support, the motor support shall be removed in advance and then changed to the unit.

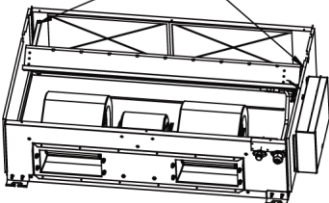
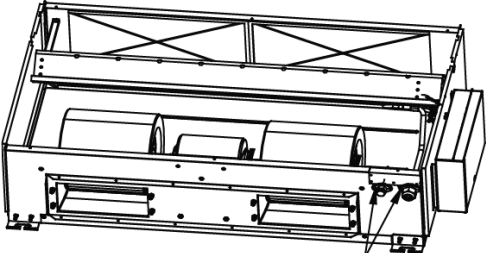
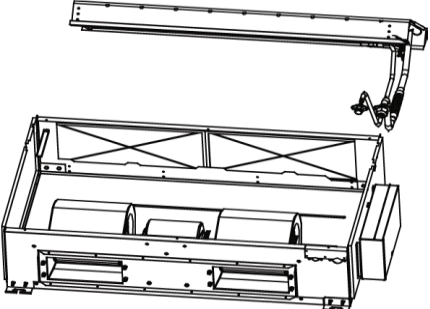
<p>7. Assemble the unit in reverse to the disassembly procedures</p>		<p>Assemble the unit in reverse to the disassembly procedures and energize it for testing.</p>
--	--	--

Disassembly of filter screen for return air.		
<p>Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly. Do not put filter screen near the high temperature heat source.</p>		
Step	Illustration	Handling Instruction
<p>1. Disassembly of filter screen for return air</p>		<p>Compress the filter screen for return air down on the guide slot sponge, and remove according to the direction shown by the arrow. There are 2 filter screens for return air.</p>

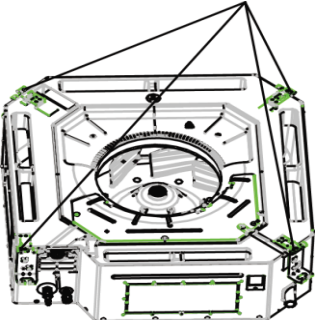
Disassembly of electrical parts box cover panel and electrical parts box		
<p>Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the electrical components. Do not dampen or hit them</p>		
Step	Illustration	Handling Instruction
<p>1. Disassembly of electric box cover</p>		<p>Disassemble the screw according to the position shown in the circle and the box and remove the electric box in the direction of the arrow.</p>
<p>2. Disassembly of electric parts box</p>		<p>Disassemble the fastening screw and remove the electrical parts box. (As is shown in the graph, there are 2 fastening screws in the circle and the screws in the direction of arrow shall be disassembled too.)</p>

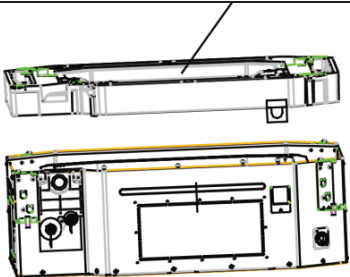
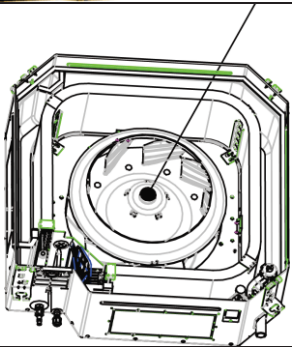
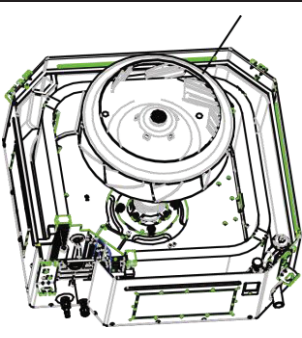
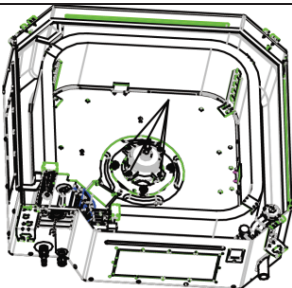
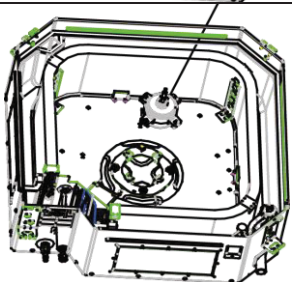
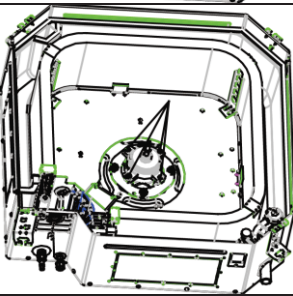
Disassembly of water-containing plate		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
1. Disassembly of cover plate		<p>Disassemble the fastening screws on the cover plate and remove the cover plate. (As is shown in the graph, circle represents 6 fastening screws under the cover plate and the box represents two fastening screws on water-containing plate symmetrically arranged both on left and right.)</p>
2. Disassembly of water-containing plate		<p>Disassemble the fastening screws on the water-containing plate, pull upward and remove the water-containing plate. Disassembled water-containing plate is shown in the graph.</p>

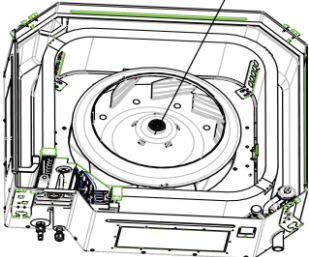
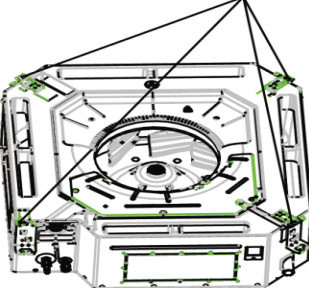
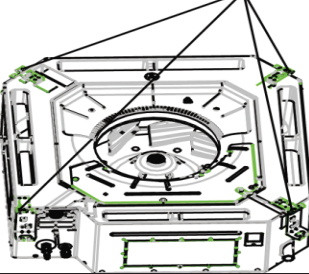
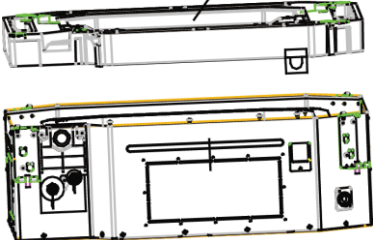
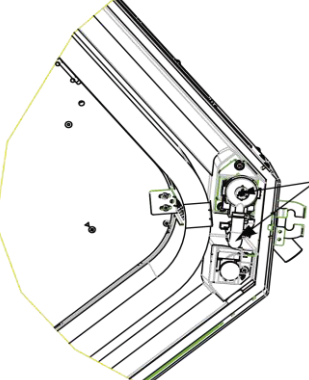
Disassembly of fan and motor		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
Disassembly of fan motor		<p>Disassemble the fixing screws on the fan components. (As is shown in Graph 10, circle represents 6 screws.)</p> <p>Disassemble the fastening screws on the fan and motor. Remove the fan. (As is shown in Graph 11, box represents screws.)</p>

Disassembly of evaporator		
Remark: Make sure that the power supply is cut off and protect the copper tube and aluminum fin. If the time for disassembly shall be long, put the copper tube under pressurized condition.		
Step	Illustration	Handling Instruction
1. Disassembly of fixing screws on the side panels of evaporator	<p>Disassemble of fixing screws on the side panels of evaporator</p> 	Disassemble the fastening screw connecting left and right side panels on the evaporator and the upper cover plate. (As is shown in the arrows direction in Graph.)
2. Disassemble fastening screws connecting evaporator valve seal-plate and joint flange	 <p>Disassemble fastening screws connecting evaporator valve seal-plate and join flange</p>	Disassemble the fastening screws on the valve seal-plate and remove the valve seal-plate. Disassemble the fastening screws on the evaporators joint flange. (As is shown in the graph, box represents fastening screws on seal-plates while circle the fastening screws on joining flange.
3. Removal of evaporator		Remove the evaporator. Removed evaporator is shown in the graph.

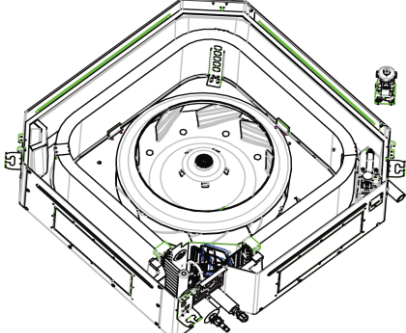
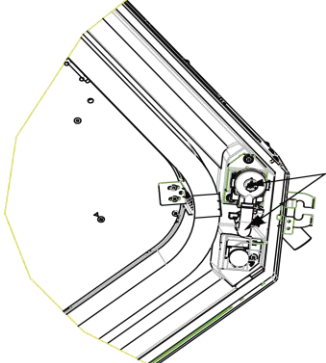
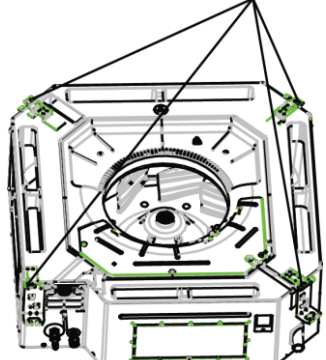
## 4.2.2 Cassette-type Unit

Removal and Assembly of Fan Motor		
Step	Illustration	Handling Instruction
1. Loosen the screws fixing the water tray		Use screwdriver to loosen the screws fixing the water tray

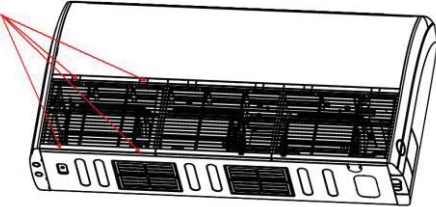
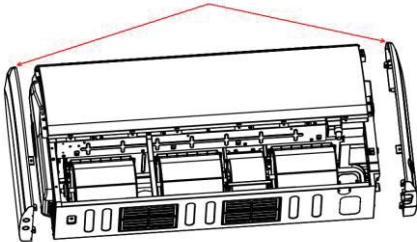
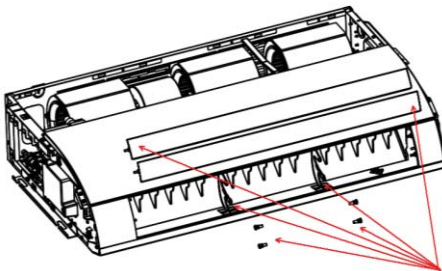
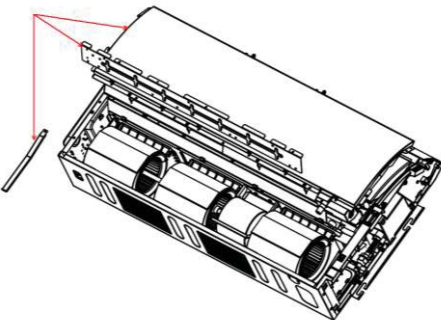
<p>2. Remove the water tray</p>		<p>Remove the water tray</p>
<p>3. Loosen the bolts fixing the fan</p>		<p>Use spanner to loosen the bolts fixing the fan.</p>
<p>4. Remove the fan</p>		<p>Remove the fan</p>
<p>5. Loosen the screws fixing the motor</p>		<p>Use screwdriver to loosen the screws fixing the motor</p>
<p>6. Remove the motor and replace it</p>		<p>Remove the motor and replace it</p>
<p>7. Tighten the screws fixing the motor</p>		<p>Use screwdriver to tighten the screws fixing the motor.</p>

<p>8. Mount the fan and tighten the fixing bolts</p>		<p>Mount the fan and use spanner to tighten the bolts fixing the fan.</p>
<p>9. Mount the water tray and tighten the screws</p>		<p>Use screwdriver to loosen the screws fixing the water tray</p>
<p style="text-align: center;">Removal and Installation of Drainage Pump</p>		
Step	Illustration	Handling Instruction
<p>1. Loosen the screws fixing the water tray</p>		<p>Use screwdriver to loosen the screws fixing the water tray</p>
<p>2. Remove the water tray</p>		<p>Remove the water pump and replace it.</p>
<p>3. Pull out the water outlet pipe and loosen the screws fixing the water pump.</p>		<p>Pull out the water outlet pipe and use screwdriver to loosen the screws fixing the water pump.</p>

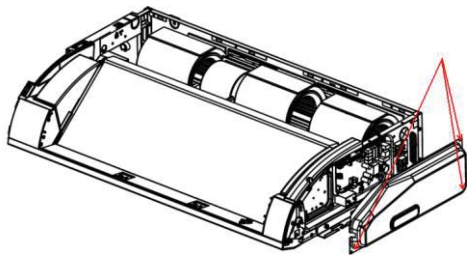
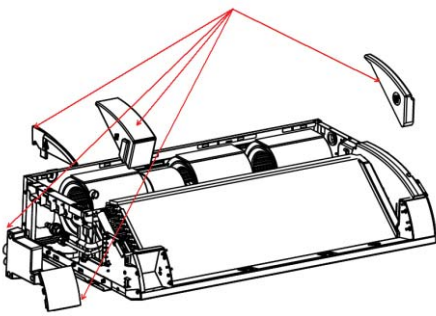
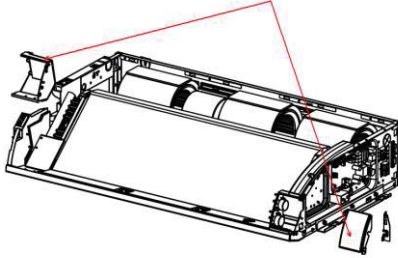
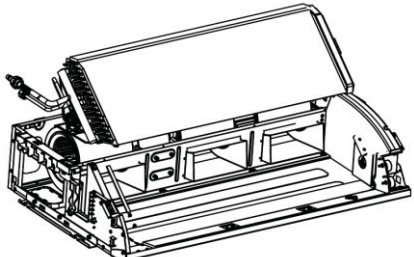


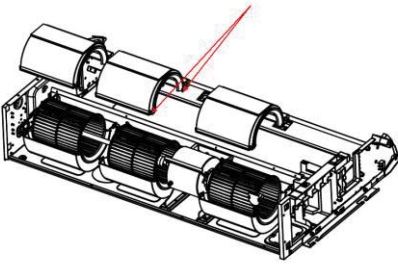
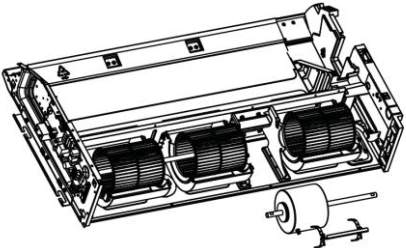
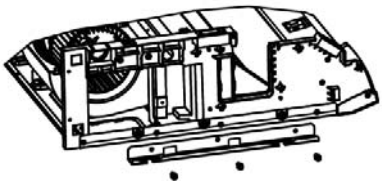
<p>4. Take out the pump and replace it</p>		<p>Take out the pump and replace it</p>
<p>5. Connect the drainage pipe and tighten the screws fixing the water pump.</p>		<p>Connect the drainage pipe and use screwdriver to tighten the screws fixing the water pump.</p>
<p>6. Mount the water tray and tighten the screws</p>		<p>Use screwdriver to loosen the screws fixing the water tray</p>

## 4.2.3 Floor ceiling type Unit

Disassembly of panel grating module		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly. Do not put filter screen near the high temperature heat source.		
Step	Illustration	Handling Instruction
Disassembly of sub-assy of front grill		<ul style="list-style-type: none"> <li>●Unscrew the 2 clasps of the upper grill and the 2 screws of the clasps.</li> <li>●Open the grill, disassemble the 2 down clasps to remove the grill.</li> </ul>
Disassembly of right and left finishing plates		
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly. Do not scratch the outer parts.		
Step	Illustration	Handling Instruction
Disassembly of right and left finishing plates		<ul style="list-style-type: none"> <li>●Disassemble the screws as shown in the graph with screwdriver and then push upward to remove the right and left finishing plates.(As is shown in the graph, arrow represents the position of screws.)</li> </ul>
Disassembly of panel parts		
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly. Do not scratch the outer parts.		
Step	Illustration	Handling Instruction
1.Disassembly of sub-assy of air deflecting plate		<ul style="list-style-type: none"> <li>●Remove the air deflecting plates from the air deflecting plate support assembly.</li> </ul>
2.Disassembly of panel parts		<ul style="list-style-type: none"> <li>●Unscrew the sides' screws on the cover to remove the cover.</li> </ul>



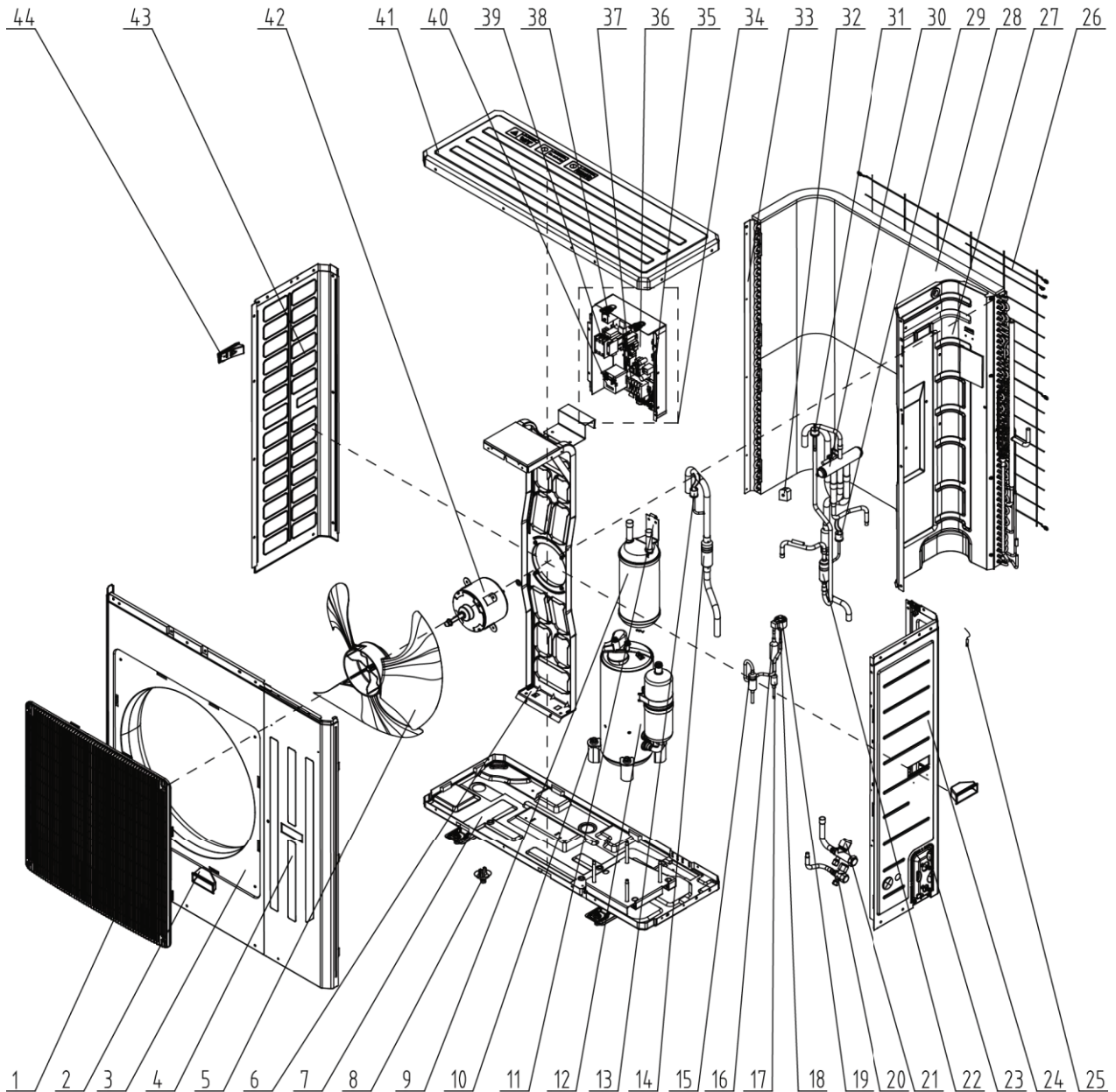
Disassembly of sub-assy of electric box		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the components inside the box in case of water and hit.		
Step	Illustration	Handling Instruction
Disassembly of electric box cover		<ul style="list-style-type: none"> <li>Disassemble 3 screws as shown by the arrow in the graph on left and remove the electric box cover.</li> </ul>
Disassemble of foam and cover		
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
1.Disassemble of foam		<ul style="list-style-type: none"> <li>Remove the foam</li> </ul>
2.Disassemble of cover		<ul style="list-style-type: none"> <li>Unscrew the screws on the cover to remove the cover.</li> </ul>
Disassembly of evaporator components		
Remark: Make sure that the power supply is cut off and protect the copper tube and aluminum fin. If the time for disassembly shall be long, seal the copper tube.		
Step	Illustration	Handling Instruction
Disassembly of evaporator components		<ul style="list-style-type: none"> <li>Unscrew the screws of evaporator to remove the evaporator.</li> </ul>

Disassembly of fan and motor components		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the fastening screws for fans.		
Step	Illustration	Handling Instruction
1. Disassembly of front and back scroll cases		<ul style="list-style-type: none"> <li>● Press the buckle at the joints of front and back scroll cases with hands and pull upward to remove the front scroll case. Then remove the screws on the back scroll case. Lift the buckle of back scroll case with hands and remove it. (As is shown in the graph, circle represents 2 screws on left and right.)</li> </ul>
2. Disassembly of motor		<ul style="list-style-type: none"> <li>● Loosen the 2 screws of the motor attaching clamp, remove the motor attaching clamp and motor attaching clamp subassembly to remove the motor.</li> </ul>
Disassembly of right and left fixing plates		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
Disassembly of right and left fixing plates		<ul style="list-style-type: none"> <li>● Disassemble the bolts on right and left fixing plates with tools. (As is shown by the arrow in the graph.)</li> </ul>

# 5 EXPLODED VIEWS AND SPARE PART LIST

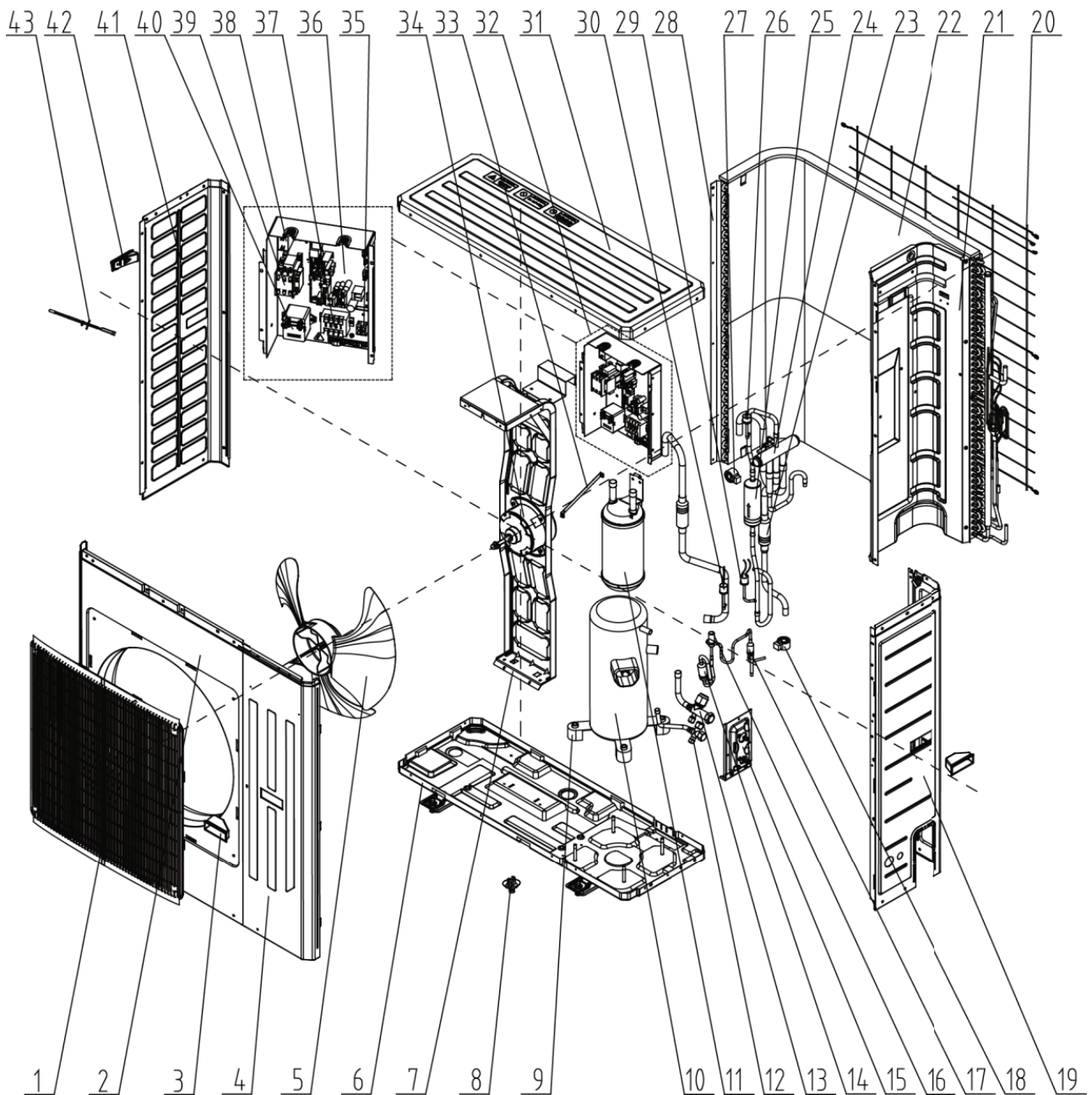
## 5.1 Outdoor Unit

◆ Model: GU 42H3 Exploded Views and spare parts list:



NO.	Name of Part	GU 42H3	
		Product Code	CF021W2070
		Part Code	Quantity
1	Front Grill	'26905200121	1
2	Handle	'26235253	2
3	Cabinet	'01435007P	1
4	Front Side Plate Sub-Assy	'01315414	1
5	Axial Flow Fan	'10335010	1
6	Motor Support Sub-Assy	'01805470	1
7	Chassis Sub-Assy	'01195200078P	1
8	Drainage Joint	'26113009	1
9	Gas-liquid Swparator Sub-Assy	'0722501801	1
10	Compressor Gasket	'76812206	4
11	Wire Clamp	'02145008	1
12	Compressor and Fittings	'00209400001	1
13	Preesure Switch	'4602001539	1
14	Strainer	'07210037	2
15	Strainer	'0741410000601	1
16	Silencer	'07245012	1
17	Strainer	'07213050	1
18	Electric Expand Valve Fitting	'43000344	1
19	Electronic Expansion Vlave	'43005017	1
20	Cut off Valve	'071302392	1
21	Cut off Valve	'07135058	1
22	Silencer	'07245011	1
23	Valve Support Sub-Assy	'01715257P	1
24	Right Side Plate Sub-Assy	'01315200076P	1
25	Tempeearature Sensor	'3900028027G	1
26	Rear Grill	'01475012	1
27	Clapboard Sub-Assy	'01235069	1
28	Condenser Assy	'01125373	1
29	Preesure Protect Switch	'4602000902	1
30	4-Way Valve	'43000338	1
31	Pressure Protect Switch	'46020003	1
32	Magnet Coil	'4300040045	1
33	Condenser Support Plate	'01895309	1
34	Electric Box Assy	'01395200588	1
35	Terminal Board	'420101852	1
36	Main Board	'30224000083	1
37	Terminal Board	'42011043	1
38	Capacitor	'3301074708	1
39	AC Contactor	'44010226	1
40	Anti-phase Protector	'46020052	1
41	Top Cover	'0125500901P	1
42	Fan Motor	'1501330802	1
43	Left Side Plate	'01305064P	1
44	Handle	'26233053	1

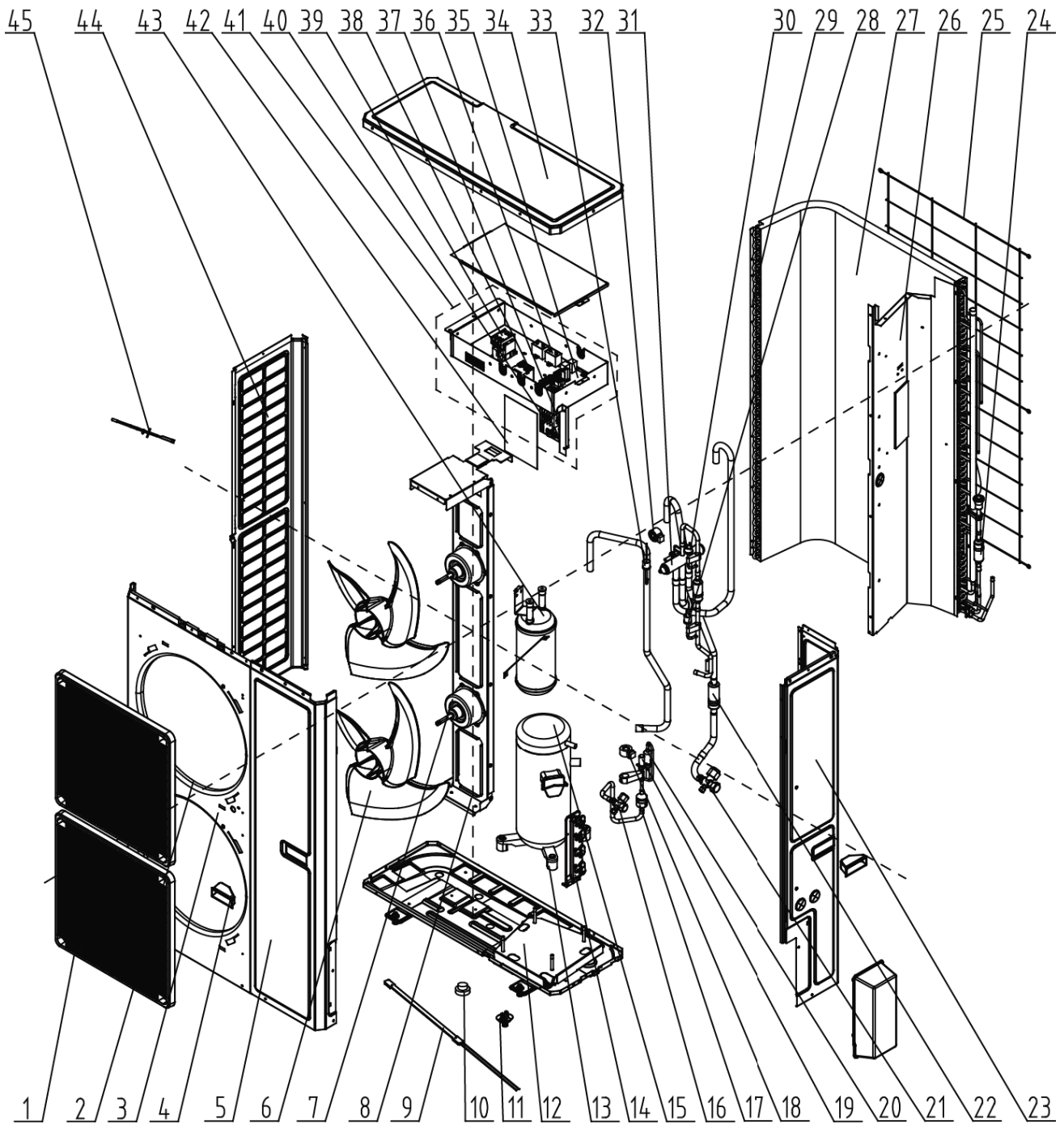
◆ Model: GU 48H3 Exploded Views and spare parts list:



NO.	Name of Part	GU 48H3	
		Product Code	CF021W2060
		Part Code	Quantity
1	Front Grill	'26905200121	1
2	Cabinet	'01435007P	1
3	Handle	'26235253	2
4	Front Side Plate Sub-Assy	'01315414	1
5	Axial Flow Fan	'10335010	1
6	Chassis Sub-Assy	'01205139P	1
7	Motor Support Sub-Assy	'01285200072	1
8	Drainage Joint	'26113009	1
9	Compressor Gasket	'76710209	4
10	Compressor and Fittings	'00205200005	1
11	Gas-liquid Separator Sub-Assy	'0722501801	1
12	Cut off Valve	'07103079	1
13	Cut off Valve	'07135058	1
14	Strainer	'0741410000601	1
15	Valve Support Sub-Assy	'01715257P	1
16	Electronic Expansion Valve	'43005017	1
17	Strainer	'07225088	1
18	Electric Expand Valve Fitting	'43000344	1
19	Right Side Plate Sub-Assy	'01315200076P	1
20	Rear Grill	'01475012	1
21	Clapboard Sub-Assy	'01235069	1
22	Condenser Assy	01125200305	1
23	Strainer	'07210037	2
24	4-way Valve	'43000338	1
25	Silencer	'07245434	1
26	Pressure Protect Switch	'46020003	1
27	Magnet Coil	'4300040045	1
28	Condenser Support Plate	'01895309	1
29	Pressure Protect Switch	'4602000902	1
30	Pressure Switch	'4602001539	1
31	Top Cover	'0125500901P	1
32	Electric Box Assy	'01395200588	1
33	Wire Clamp	'02145008	1
34	Fan Motor	'1501330802	1
35	Terminal Board	'420101852	1
36	Main Board	'30224000083	1
37	Terminal Board	'42011043	1
38	Capacitor	'3301074708	1
39	AC Contactor	'44010226	1
40	Anti-phase Protector	'46020052	1
41	Left Side Plate	'01305064P	1
42	Handle	'26233053	1
43	Temperature Sensor	'3900028027G	1



◆ Model: GU 60H3 Exploded Views and spare parts list:



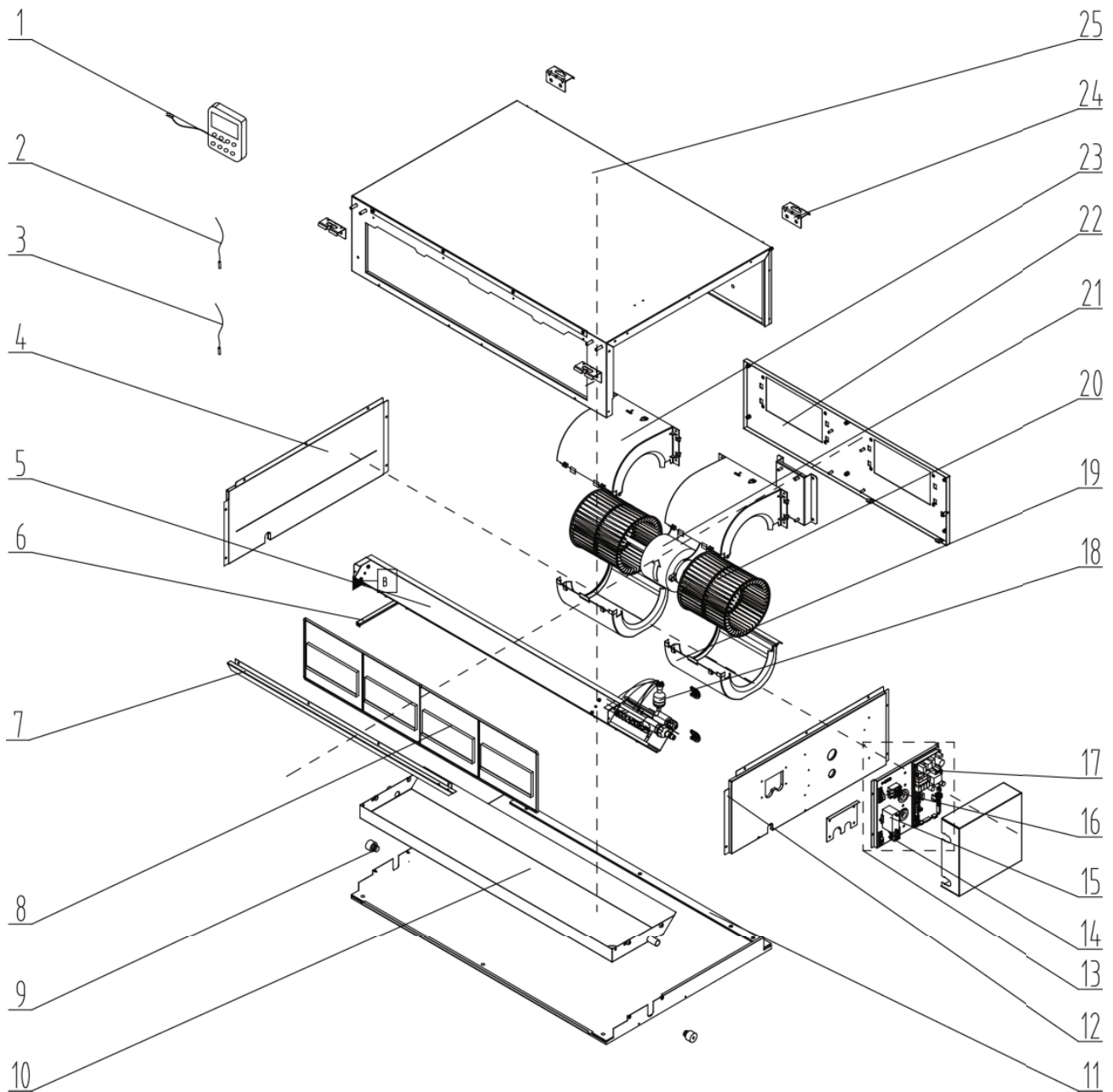
NO.	Name of Part	GU 60H3	
		Product Code	CF021W2050
		Part Code	Quantity
1	Front Grill	'01575200002	2
2	Diversion Circle	'10474100001	2
3	Cabinet Assy	'01514100006	1
4	Handle	'26235253	2
5	Front Side Plate	'01314100021P	1
6	Axial Flow Fan	'1043410000301	2
7	Fan Motor	'1501506714	2
8	Motor Support Sub-Assy	'01804100024	1
9	Electrical Heater(Compressor)	'7651540407	1
10	Drainage Hole Cap	'06813401	3
11	Drainage Connector	'06813401	1
12	Chassis Assy	'01195200079	1
13	Compressor Gasket	'76710209	4
14	Valve Support Sub-Assy	'01805200204P	1
15	Compressor and Fittings	'00105066	1
16	Cut off Valve	'071302392	1
17	Strainer	'07415210	1
18	Electric Expand Valve Fitting	'43000344	1
19	Electronic Expansion Valve	'43005017	1
20	Strainer	'0741410000601	1
21	Cut-off Valve	'07130212	1
22	Bidirection Strainer	'07210044	1
23	Rear Side Plate Sub-Assy	'01315200088P	1
24	Silencer	'07245012	2
25	Rear Grill	'01574100004	1
26	Clapboard	'01245200028	1
27	Condenser Assy	'01125200194	1
28	Pressure Protect Switch	'4602000902	1
29	Support Plate(Condenser )	'01894100026	1
30	Pressure Protect Switch	'46020003	1
31	4-way Valve	'43000338	1
32	Magnet Coil	'4300040029	1
33	Pressure switch	'4602001539	1
34	Coping	'01264100008P	1
35	Main Board	'30224000083	1
36	Capacitor	'3301074707	2
37	Terminal Board	'420101852	1
38	Anti-phase Protector	'46020052	1
39	AC Contactor	'44010226	1
40	Terminal Board	'42011043	1
41	Electric Box Assy	'01395200574	1
42	Insulated Board (Cover of Electric Box)	'20113003	1
43	Gas-liquid Separator Sub-Assy	'0722501801	1
44	Left Side Plate	'01314100013P	1
45	Temperature Sensor	'3900028025G	1



## 5.2 Indoor Unit

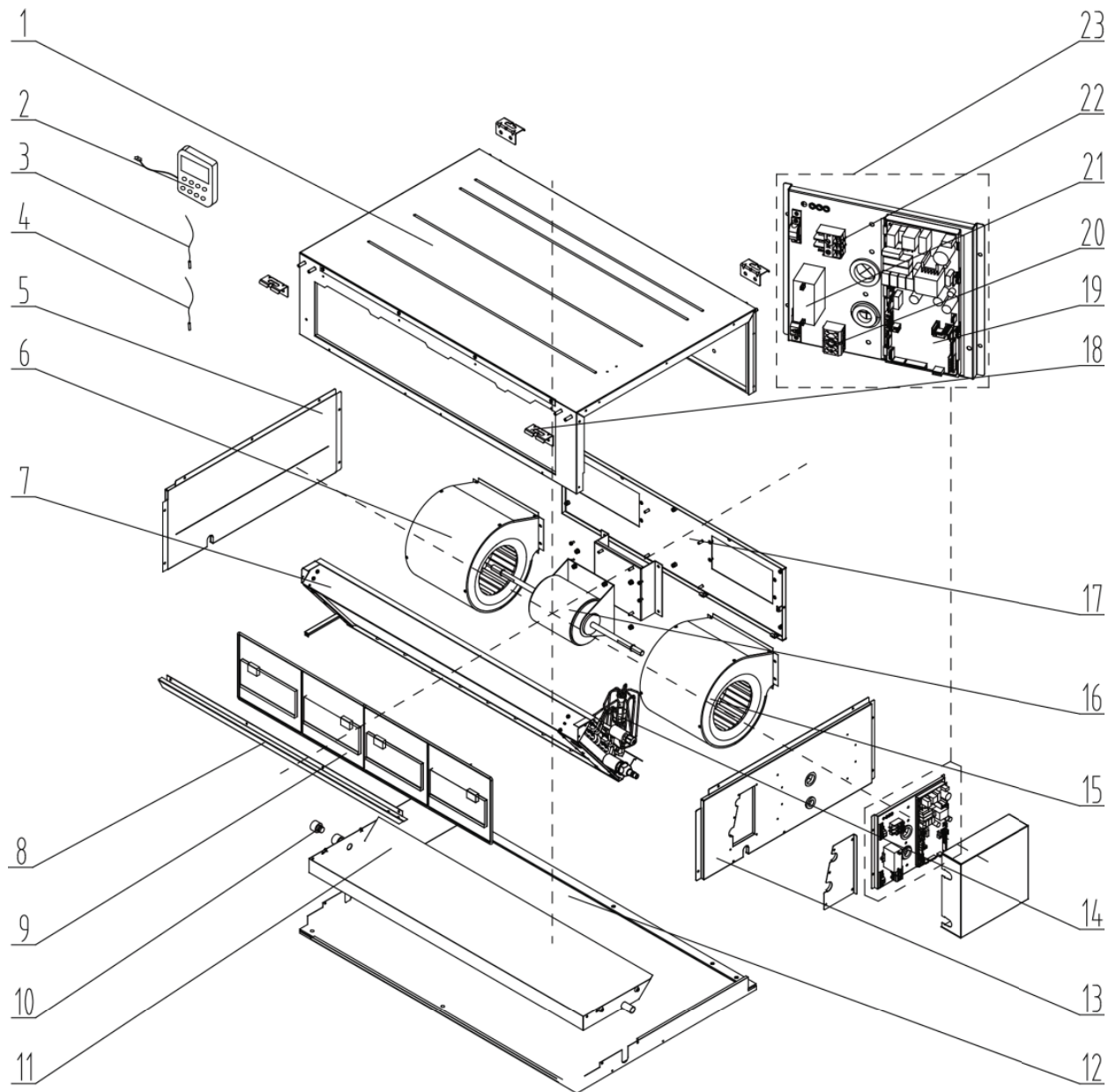
### 5.2.1 Duct Type

◆ Model: DGU 42H exploded view and spare parts list



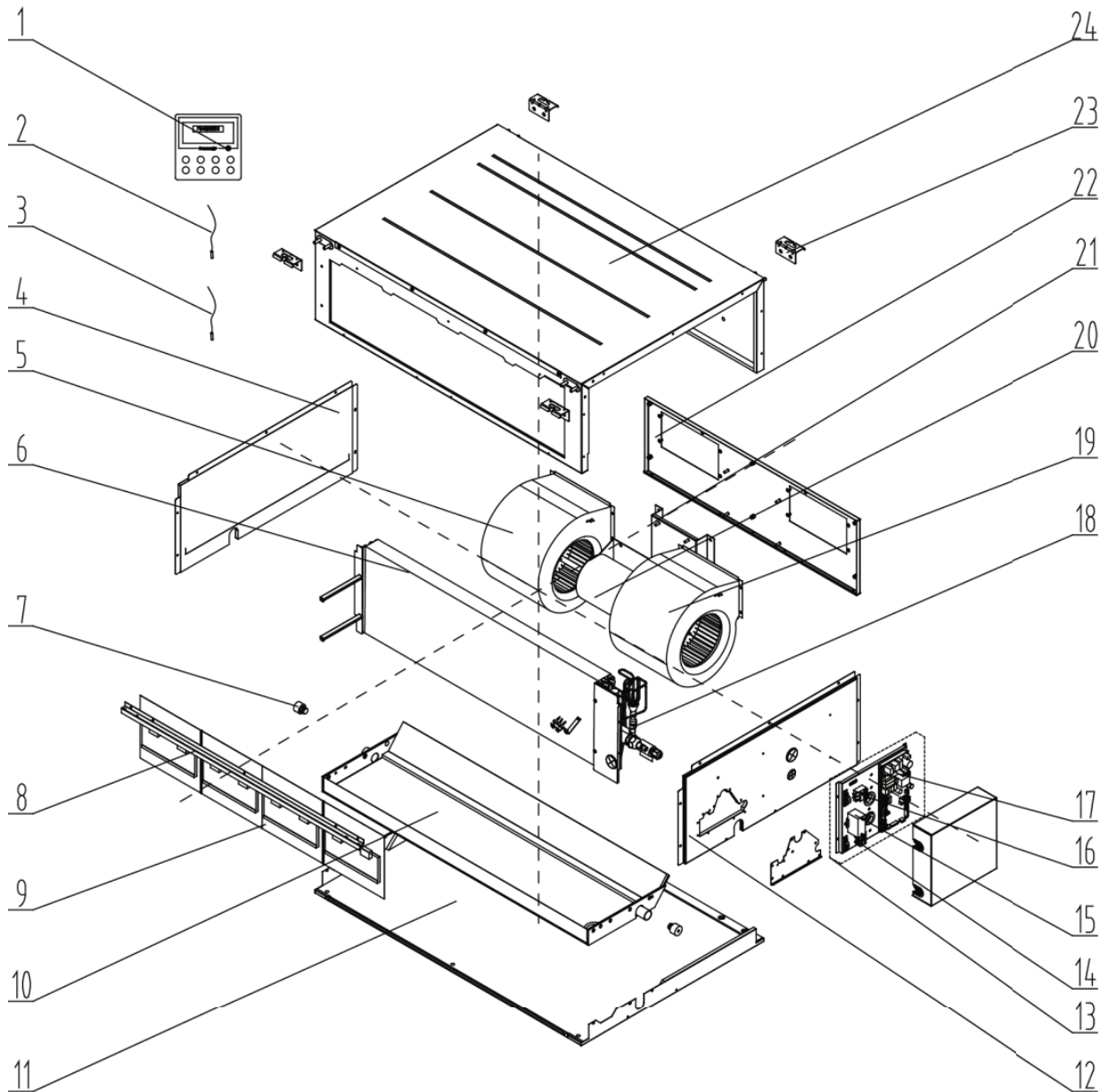
NO.	Name of Part	DGU 42H	
		Product Code	CF022N0790
		Part Code	Quantity
1	Display Board	'30294000007	1
2	Ambient Temperature Sensor	'3900012123	1
3	Temperature Sensor	'390001921G	1
4	Left Side Plate Assy	'01315306	1
5	Evaporator Assy	'01025200171	1
6	Supporting Board of Evaporator	'018953022	1
7	Air Intake Side Board	'01375301	1
8	Filter Sub-Assy	'111253031	2
9	Choke Plug of Drain Pipe	'76712455	1
10	Water Tray Assy	'01285323	1
11	Lower Cover Plate Sub-Assy	'15265301	1
12	Right Side Plate Sub-Assy	131520022301	1
13	Electric Box Assy	'01395200590	1
14	Terminal Board	'4201025301	1
15	Capacitor	'3301074709	1
16	Terminal Board	'42010259	1
17	Main Board	'30224000085	1
18	Strainer	'07415210	1
19	Propeller Housing(Lower)	'26904100052	2
20	Centrifugal Fan	'10424100001	2
21	Fan Motor	'1570520901	1
22	Blower Mounting Plate Sub-Assy	'01325200099	1
23	Propeller Housing(Upper)	'26904100051	2
24	Hook	'02112466	4
25	Top Cover Board Assy	'01265200086	1

◆ Model: DGU 48H exploded view and spare parts list



NO.	Name of Part	DGU 48H	
		Product Code	CF022N0770
		Part Code	Quantity
1	Top Cover Board Assy	'01265200086	1
2	Display Board	'30294000007	1
3	Ambient Temperature Sensor	'3900012123	1
4	Temperature Sensor	'390001921	1
5	Left Side Plate Assy	'01315306	1
6	Blower(Left)	'15018603	1
7	Evaporator Assy	'01025200172	1
8	Air Intake Side Board	'01375301	1
9	Filter Sub-Assy	'111253031	2
10	Choke Plug of Drain Pipe	'76712455	1
11	Water Tray Assy	'01285323	1
12	Lower Cover Plate Sub-Assy	'15265301	1
13	Right Side Plate Assy	'01315200227	1
14	Strainer	'07415210	1
15	Blower(Right)	'15018604	1
16	Fan Motor	'15705305	1
17	Fan Motor Mounting Plate Sub-Assy	'01325220	1
18	Hook	'02112466	4
19	Main Board	'30224000085	1
20	Terminal Board	'4201025301	1
21	Capacitor	'33010734	1
22	Terminal Board	'42010259	1
23	Electric Box Assy	'01395200579	1

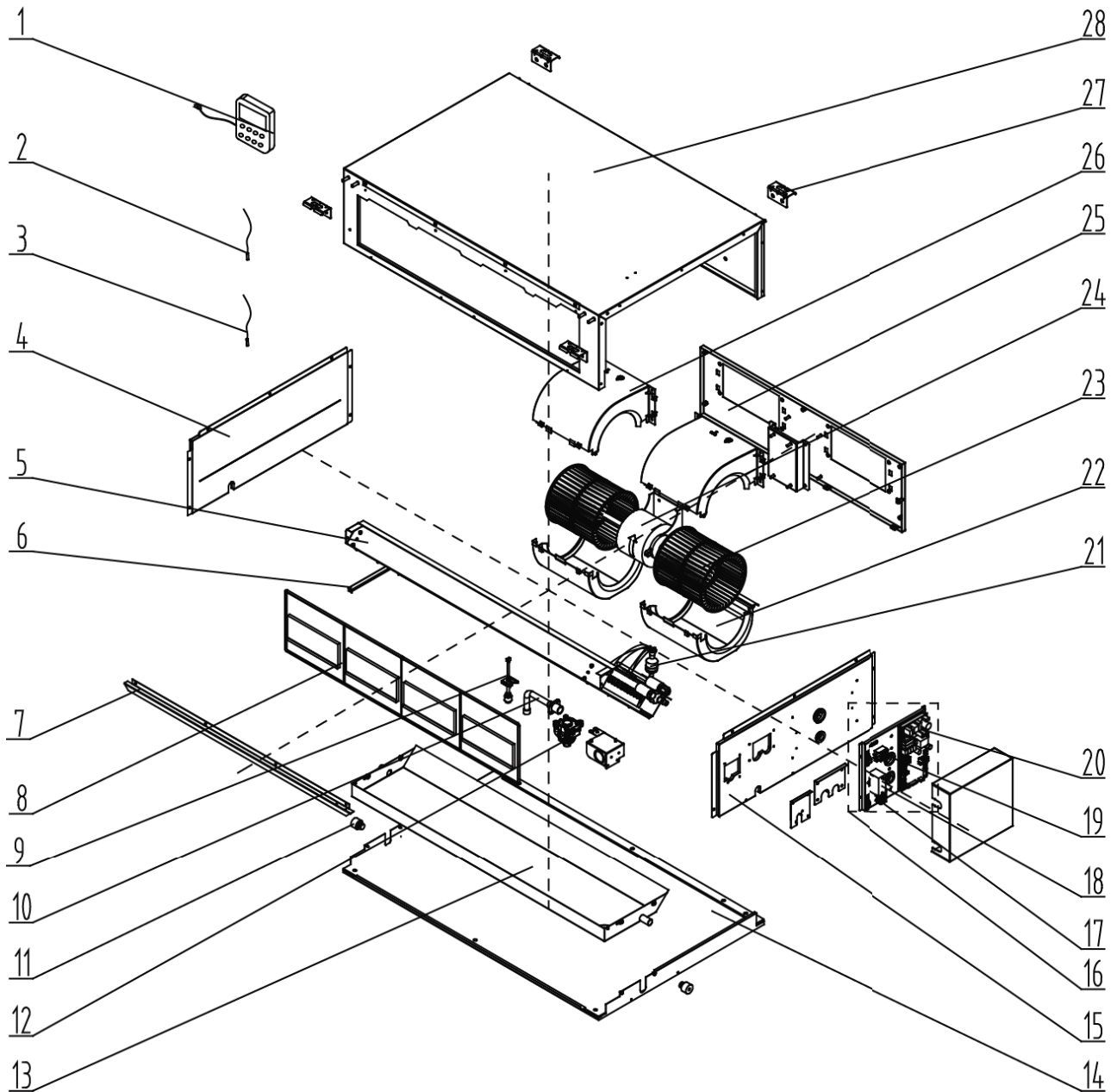
◆ Model: DGU 60H exploded view and spare parts list



NO.	Name of Part	DGU 60H	
		Product Code	CF022N0750
		Part Code	Quantity
1	Display Board	'30294000007	1
2	Ambient Temperature Sensor	'3900012123	1
3	Temperature Sensor	'390001921	1
4	Left Side Plate Assy	'01309108	1
5	Blower(Left)	'15019065	1
6	Evaporator Assy	'01025200175	1
7	Choke Plug of Water Pipe	'76712454	1
8	Filter Guide Groove	'01729166	1
9	Filter Sub-Assy	'111253032	2
10	Water Tray Assy	'01279114	1
11	Bottom Cover Plate Assy	'01259114	1
12	Riht Side Plate Assy	'0131520022101	1
13	Electric Box Assy	'01395200579	1
14	Terminal Board	'4201025301	1
15	Capacitor	'33010734	1
16	Terminal Board	'42010259	1
17	Main Board	'30224000085	1
18	Strainer	'07212121	1
19	Blower(Right)	'15019066	1
20	Fan Motor	'15705305	1
21	Motor Support Sub-Assy	'01709070	1
22	Fan Motor Mounting Plate Sub-Assy	'01339110	1
23	Hook	'02112466	4
24	Top Cover Plate Assy	'01265200174	1

## 5.2.2 Duct Type with optional water pump

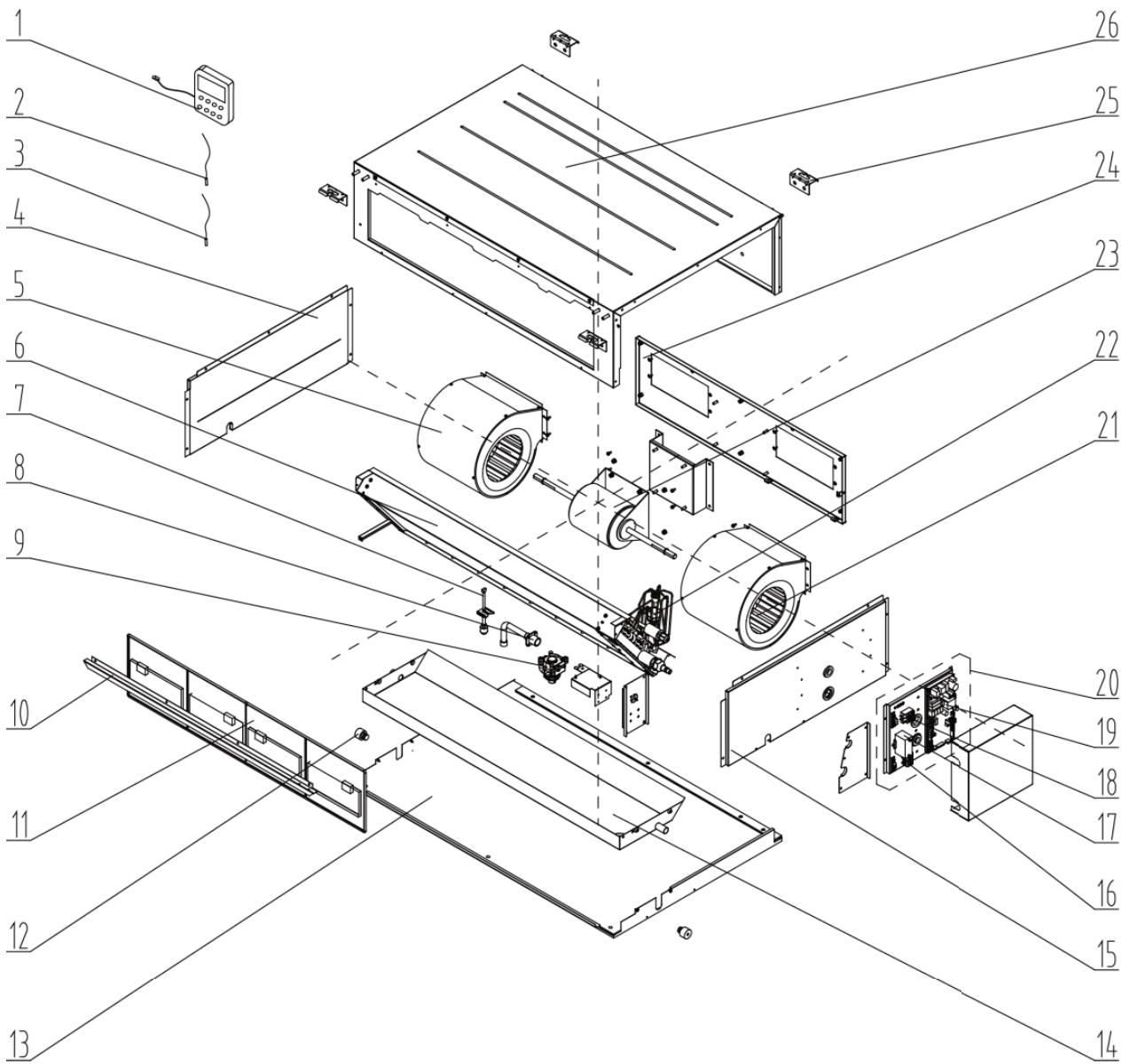
◆ Model: DGU 42H with optional water pump exploded view and spare parts list



NO.	Name of Part	DGU 42H optional	
		Product Code	CF022N0800
		Part Code	Quantity
1	Display Board	'30294000007	1
2	Ambient Temperature Sensor	'3900012123	1
3	Temperature Sensor	'390001921G	1
4	Left Side Plate Assy	'01315306	1
5	Evaporator Assy	` 01025200171	1
6	Supporting Board of Evaporator	'018953022	1
7	Air Intake Side Board	'01375301	1
8	Filter Sub-Assy	'111253031	2
9	Water Level Switch	'45020216	1
10	Pump Drainpipe	2690520014601	1
11	Choke Plug of Drain Pipe	'76712455	2
12	Water Pump	'43138000058	1
13	Water Tray Assy	'01285323	1
14	Lower Cover Plate Sub-Assy	'15265301	1
15	Right Side Plate Sub-Assy	` 01315200223	1
16	Electric Box Assy	'01395200590	1
17	Terminal Board	'4201025301	1
18	Capacitor	'3301074709	1
19	Terminal Board	'42010259	1
20	Main Board	'30224000085	1
21	Strainer	'07415210	1
22	Propeller Housing(Lower)	'26904100052	2
23	Centrifugal Fan	'10424100001	2
24	Fan Motor	'1570520901	1
25	Blower Mounting Plate Sub-Assy	'01325200099	1
26	Propeller Housing(Upper)	'26904100051	2
27	Hook	'02112466	4
28	Top Cover Board Assy	'01265200086	1

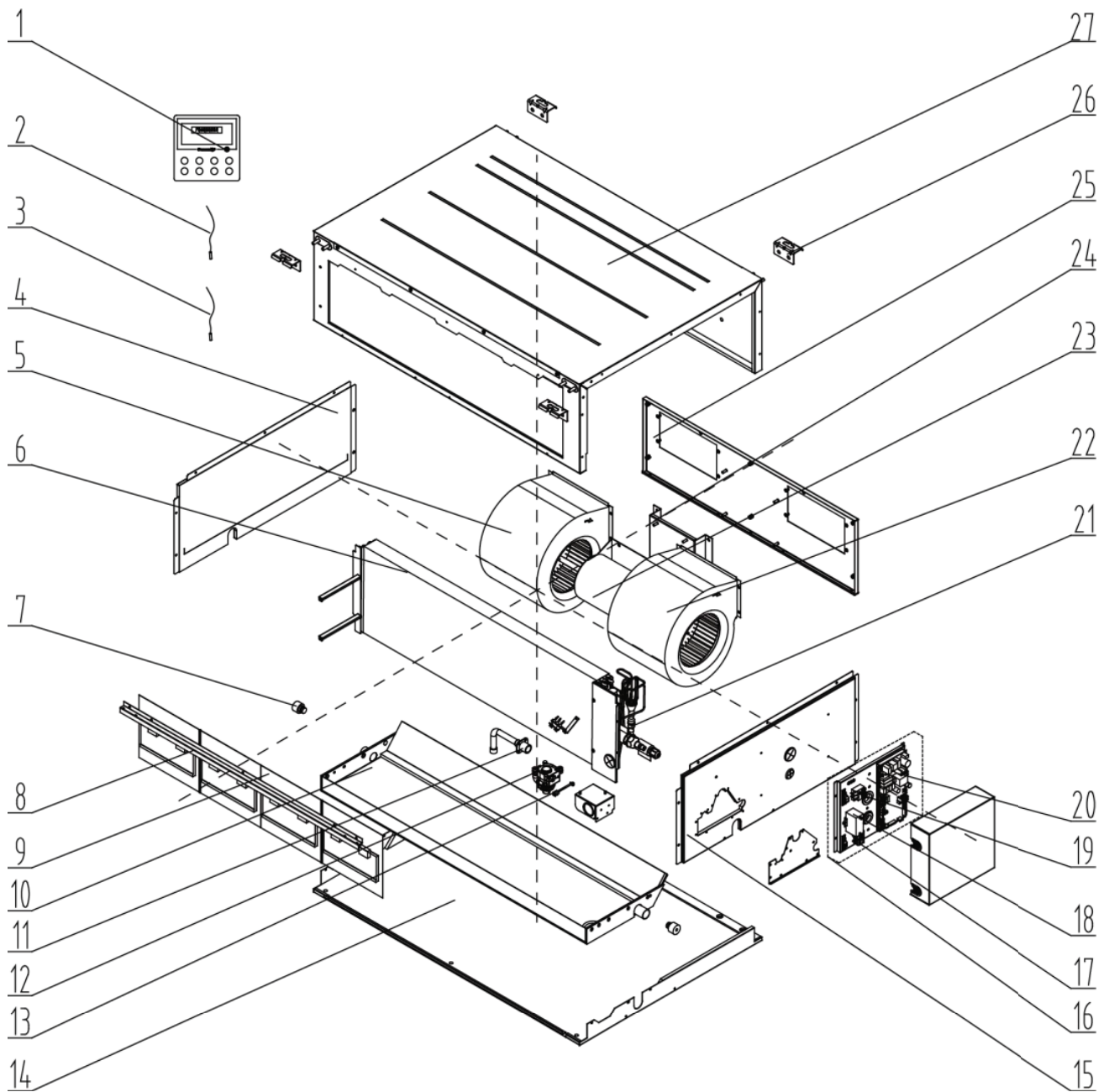


◆ Model: DGU 48H with optional water pump exploded view and spare parts list



NO.	Name of Part	DGU 48H optional	
		Product Code	CF022N0780
		Part Code	Quantity
1	Display Board	'30294000007	1
2	Ambient Temperature Sensor	'3900012123	1
3	Temperature Sensor	'390001921	1
4	Left Side Plate Assy	'01315306	1
5	Blower(Left)	'15018603	1
6	Evaporator Assy	'01025200172	1
7	Water Level Switch	'45020216	1
8	Pump Drainpipe	'2690520014601	1
9	Water Pump	'43138000058	1
10	Air Intake Side Board	'01375301	1
11	Filter Sub-Assy	'111253031	2
12	Choke Plug of Drain Pipe	'76712455	2
13	Lower Cover Plate Sub-Assy	'15265301	1
14	Water Tray Assy	'01285323	1
15	Right Side Plate Assy	'0131520022701	1
16	Terminal Board	'4201025301	1
17	Capacitor	'33010734	1
18	Terminal Board	'42010259	1
19	Main Board	'30224000085	1
20	Electric Box Assy	'01395200579	1
21	Blower(Right)	'15018604	1
22	Strainer	'07415210	1
23	Fan Motor	'15705305	1
24	Fan Motor Mounting Plate Sub-Assy	'01325220	1
25	Hook	'02112466	4
26	Top Cover Board Assy	'01265200086	1

◆ Model: DGU 60H with optional water pump exploded view and spare parts list



NO.	Name of Part	DGU 60H optional	
		Product Code	CF022N0760
		Part Code	Quantity
1	Display Board	'30294000007	1
2	Ambient Temperature Sensor	'3900012123	1
3	Temperature Sensor	'390001921	1
4	Left Side Plate Assy	'01309108	1
5	Blower(Left)	'15019065	1
6	Evaporator Assy	'01025200175	1
7	Choke Plug of Water Pipe	'76712454	2
8	Filter Guide Groove	'01729166	1
9	Filter Sub-Assy	'111253032	2
10	Water Tray Assy	'01279114	1
11	Pump Drainpipe	'2690520014601	1
12	Water Pump	'43138000058	1
13	Water Level Switch	'45020216	1
14	Bottom Cover Plate Assy	'01259114	1
15	Right Side Plate Assy	'01315200221	1
16	Electric Box Assy	'01395200579	1
17	Terminal Board	'4201025301	1
18	Capacitor	'33010734	1
19	Terminal Board	'42010259	1
20	Main Board	'30224000085	1
21	Strainer	'07212121	1
22	Blower(Right)	'15019066	1
23	Fan Motor	'15705305	1
24	Motor Support Sub-Assy	'01709070	1
25	Fan Motor Mounting Plate Sub-Assy	'01339110	1
26	Hook	'02112466	4
27	Top Cover Plate Assy	'01265200174	1

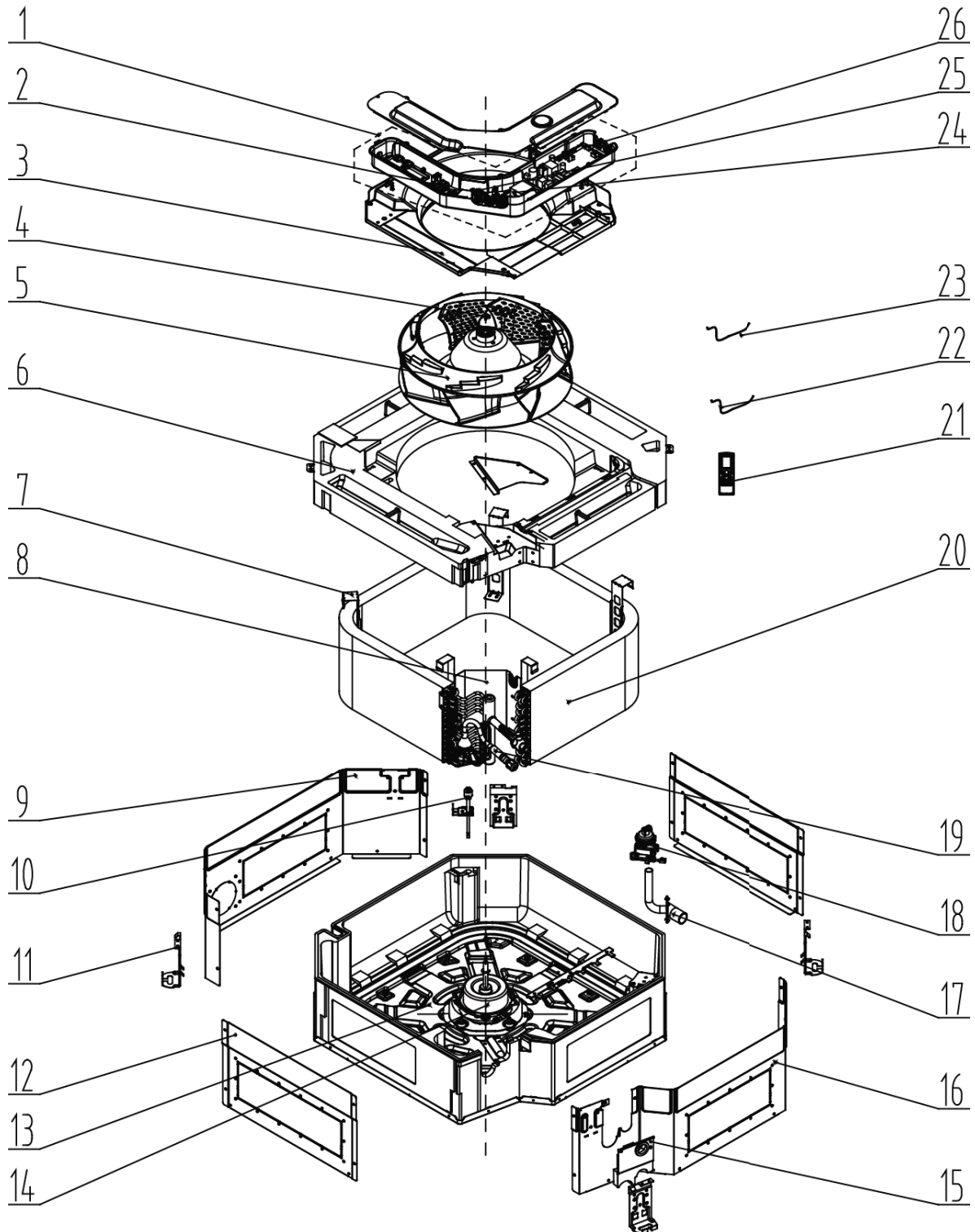


NO.	Name of Part	CGU 42H		CGU 48H	
		Product Code	ET010N1070	Product Code	ET010N1060
		Part Code	Quantity	Part Code	Quantity
1	Electric Box Assy	'01399400146	1	'01399400164	1
2	Terminal Board	'4201025301	1	'4201025301	1
3	Terminal Board	'4201115404	1	'4201115404	1
4	Main Board	'30224000086	1	'30224000086	1
5	Capacitor CBB61S	'3301074706	1	'3301074711	1
6	Water Tray Assy	'20182701	1	'20182701	1
7	Evaporator Support Assy	'01072707	2	'01072707	2
8	Fan Fixer	'10312701	1	'10312701	1
9	Left Side Plate Assy	'01302711	1	'01302711	1
10	Body Installing Plate	'01332701	4	'01332701	4
11	Tube Exit Plate Assy	'01382715	1	'01382715	1
12	Connection sheet assy	'01349400007	1	'01349400007	1
13	Front Side Plate assy	'01302713	1	'01302713	1
14	Base Plate Assy	'01222701	1	'01222701	1
15	Water Level Switch	'45020216	1	'45020216	1
16	Right Side Plate Assy	'01302712	1	'01302712	1
17 *	Water Pump	'43138000058	1	'43138000058	1
18	Fan Motor	'1501271501	1	'1501271501	1
19	Rear Side Plate Assy	'01302709	1	'01302709	1
20	Centrifugal Fan	'10310101	1	'10310101	1
21	Evaporator Assy	'01029400099	1	'01029400099	1
22	Diversion Circle	'10372722	1	'10372722	1
23	Remote Controller	'30510516	1	'30510516	1
24	Drain Hose Sub-Assy	'05232702	1	'05232702	1
25	Room Sensor	'390001911	1	'390001911	1
26	Temperature Sensor	'390001921	1	'390001921	1

\* possibly replaced :

17 Water Pump 43138000058 by 15409400007

◆ Model: CGU 60H exploded view and spare parts list.



NO.	Name of Part	CGU 60H	
		Product Code	ET010N1050
		Part Code	Quantity
1	Electric Box Assy	'01399400154	1
2	Terminal Board	'4201025301	1
3	Diversion Circle	'10479400002	1
4	Fan Fixer	'10312701	1
5	Centrifugal Fan	'10429400003	1
6	Water Tray Assy	'01289400014	1
7	Evaporator Support	'01849406	3
8	Connection Sheet Assy	'01249400012	1
9	Side Plate 1	'01319400025	1
10	Liquid Level Switch	'4502021601	1
11	Body Installing Plate	'01332701	4
12	Side Plate 3	'01319400036	2
13	Base Plate Assy	'02229400021	1
14	Fan Motor	'15709400010	1
15	Seal Plate Assy	'01499400001	1
16	Side Plate 2	'01319400026	1
17	Drainage Pipe Sub-Assy	'26909400055	1
18 *	Water Pump	'43138000058	1
19	Strainer	'07212403	1
20	Evaporator Assy	'011001000005	1
21	Remote Controller	'30510516	1
22	Temperature Sensor	'390001921G	1
23	Temperature Sensor	'390000453	1
24	Capacitor	'3301074708	1
25	Terminal Board	'42010259	1
26	Main Board	'30224000086	1

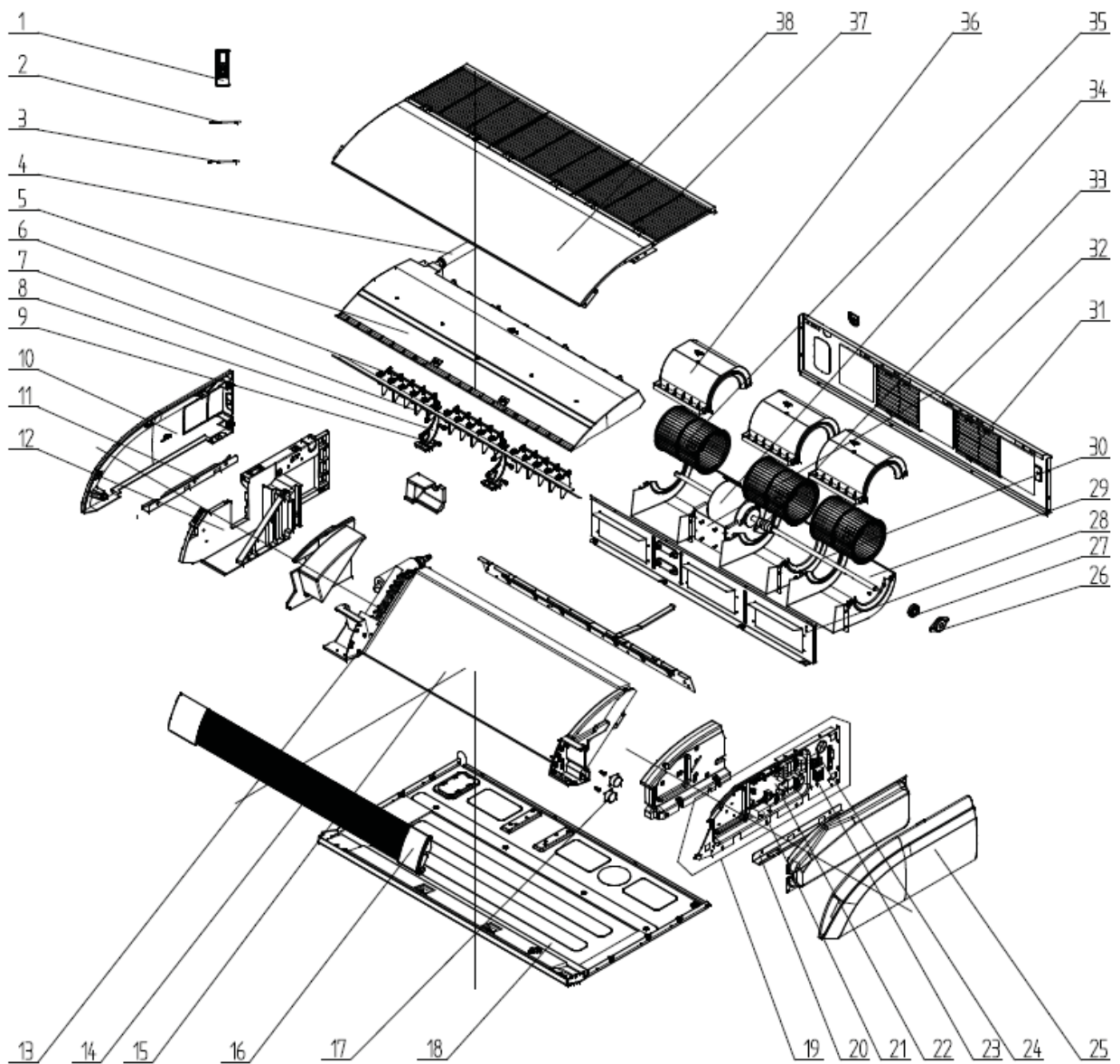
\* possibly replaced :

18 Water Pump 43138000058 by 15409400007



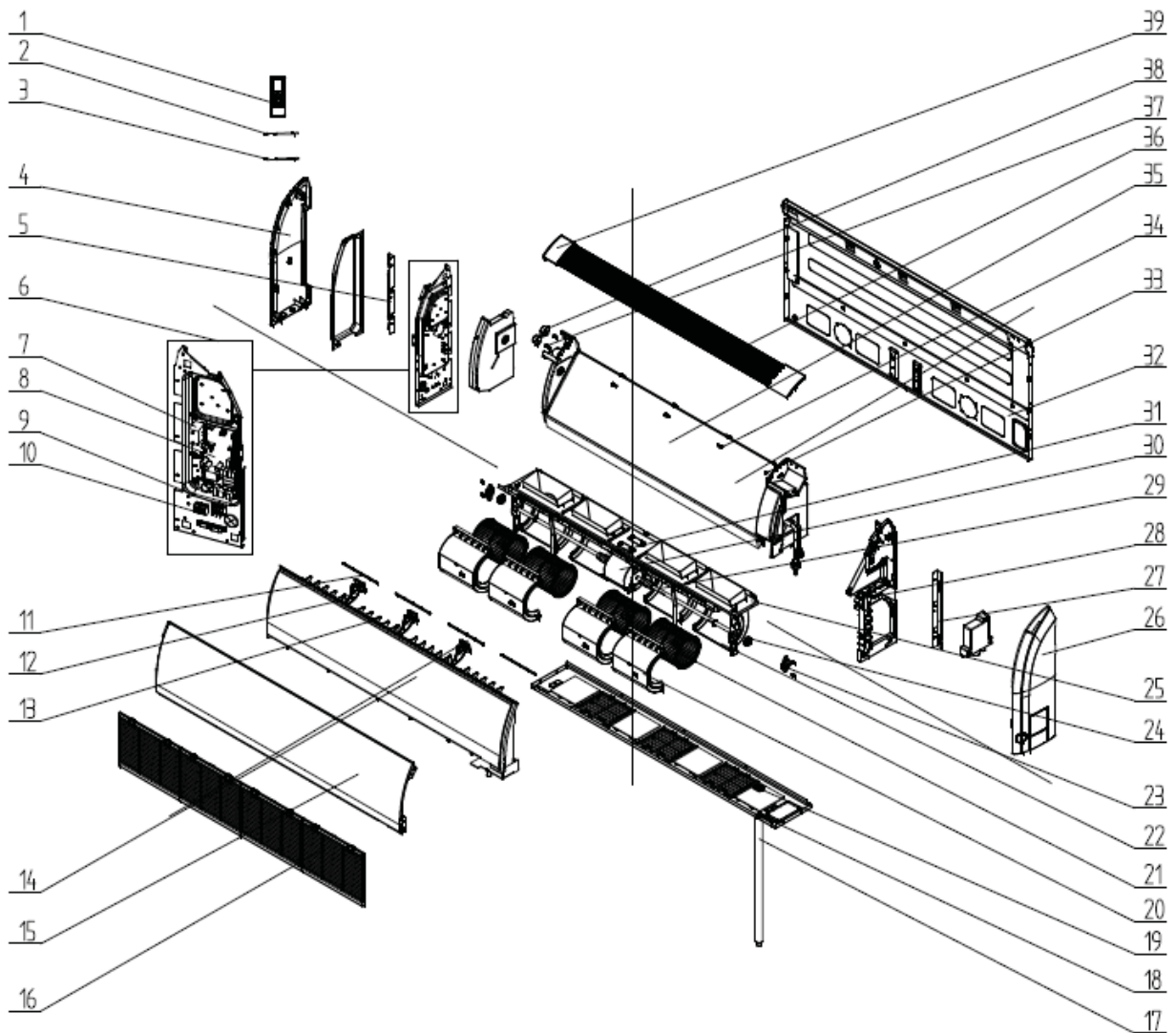
## 5.2.3 Floor Ceiling Type

◆ Model: FGU 42H exploded view and spare parts list.



NO.	Name of Part	FGU 42H	
		Product Code	ED020N1470
		Part Code	Quantity
1	Remote Controller	'30510516	1
2	Temperature Sensor	'390001923	1
3	Room Sensor	'39000191	1
4	Drainage Pipe Sub-Assy	'05235434	1
5	Water Tray	'200063000003	1
6	Swing Lever	'10582009	3
7	Air Louver	'200007000001	15
8	Supporter	'26909400076	2
9	Rotating Shaft 3	'26909430	4
10	Right Cover Plate	'26909400071	1
11	Installation Supporting Frame(Right)	'01809402	1
12	Right Side Plate	'26909400074	2
13	Axile Bush	'10542704	2
14	Guide Louver	'200004500422	2
15	Evaporator Assy	'011001000136	1
16	Display Board	'30294000009	1
17	Stepping Motor	'1521240206	2
18	Base Plate Assy	'02229400036	1
19	Electric Box Assy	'01399400149	1
20	Installation Supporting Frame(Left)	'01809401	1
21	Capacitor	'33010014	1
22	Main Board	'300002000111	1
23	Terminal Board	'4201025301	1
24	Terminal Board	'42010178	1
25	Left Cover Plate	'26909400070	1
26	Support Of Motor Bearing	'01792408	1
27	O-Gasket of Bearing	'76512404	1
28	Clapboard Assy	'01249400029	1
29	Propeller Housing(Lower)	'200230000001	3
30	Rotary Axis	'700004500433	1
31	Filter Sub-Assy(Rear Side Plate)	'111001000001	2
32	Rear Side Plate Sub-Assy	'017051000005	1
33	Joint Slack	'73018731	1
34	Fan Motor	'150101000056	1
35	Centifugal Fan	'103003000001	3
36	Propeller Housing(Upper)	'200230000002	3
37	Front Grill Sub-Assy	'26909400066	3
38	Top Cover	'01269400012P	1

◆ Model: FGU 48H / FGU60H exploded view and spare parts list.



NO.	Name of Part	FGU 48H		FGU 60H	
		Product Code	ED020N1430	Product Code	ED020N1480
		Part Code	Quantity	Part Code	Quantity
1	Remote Controller	'30510516	1	'30510516	1
2	Room Sensor	'39000191	1	'39000191	1
3	Tube Sensor	'3900020720G	1	'3900020720G	1
4	Cover Plate(Left)	'26909400070	1	'26909400070	1
5	Installation Supporting Frame(Left)	'01809401	1	'01809401	1
6	Electric Box Assy	'01399400149	1	'01399400149	1
7	Capacitor	'3301074719	1	'3301074719	1
8	Main Board	'300002000111	1	'300002000111	1
9	Terminal Board	'42010178	1	'42010178	1
10	Terminal Board	'4201025301	1	'4201025301	1
11	Swing Lever	'10582009	4	'10582009	4
12	Supporter(Guide Louver)	'26909400076	3	'26909400076	3
13	Air Louver	'200007000001	20	'200007000001	20
14	Water Tray	'200063000002	1	'200063000002	1
15	Top Cover	'01269400013P	1	'01269400013P	1
16	Front Grill Sub-Assy	'26909400066	4	'26909400066	4
17	Drainage Pipe Sub-Assy	'05235434	1	'05235434	1
18	Rear Side Plate Sub-Assy	'017051000006	1	'017051000006	1
19	Filter Sub-assy(Rear Side Plate)	'111001000001	3	'111001000001	3
20	Propeller Housing(Upper )	'200230000002	4	'200230000002	4
21	Centifugal Fan	'103003000001	4	'103003000001	4
22	Propeller Housing(Lower)	'200230000001	4	'200230000001	4
23	Support Of Motor Bearing	'01792408	2	'01792408	2
24	O-Gasket of Bearing	'76512404	1	'76512404	1
25	Clapboard Sub-Assy	'01249400019	1	'01249400019	1
26	Cover Plate(Right)	'26909400071	1	'26909400071	1
27	Installation Supporting Frame(right)	'01809402	1	'01809402	1
28	Right Side Plate	'26909400074	1	'26909400074	1
29	Rotary Axis	'700004000001	2	'700004000001	2
30	Fan Motor	'15709405	1	'15709405	1
31	Joint Slack	'73018731	2	'73018731	2
32	Base Plate Assy	'02229400035	1	'02229400035	1
33	Axile Bush	'10542704	2	'10542704	2
34	Rotating Shaft 3	'26909430	6	'26909430	6
35	Evaporator Assy	'011001000176	1	'011001000176	1
36	Guide Louver	'200004500426	2	'200004500426	2
37	Crankshaft	'200023000001	2	'200023000001	2
38	Stepping Motor	'1521240206	2	'1521240206	2
39	Display Board	'30294000009	1	'30294000009	1



**FIXSPEED**

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Vidicon Ltd. Commercial Air Conditioners