



Service Manual

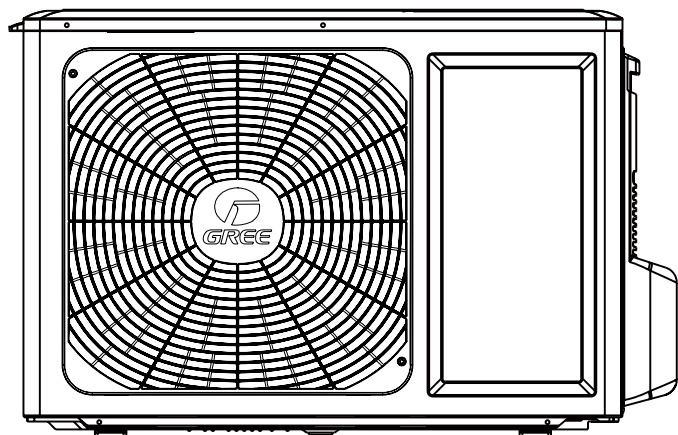
Models:

GWH07AGA-K3NNA1B
GWH09AGA-K3NNA1A
GWH09AGB-K3NNA1B
GWH12AGB-K3NNA1A
GWH12AGC-K3NNA1B
GWH18AGC-K3NNA1A
GWH18AGD-K3NNA1B
GWH24AGD-K3NNA1A
(Refrigerant R410A)

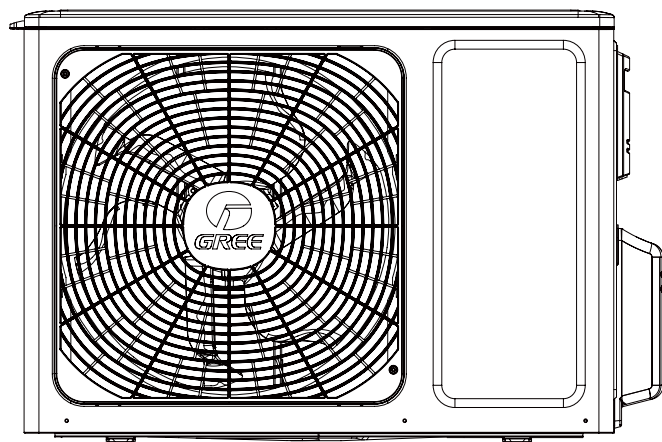
GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

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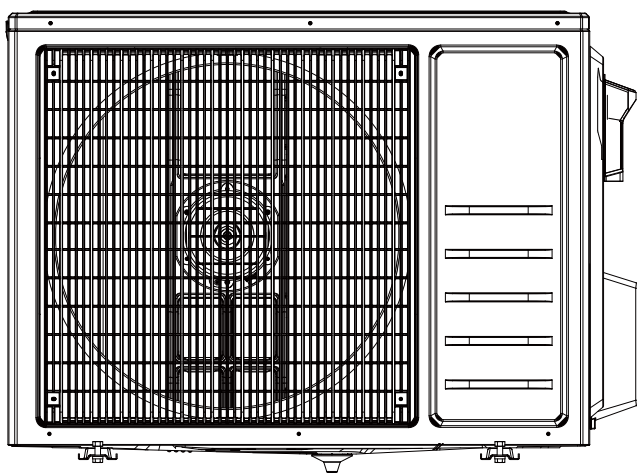
GWH18AGC-K3NNA1A/O



GWH18AGD-K3NNA1B/O



GWH24AGD-K3NNA1A/O



Remote Controller:

YAW1F10(WiFi)



No	Model	Product code	Indoor model	Indoor product code	Outdoor model	Outdoor product code	Remote Controller
1	GWH07AGA-K3NNA1B	CA385000300	GWH07AGA-K3NNA1B/I	CA385N00300	GWH07AGA-K3NNA1B/O	CA385W00300	YAW1F10 (WiFi)
2		CA385000301		CA385N00301			
3	GWH09AGA-K3NNA1A	CA385001000	GWH09AGA-K3NNA1A/I	CA385N01000	GWH09AGA-K3NNA1A/O	CA385W01000	
4		CA385001001		CA385N01001			
5	GWH09AGB-K3NNA1B	CA385000200	GWH09AGB-K3NNA1B/I	CA385N00200	GWH09AGB-K3NNA1B/O	CA385W00200	
6	GWH12AGB-K3NNA1A	CA385001100	GWH12AGB-K3NNA1A/I	CA385N01100	GWH12AGB-K3NNA1A/O	CA385W01100	
7		CA385001101		CA385N01101			
8	GWH12AGC-K3NNA1B	CA385000400	GWH12AGC-K3NNA1B/I	CA385N00400	GWH12AGC-K3NNA1B/O	CA385W00400	
9	GWH18AGC-K3NNA1A	CA385000800	GWH18AGC-K3NNA1A/I	CA385N00800	GWH18AGC-K3NNA1A/O	CA385W00800	
10		CA385000801		CA385N00801			
11	GWH18AGD-K3NNA1B	CA385000100	GWH18AGD-K3NNA1B/I	CA385N00100	GWH18AGD-K3NNA1B/O	CA385W00100	
12	GWH24AGD-K3NNA1A	CA385000900	GWH24AGD-K3NNA1A/I	CA385N00900	GWH24AGD-K3NNA1A/O	CA385W00900	
13		CA385000901		CA385N00901			

Outdoor Unit	Outdoor Unit Model		GWH07AGA-K3NNA1B/O	GWH09AGB-K3NNA1B/O
	Outdoor Unit Product Code		CA385W00300	CA385W00200
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-A081T130A	QXA-B102C130
	Compressor Oil		RB68EP/FVC68D/FV50S	RB68EP/FV50S
	Compressor Type		Rotary	Rotary
	Compressor LRA	A	15	17
	Compressor RLA	A	3.25	4
	Compressor Power Input	W	/	865
	Compressor Overload Protector		UP3-MC0	UP3- 00
	Throttling Method		Capillary	Capillary
	Set Temperature Range	°C	16~30	16~30
	Cooling Operation Ambient Temperature Range	°C	18~43	18~43
	Heating Operation Ambient Temperature Range	°C	-15~24	-15~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94	Φ7.94
	Condenser Rows-fin Gap	mm	1-1.4	1-1.4
	Condenser Coil Length (LXDXW)	mm	658.3×19.05×396	655×19.05×396
	Fan Motor Speed	rpm	950	950
	Fan Motor Power Output	W	20	20
	Fan Motor RLA	A	0.25	0.25
	Fan Motor Capacitor	μF	1.5	1.5
	Outdoor Unit Air Flow Volume	m ³ /h	1200	1200
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	320	320
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	48	48
	Sound Power Level (H/M/L)	dB (A)	58	58
Dimension(WXHxD)	mm	720X428X310	720X428X310	
Dimension of Carton Box (LXWXH)	mm	765X350X475	765X350X475	
Dimension of Package(LXWXH)	mm	768X353X490	768X353X490	
Net Weight	kg	23.4	25.5	
Gross Weight	kg	25.4	27.5	
Refrigerant		R410A	R410A	
Refrigerant Charge	kg	0.52	0.63	
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	20	20
	Outer Diameter Liquid Pipe	inch	1/4"	1/4"
	Outer Diameter Gas Pipe	inch	3/8"	3/8"
	Max Distance Height	m	10	10
	Max Distance Length	m	15	15
	Note: The connection pipe applies metric diameter.			

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Outdoor Unit	Outdoor Unit Model		GWH09AGA-K3NNA1A/O	GWH12AGB-K3NNA1A/O
	Outdoor Unit Product Code		CA385W01000	CA385W01100
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXA-M094T130	QXA-B120C150A
	Compressor Oil		RB68EP or equivalent	RB68EP
	Compressor Type		Rotary	Rotary
	Compressor LRA.	A	18	26
	Compressor RLA	A	3.6	4.4
	Compressor Power Input	W	773	970
	Compressor Overload Protector		UP3-MC1	INTERNAL (UP3-02)
	Throttling Method		Capillary	Capillary
	Set Temperature Range	°C	16~30	16~30
	Cooling Operation Ambient Temperature Range	°C	18~43	18~43
	Heating Operation Ambient Temperature Range	°C	-15~24	-15~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94	Φ7.94
	Condenser Rows-fin Gap	mm	1-1.4	1-1.4
	Condenser Coil Length (LXD _{XW})	mm	658.3×19.05×396	697×19.05×506
	Fan Motor Speed	rpm	950	850
	Fan Motor Power Output	W	20	35
	Fan Motor RLA	A	0.25	0.33
	Fan Motor Capacitor	μF	1.5	2.5
	Outdoor Unit Air Flow Volume	m ³ /h	1200	1600
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	320	394.5
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	49	50
	Sound Power Level (H/M/L)	dB (A)	59	60
Dimension(WXHXD)	mm	720X428X310	782X540X320	
Dimension of Carton Box (LXWXH)	mm	765X350X475	820X355X580	
Dimension of Package(LXWXH)	mm	768X353X490	823X358X595	
Net Weight	kg	25	29.2	
Gross Weight	kg	27	31.7	
Refrigerant		R410A	R410A	
Refrigerant Charge	kg	0.56	0.72	
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	20	20
	Outer Diameter Liquid Pipe	inch	1/4"	1/4"
	Outer Diameter Gas Pipe	inch	3/8"	1/2"
	Max Distance Height	m	10	10
	Max Distance Length	m	15	20
Note: The connection pipe applies metric diameter.				

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Outdoor Unit	Outdoor Unit Model		GWH12AGC-K3NNA1B/O	GWH18AGC-K3NNA1A/O
	Outdoor Unit Product Code		CA385W00400	CA385W00800
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO., LTD	ZHUHAI LANDA COMPRESSOR CO. LTD.
	Compressor Model		QXA-B129E130	QXA-D19F030
	Compressor Oil		FV50S/RB68EP/FVC 68D or equivalent	ATMOS-RB68EP or equivalent
	Compressor Type		Rotary	Rotary
	Compressor LRA.	A	26	38
	Compressor RLA	A	4.7	6.85
	Compressor Power Input	W	1048	1540
	Compressor Overload Protector		Internal(UP3-B2)	UP3-A6
	Throttling Method		Capillary	Capillary
	Set Temperature Range	°C	16~30	16~30
	Cooling Operation Ambient Temperature Range	°C	18~43	18~43
	Heating Operation Ambient Temperature Range	°C	-15~24	-15~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94	Φ7.94
	Condenser Rows-fin Gap	mm	1-1.4	2-1.4
	Condenser Coil Length (LXDXW)	mm	697×19.05×506	735×38.1×508
	Fan Motor Speed	rpm	850	850
	Fan Motor Power Output	W	35	35
	Fan Motor RLA	A	0.33	0.33
	Fan Motor Capacitor	μF	2.5	2.5
	Outdoor Unit Air Flow Volume	m ³ /h	1600	1800
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	394.5	395
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	50	53
	Sound Power Level (H/M/L)	dB (A)	60	63
Dimension(WXHxD)	mm	782X540X320	848X540X320	
Dimension of Carton Box (LXWXH)	mm	820X355X580	878X360X580	
Dimension of Package(LXWXH)	mm	823X358X595	881X363X595	
Net Weight	kg	29.5	38	
Gross Weight	kg	32	40.5	
Refrigerant		R410A	R410A	
Refrigerant Charge	kg	0.74	1.26	
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	20	15
	Outer Diameter Liquid Pipe	inch	1/4"	1/4"
	Outer Diameter Gas Pipe	inch	1/2"	1/2"
	Max Distance Height	m	10	10
	Max Distance Length	m	20	25
	Note: The connection pipe applies metric diameter.			

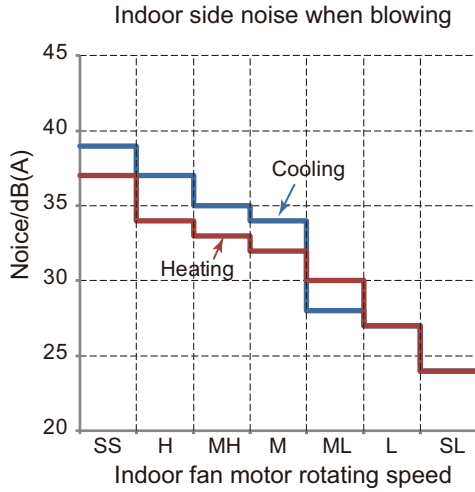
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Outdoor Unit	Outdoor Unit Model		GWH18AGD-K3NNA1B/O	GWH24AGD-K3NNA1A/O
	Outdoor Unit Product Code		CA385W00100	CA385W00900
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-D20F050A	QXA-E232H050
	Compressor Oil		ATMOS-RB68EP or equivalent	RB68EP or FVC68D or FV50S or equivalent
	Compressor Type		Rotary	Rotary
	Compressor LRA	A	44	48
	Compressor RLA	A	7.5	8.6
	Compressor Power Input	W	1630	1865
	Compressor Overload Protector		Internal(UP3-A7)	UP3-09
	Throttling Method		Capillary	Capillary
	Set Temperature Range	°C	16~30	16~30
	Cooling Operation Ambient Temperature Range	°C	18~43	18~43
	Heating Operation Ambient Temperature Range	°C	-15~24	-15~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7	Φ5
	Condenser Rows-fin Gap	mm	2-1.4	2-1.4
	Condenser Coil Length (LXDXW)	mm	704.5×44×550	845×24.8×616
	Fan Motor Speed	rpm	790	780
	Fan Motor Power Output	W	40	50
	Fan Motor RLA	A	0.4	0.45
	Fan Motor Capacitor	μF	3	3
	Outdoor Unit Air Flow Volume	m ³ /h	2400	2800
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	444.8	480
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	52	54
	Sound Power Level (H/M/L)	dB (A)	62	64
Dimension(WXHxD)	mm	899X596X378	912X646X373	
Dimension of Carton Box (LXWXH)	mm	945X417X630	960X408X680	
Dimension of Package(LXWXH)	mm	948X420X645	963X411X695	
Net Weight	kg	43	46.5	
Gross Weight	kg	46	49.5	
Refrigerant		R410A	R410A	
Refrigerant Charge	kg	1.2	1.1	
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	20	20
	Outer Diameter Liquid Pipe	inch	1/4"	1/4"
	Outer Diameter Gas Pipe	inch	1/2"	1/2"
	Max Distance Height	m	10	10
	Max Distance Length	m	25	25
Note: The connection pipe applies metric diameter.				

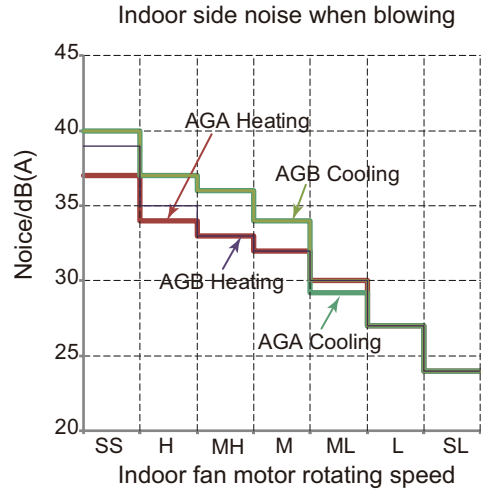
The above data is subject to change without notice. Please refer to the nameplate of the unit.

2.4 Noise Curve

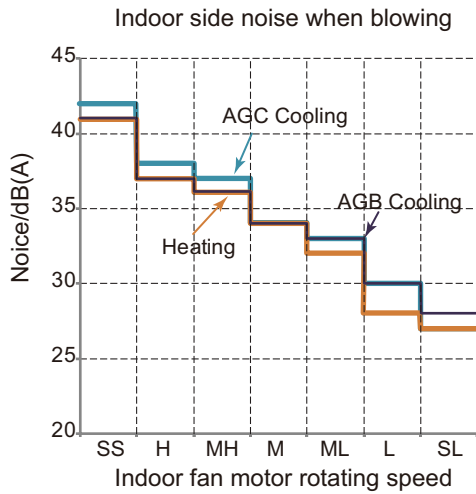
7K



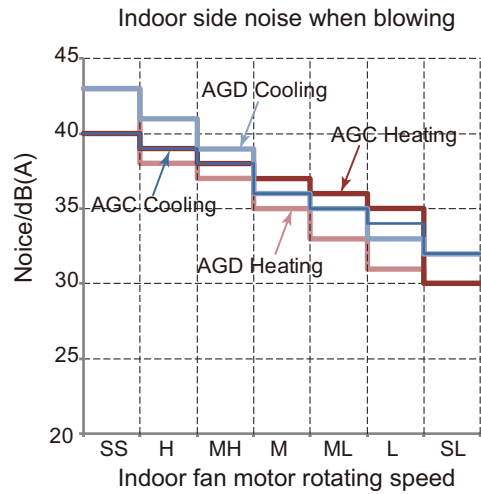
9K



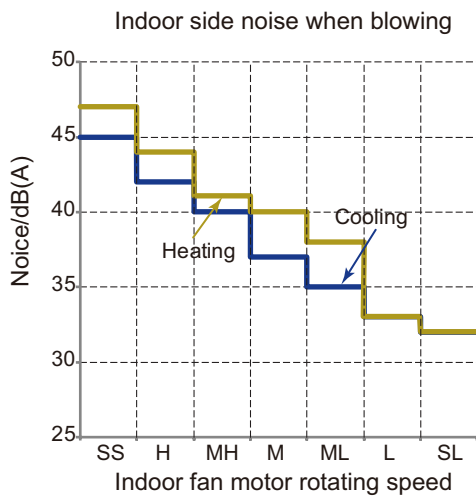
12K



18K



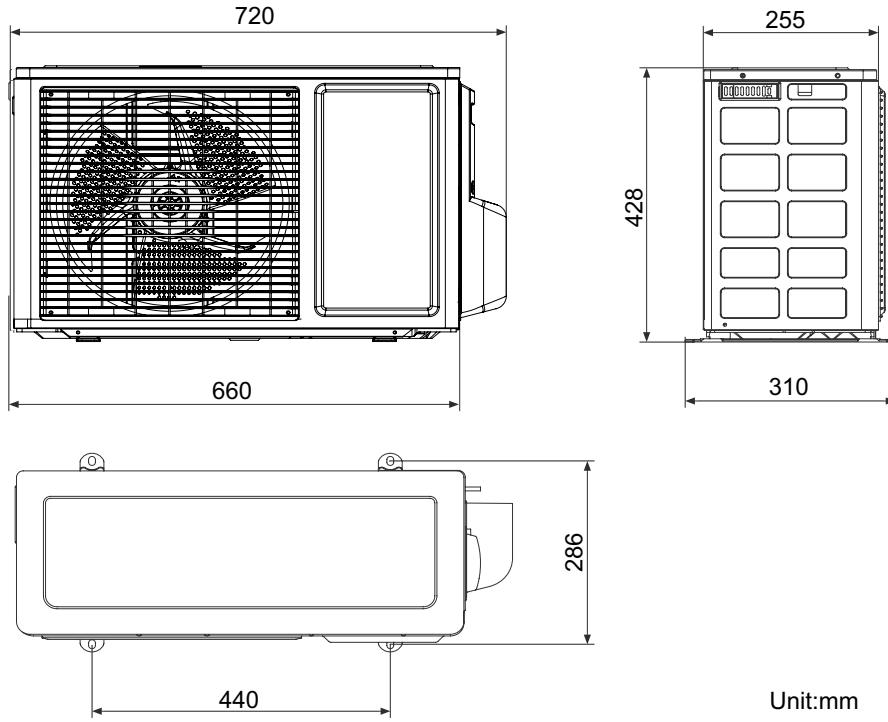
24K



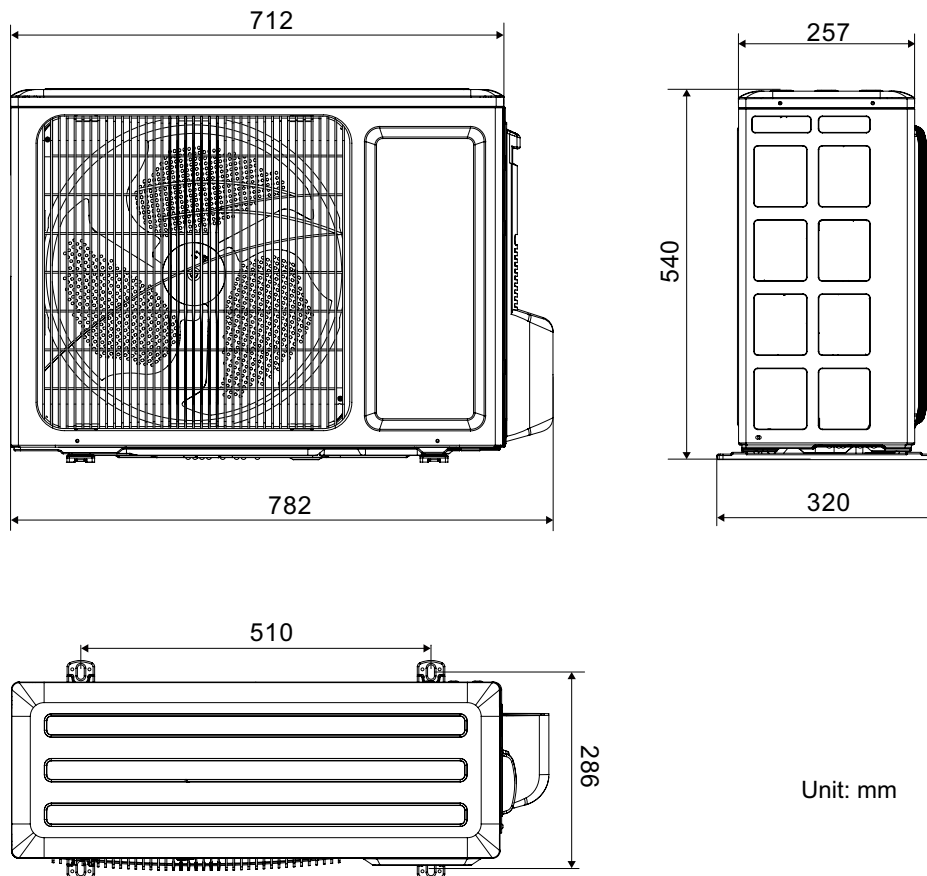
3.2 Outdoor Unit

Notice: Pictures are for demo size only.

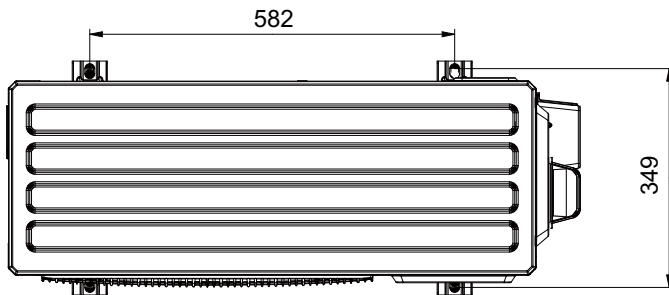
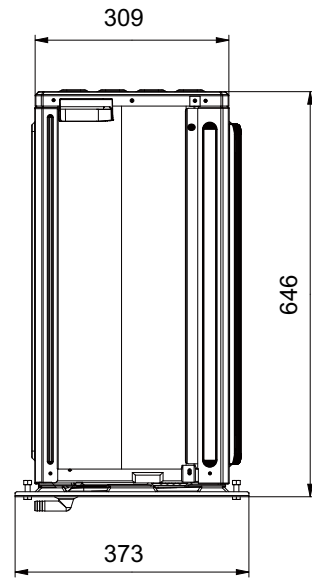
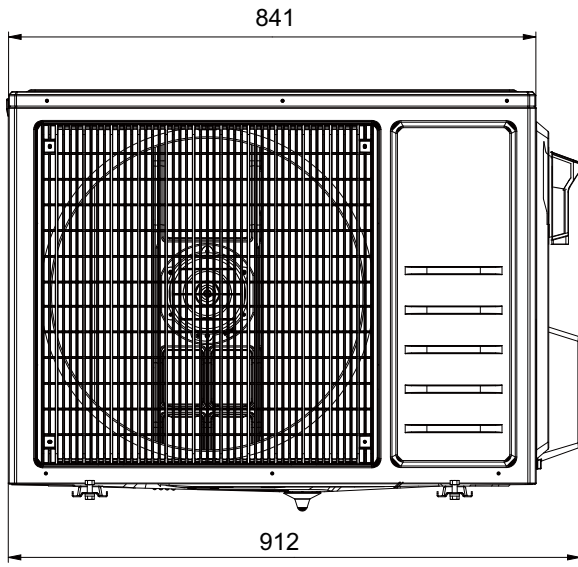
7/9K



12K



24K



Unit: mm

5. Electrical Part

5.1 Wiring Diagram

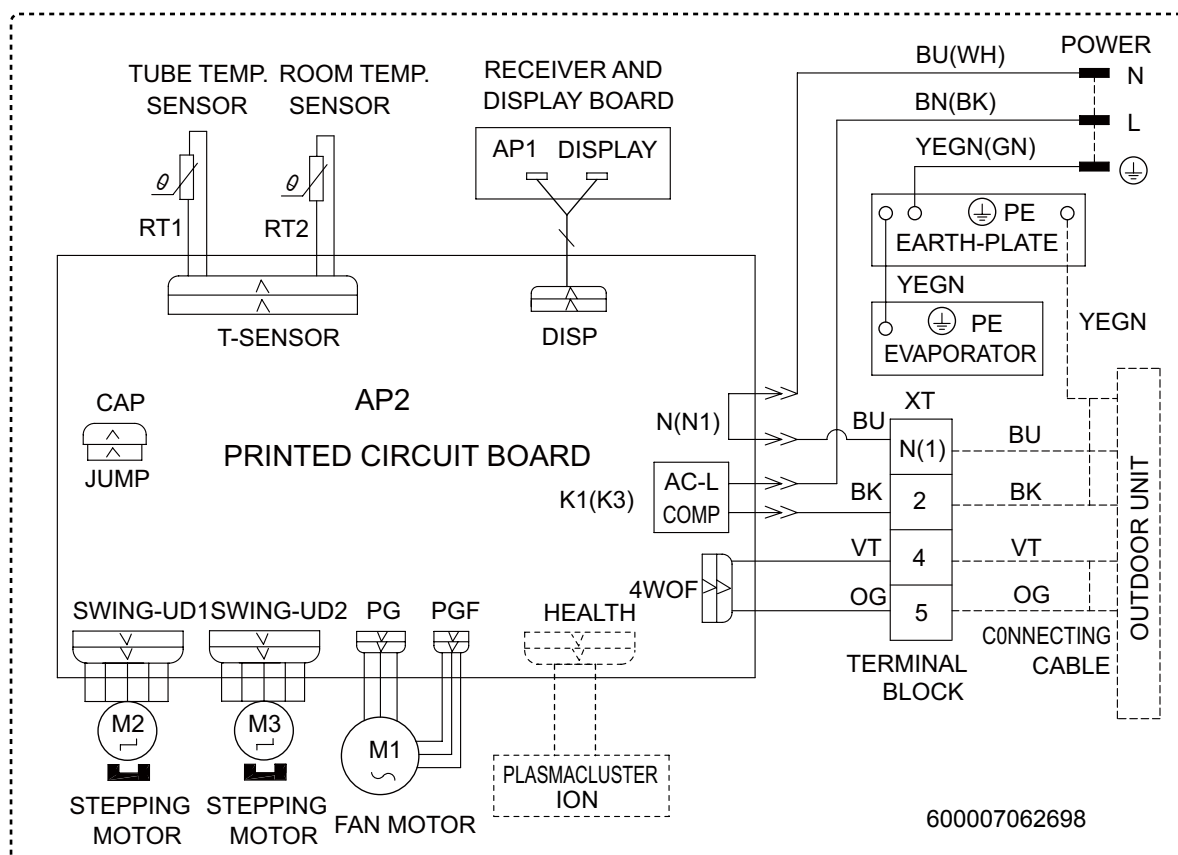
● **Instruction**

Symbol	Symbol Color	Symbol	Symbol Color	Symbol	Name
WH	White	GN	Green	CAP	Jumper cap
YE	Yellow	BN	Brown	COMP	Compressor
RD	Red	BU	Blue	⊕	Grounding wire
YEGN	Yellow/Green	BK	Black	/	/
VT	Violet	OG	Orange	/	/

Note: Jumper cap is used to determine fan speed and the swing angle of horizontal lover for this model.

● **Indoor Unit**

GWH07AGA-K3NNA1B/I GWH09AGA-K3NNA1A/I GWH09AGB-K3NNA1B/I GWH12AGB-K3NNA1A/I
 GWH12AGC-K3NNA1B/I GWH18AGC-K3NNA1A/I



Timer button

Under ON status, press this button to set timer OFF;
 Under OFF status, press this button to set timer ON.
 Press this button once and the characters of HOUR ON (OFF) will flash to be displayed. Mean-while, press "▲" or "▼" button to adjust timer setting (time will change quickly if holding "▲" or "▼" button). Timer setting range is 0.5~24hours. Press this button again to confirm timer setting and the characters of HOUR ON (OFF) will stop flash-ing.
 If the characters are flashing but you haven't press timer button, timer setting status will be quit after 5s. If timer is confirmer, press this button again to cancel timer.

X-Fan button

Press this button in COOL or DRY mode to turn on X-fan function.

When this function is started up, indoor fan will still operate at low fan speed for a while after turning off the unit by remote controller.

Light button

Press this button to turn on the display's light and press this button again to turn off the display's light.

Introduction for icons on display screen

📶 Send signal

Mode display

△ Auto ❄️ Cool 💧 Dry
 🌀 Fan 🔥 Heat

FAN AUTO Fan speed indication

⚙️ Turbo mode

🏠 Indoor ambient temp

🌙 Sleep mode

❄️ X-FAN function

💡 Light

👤 I feel function

WiFi WiFi function

8°C 8°C heating function

🔒 Child lock

88 Set temperature

🌀 Up & down swing

3:55 Set time

🕒 HOUR ON/OFF TIMER ON / TIMER OFF

Function introduction for combination buttons**▲ and ▼ About lock**

Press "▲" and "▼" buttons simultaneously 3s to lock or unlock the keypad. If the remote controller is locked, 🔒 is displayed. In this case, pressing any button, 🔒 blinks three times.

Mode and ▼ About switch between °F and °C

At unit OFF, press "MODE" and "▼" buttons simultaneously to switch between °F and °C.

Temp and Timer About Energy-saving Function About 8°C Heating Function

Press "TEMP" and "TIMER" simultaneously in COOL mode to start energy-saving function.

Nixie tube on the remote controller displays "SE".

Repeat the operation to quit the function.

Press "TEMP" and "TIMER" simultaneously in HEAT mode to start 8°C Heating Function.

Nixie tube on the remote controller displays "8" and a selected temperature of "8°C". (46°F if Fahrenheit is adopted). Repeat the operation to quit the function.

This function is applicable for some models.

Mode and Fan About Auto clean function

Under unit off status, hold "MODE" and "FAN" buttons simultaneously for 5s to turn on or turn off the internal clean function. When the internal clean function is turned on, indoor unit displays "CL". During the self-cleaning process of evaporator, the unit will perform fast cooling or fast heating.

There may be some noise, which is the sound of flowing liquid or thermal expansion or cold shrinkage. The air conditioner may blow cool or warm air, which is a normal phenomenon. During cleaning, please make sure the room is well ventilated to avoid affecting the degree of comfort.

Notice:

The self-cleaning function can only work under normal ambient temperature. If the room is dusty, clean once a month; if not, clean once every three months. After the self-cleaning function is turned on, you may leave the room. When self-cleaning is finished, the air conditioner will enter standby mode.

This function is applicable for some models.

Mode and Turbo About WIFI function

Press "MODE" and "TURBO" button simultaneously to turn on or turn off WIFI function. When WIFI function is turned on, the "WiFi" icon will be displayed on remote controller; Long press "MODE" and "TURBO" buttons simultaneously for 10s, remote controller will send WIFI reset code and then the WIFI function will be turned on. WIFI function is defaulted ON after energization of the remote controller.

This function is only available for some models.

6.2 Brief Description of Modes and Functions

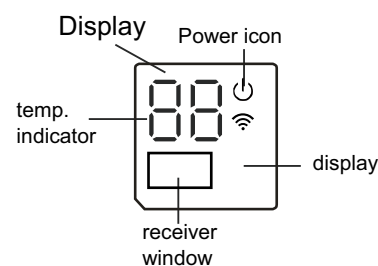
1. Summary

(1) Buzzer

When the controller is energized or receives signal from button (emergency operation switch on air conditioner) or remote controller, the buzzer will give out a beep.

(2) Display

After energization, all icons will be displayed once. Power icon is in red under standby status. After turning on the unit by remote controller, Power icon is off.



(3) Temperature parameter

- ◆ Indoor set temperature (T_{preset})
- ◆ Indoor ambient temperature ($T_{\text{amb.}}$)
- ◆ Inner tube temperature of indoor evaporator (T_{tube})

2. Introduction of Basic Mode Function

- ◆ Once the compressor is energized, there should be a minimum interval of 3 mins between two start-ups.
 - ◆ If the unit is with memory function and is off before power failure, the compressor can be restarted without an interval of 3 mins; if the unit is on before power failure, the compressor will be restarted with an interval of 3 mins.
- Once compressor is started, it won't stop within 6 mins according to the change of room temp.

(1) Auto mode

① Operation condition and process for auto mode

Under auto mode, the system will automatically select operation mode (cooling, heating, and fan) according to indoor ambient temperature. There will be 30s delayed for protection between mode switchover.

- ◆ When $T_{\text{amb.}} \geq 26^{\circ}\text{C}$, the system operates under cooling mode; Ex-factory set temperature is 25°C .
- ◆ Heat pump unit: when $T_{\text{amb.}} \geq 22^{\circ}\text{C}$, the system operates under heating mode; Ex-factory set temperature is 20°C .
- ◆ $22^{\circ}\text{C} < T_{\text{amb.}} < 26^{\circ}\text{C}$: The system operates under fan mode if turn on the unit to enter into auto mode for the first time; If switch to auto mode from cooling, heating or fan mode, the system keeps previous operation mode; If switch to auto mode from drying mode, the system operates under fan mode.

② Display: Operation icon, actual operation mode icon, set temperature (that's the display content of dual-8 nixie tube)

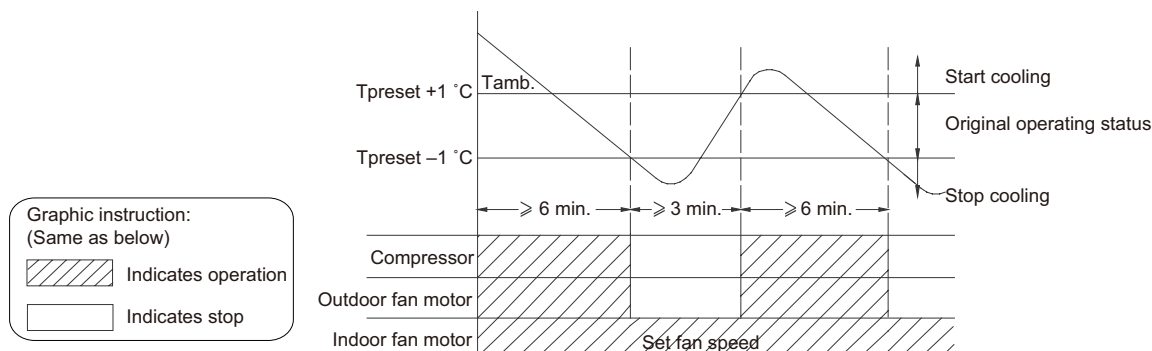
③ Protection function is same as that under each mode.

(2) Cooling mode

① Operation condition and process for cooling mode

- ◆ When $T_{\text{amb.}} \geq T_{\text{set}} + 1^{\circ}\text{C}$, the system operates under cooling mode. In this case, the compressor, the ODU fan motor and the IDU fan motor operates at set speed.
- ◆ When $T_{\text{amb.}} \leq T_{\text{set}} - 1^{\circ}\text{C}$, the compressor and the ODU fan motor stop, while the IDU fan motor operates at set speed.
- ◆ When $T_{\text{set}} - 1^{\circ}\text{C} < T_{\text{amb.}} < T_{\text{set}} + 1^{\circ}\text{C}$, the system will maintain its previous operation status.

In cooling mode, the 4-way valve is de-energized (4-way valve is not available for cooling only unit). Temperature setting range is $16 \sim 30^{\circ}\text{C}$.



② Display: Operation icon, cooling icon, set temperature.

③ Protection function

- ◆ Freeze protection

During operation, when controller detected that $T_{\text{tube}} \leq 0^{\circ}\text{C}$ for a consecutive period of time, the system enters into freeze protection. In that case, the compressor and the ODU fan stop operation, while the IDU operates at set fan speed. If freeze protection is released and

① Operation condition and process for fan mode

In fan mode, the IDU fan motor operates at set speed, while the compressor and the ODU fan motor stop. 4-way valve is de-energized (4-way valve is not available for cooling only unit). Temperature setting range is 16~30°C .

② Display: Operation icon, set temperature.

③ Protection function

In fan mode, there are overcurrent protection and blocked protection of IDU fan motor. Please refer to corresponding protection function under cooling mode for details.

(5) Heating mode(no heating mode is not available for cooling only unit)

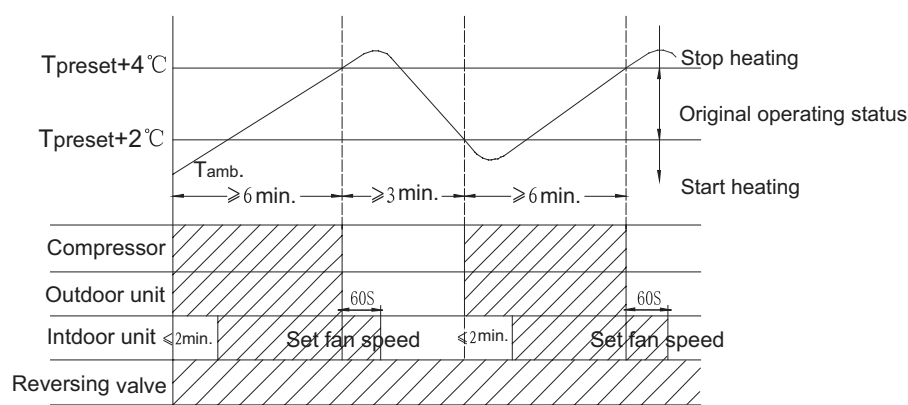
① Operation conditioner and process for heating mode

◆ When $T_{amb.-T_{supplementary}} \leq T_{set} - 1^{\circ}\text{C}$, the unit starts heating operation. In this case, the 4-way valve, compressor and ODU fan motor run simultaneously; the IDU fan motor will run after a while to prevent blowing cold air.

◆ When $T_{amb.-T_{supplementary}} \geq T_{set} + 1^{\circ}\text{C}$, the compressor and ODU fan motor stop; the 4-way valve remains energized; the IDU fan motor blows residual heat for a while in set speed.

◆ When $T_{set} - 1^{\circ}\text{C} < T_{amb.-T_{supplementary}} < T_{set} + 1^{\circ}\text{C}$, the unit will maintain its previous running status.

In heating mode, 4-way valve is energized. Temperature setting range is 16~30°C .



② Display: Operation icon, set temperature.

③ Defrosting condition and process

For ensuring heating effect, air conditioner will defrost automatically according to defrosting status on outdoor unit. During defrosting, the heating icon is on for a while and then extinguish.

④ Protection function

◆ Overheating prevention protection

During operation, if the controller detects that $T_{tube} \geq 55^{\circ}\text{C}$ or 56°C , the ODU fan motor stops operation; When T_{tube} returns to normal, fan motor resumes operation.

◆ Noise silencing protection

When turning off the unit or during mode switchover, the 4-way valve is closed. In order to decrease noise, the 4-way valve will delay 2mins to be closed.

◆ Overcurrent protection (this protection function is not available for those models whose cooling capacity $\leq 12000\text{Btu/h}$)

During operation process, if controller detected that system current exceeds the limit value for 3s consecutively(overcurrent), the system stops operation. About 3mins later, if overcurrent is released, the system will resume original operation. If overcurrent protection occurs for 6 times consecutively, and resume operation time won't exceed 6min every time, overcurrent protection information will be displayed. After turning off the unit, display won't be displayed.

If turn on the unit again, the system will be restated up again. Overcurrent protection information will be eliminated.

Please refer to maintenance part for display information and disposal method for details.

◆ Locked protection to IDU fan motor

During operation of IDU fan motor, if controller detected that the rotation speed of IDU fan motor less than 300/min or stop rotation, the motor operates abnormally. In order to prevent damage to motor, controller will protect automatically, the system stops operation and blocked information of IDU fan motor will be displayed. After turning off the unit, display won't be displayed.

If turn on the unit again, the system will be restated up again. Blocked information of IDU fan motor will be eliminated. (For some models, they can only be restated up after re-energized)

Please refer to maintenance part for display information and disposal method for details.

3. Other Control Function Introduction

(1) Timer function

Controller has general timer function and clock timer function. When you select the remote controller with general timer function, only the general timer function of controller can be activated; when you select the remote controller with clock timer, only the clock timer function of controller can be activated.

① General timer: The precision of general timer is 0.5hour. 24hours circulated timer can't be set.

◆ Timer ON: Timer ON can be set at unit OFF. If selected ON time is reached, the unit will start to operate according to previous setting status. Time setting range is 0.5~24hr in 30-minute increments.

◆ Timer OFF: Timer OFF can be set at unit ON. If selected OFF time is reached, the unit will stop. Time setting range is 0.5~24hr in 30-minute increments.

② Clock timer: The precision of clock timer is 0.5hour. 24hours circulated timer can be set.

◆ Timer ON: If timer ON is set during operation of the unit, the unit will continue to operate. If timer ON is set at unit OFF, upon ON time reaches, the unit will start to run according to previous setting status.

◆ Timer OFF: If timer OFF is set at unit OFF, the system will keep standby status. If timer OFF is set at unit ON, upon OFF time reaches, the unit will stop operation.

◆ Timer change:

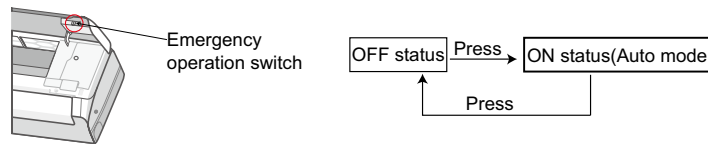
Although timer has been set, the unit still can be turned on/off by pressing ON/OFF button on the remote controller. You can also reset the timer.

If timer ON and timer OFF are set at the same time during operation of the unit, the unit will keep running at current status till OFF time reaches. Upon ON time reached, the system will be turned on automatically. The unit will operate circularly like that every 24hours.

If timer ON and timer OFF are set at unit OFF status, the system keep OFF status till ON time reaches. Upon OFF time reaches, the system will be turned OFF automatically. The unit will operate circularly like that every 24hours.

(2) Emergency operation switch

After pressing this button, the system will operate according under auto mode and the IDU fan motor operates at auto speed. Swing motor operates when the IDU fan motor operates. Press this button again to turn off the unit.



(3) Sleep function

In this mode, the system will select proper sleep curve to operate according to different set temperature.

① If start up sleep function under cooling or drying mode, the system will increase set temperature automatically within a certain range to operate.

② If start up sleep function under heating mode, the system will decrease set temperature automatically within a certain range to operate.

(4) Turbo function

Turbo function can be set under cooling and heating modes. During operation of turbo function, the system operates at the maximum fan speed.

(5) Dry function

Dry function can be set under cooling and drying modes. During operation of drying function, the fan will stop operation after operating for a period of time when turning off the unit.

(6) Auto fan speed control

Auto fan speed control can be set under cooling, heating and fan mode. During operation of auto fan speed control, the IDU fan motor will adjust the fan speed (high, medium or low speed) according to ambient temperature.

(7) Up&down swing control

① After energization, up & down swing motor will firstly have the horizontal louver rotate anticlockwise to position O to close air outlet. If swing function has not been set after start-up of the unit, horizontal louver will turn clockwise to position D in heating mode, or turn clockwise to level position L in other modes.

② If swing function is set when turning on the unit, the horizontal louver will swing between L and D.

Horizontal louver has 7 swing statuses:

◆ Stay at position L: control by remote controller:

◆ Stay at position A: control by remote controller:

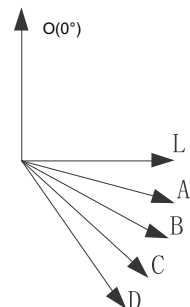
◆ Stay at position B: control by remote controller:

◆ Stay at position C: control by remote controller:

◆ Stay at position D: control by remote controller:

◆ Swing between L and D: control by remote controller:

◆ Stop at any position between L and D (angles between L and D are equiangular) and no display on remote controller.



- ③ When turning off the unit, horizontal louver will close at position O.
- ④ Swing action is valid only when set swing command and the IDU fan motor is operating.

(8) Dual-8 nixie tube display

- ◆ When the air conditioner is turned on for the first time, dual-8 nixie tube defaulted to display current set temperature.
- ◆ When controller receives signal of display set temperature, dual-8 nixie tube displays set temperature. When received remote control signal is switched to indoor ambient temperature display status signal from other display status, dual-8 nixie tube will display indoor ambient temperature for 3-5s, and then turn back to display set temperature. If remote control to set other status, the display keeps the same.
- ◆ When air conditioner has a malfunction, dual-8 nixie tube will show relevant error code.

F1	Indoor ambient temperature sensor is open/short-circuited
F2	Indoor evaporator temperature sensor is open/short-circuited
H6	Blocked protection of IDU fan motor
C5	Malfunction protection of jumper cap
U8	Zero-crossing inspection circuit malfunction of the IDU fan motor
F0	Lack of refrigerant or block protection for the system(not applicable to residential air conditioner)
E8	Overload malfunction
H3	Overload of compressor
E1	High pressure protection of system
E5	Overcurrent protection

- ◆ When air conditioner is in auto defrosting, the heating icon will be on for a while and then extinguish. No display for some models without mode indicator.
- ◆ If turn off light button, all display will be turned off.

(9) Memory function

① Power failure when turning on the unit

- ◆ Memory content: ON status, mode, up&down swing, light, set temperature, set fan speed, general timer, Fahrenheit/ Celsius
- ◆ General timer can be memorized. Time of timer is calculated again from energization.
- ◆ Clock timer can't be memorized.

② Power failure when turning off the unit

- ◆ Memory content: OFF status, mode, up&down swing, light, set temperature, set fan speed, general timer, Fahrenheit/ Celsius
- ◆ General timer can be memorized. Time of timer is calculated again from energization.
- ◆ Clock timer can't be memorized.

4. Special Function

(1) Health function (for the model with health function)

During operation of the IDU fan motor, press health button on the remote controller to start health function (If there is not health button on the remote controller, the unit defaults health function ON).

(2) I Feel function (for all models, but it needs the remote controller which can set this function)

When I FEEL command is received, the controller will operate according to the ambient temperature sent by the remote controller (For defrosting and cold air prevention, the unit operates according to the ambient temperature sensed by the air conditioner). The remote controller will regularly send ambient temperature data to the controller. When the data has not been received for a long time, the unit will operate according to the temperature sensed by the air conditioner. If I FEEL function is not set, the ambient temperature will be that sensed by the air conditioner.

Part II : Installation and Maintenance

7. Notes for Installation and Maintenance

Safety Precautions: Important!

Please read the safety precautions carefully before installation and maintenance.

The following contents are very important for installation and maintenance.

Please follow the instructions below.

- The installation or maintenance must accord with the instructions.
- Comply with all national electrical codes and local electrical codes.
- Pay attention to the warnings and cautions in this manual.
- All installation and maintenance shall be performed by distributor or qualified person.
- All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.
- Be caution during installation and maintenance. Prohibit incorrect operation to prevent electric shock, casualty and other accidents.



Warnings

Electrical Safety Precautions:

1. Cut off the power supply of air conditioner before checking and maintenance.
2. The air condition must apply specialized circuit and prohibit share the same circuit with other appliances.
3. The air conditioner should be installed in suitable location and ensure the power plug is touchable.
4. Make sure each wiring terminal is connected firmly during installation and maintenance.
5. Have the unit adequately grounded. The grounding wire can't be used for other purposes.
6. Must apply protective accessories such as protective boards, cable-cross loop and wire clip.
7. The live wire, neutral wire and grounding wire of power supply must be corresponding to the live wire, neutral wire and grounding wire of the air conditioner.
8. The power cord and power connection wires can't be pressed by hard objects.
9. If power cord or connection wire is broken, it must be replaced by a qualified person.

10. If the power cord or connection wire is not long enough, please get the specialized power cord or connection wire from the manufacture or distributor. Prohibit prolong the wire by yourself.

11. For the air conditioner without plug, an air switch must be installed in the circuit. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.

12. Make sure all wires and pipes are connected properly and the valves are opened before energizing.

13. Check if there is electric leakage on the unit body. If yes, please eliminate the electric leakage.

14. Replace the fuse with a new one of the same specification if it is burnt down; don't replace it with a cooper wire or conducting wire.

15. If the unit is to be installed in a humid place, the circuit breaker must be installed.

Installation Safety Precautions:

1. Select the installation location according to the requirement of this manual.(See the requirements in installation part)
2. Handle unit transportation with care; the unit should not be carried by only one person if it is more than 20kg.
3. When installing the indoor unit and outdoor unit, a sufficient fixing bolt must be installed; make sure the installation support is firm.
4. Ware safety belt if the height of working is above 2m.
5. Use equipped components or appointed components during installation.
6. Make sure no foreign objects are left in the unit after finishing installation.

Refrigerant Safety Precautions:

1. When refrigerant leaks or requires discharge during installation, maintenance, or disassembly, it should be handled by certified professionals or otherwise in compliance with local laws and regulations.
- 2.Avoid contact between refrigerant and fire as it generates poisonous gas; Prohibit prolong the connection pipe by welding.
3. Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture or other hazards.
4. Make sure no refrigerant gas is leaking out when installation is completed.
4. If there is refrigerant leakage, please take sufficient measure to minimize the density of refrigerant.
5. Never touch the refrigerant piping or compressor without wearing glove to avoid scald or frostbite.

Improper installation may lead to fire hazard, explosion, electric shock or injury.

Safety Precautions for Installing and Relocating the Unit:

To ensure safety, please be mindful of the following precautions.



Warnings

1. When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.

Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting in injury.

2. When installing or moving this unit, do not charge the refrigerant which is not comply with that on the nameplate or unqualified refrigerant.

Otherwise, it may cause abnormal operation, wrong action, mechanical malfunction or even series safety accident.

3. When refrigerant needs to be recovered during relocating or repairing the unit, be sure that the unit is running in cooling mode. Then, fully close the valve at high pressure side (liquid valve). About 30-40 seconds later, fully close the valve at low pressure side (gas valve), immediately stop the unit and disconnect power. Please note that the time for refrigerant recovery should not exceed 1 minute.

If refrigerant recovery takes too much time, air may be sucked in and cause pressure rise or compressor rupture, resulting in injury.

4. During refrigerant recovery, make sure that liquid valve and gas valve are fully closed and power is disconnected before detaching the connection pipe.

If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.

5. When installing the unit, make sure that connection pipe is securely connected before the compressor starts running.

If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.

6. Prohibit installing the unit at the place where there may be leaked corrosive gas or flammable gas.

If there leaked gas around the unit, it may cause explosion and other accidents.

7. Do not use extension cords for electrical connections. If the electric wire is not long enough, please contact a local service center authorized and ask for a proper electric wire.

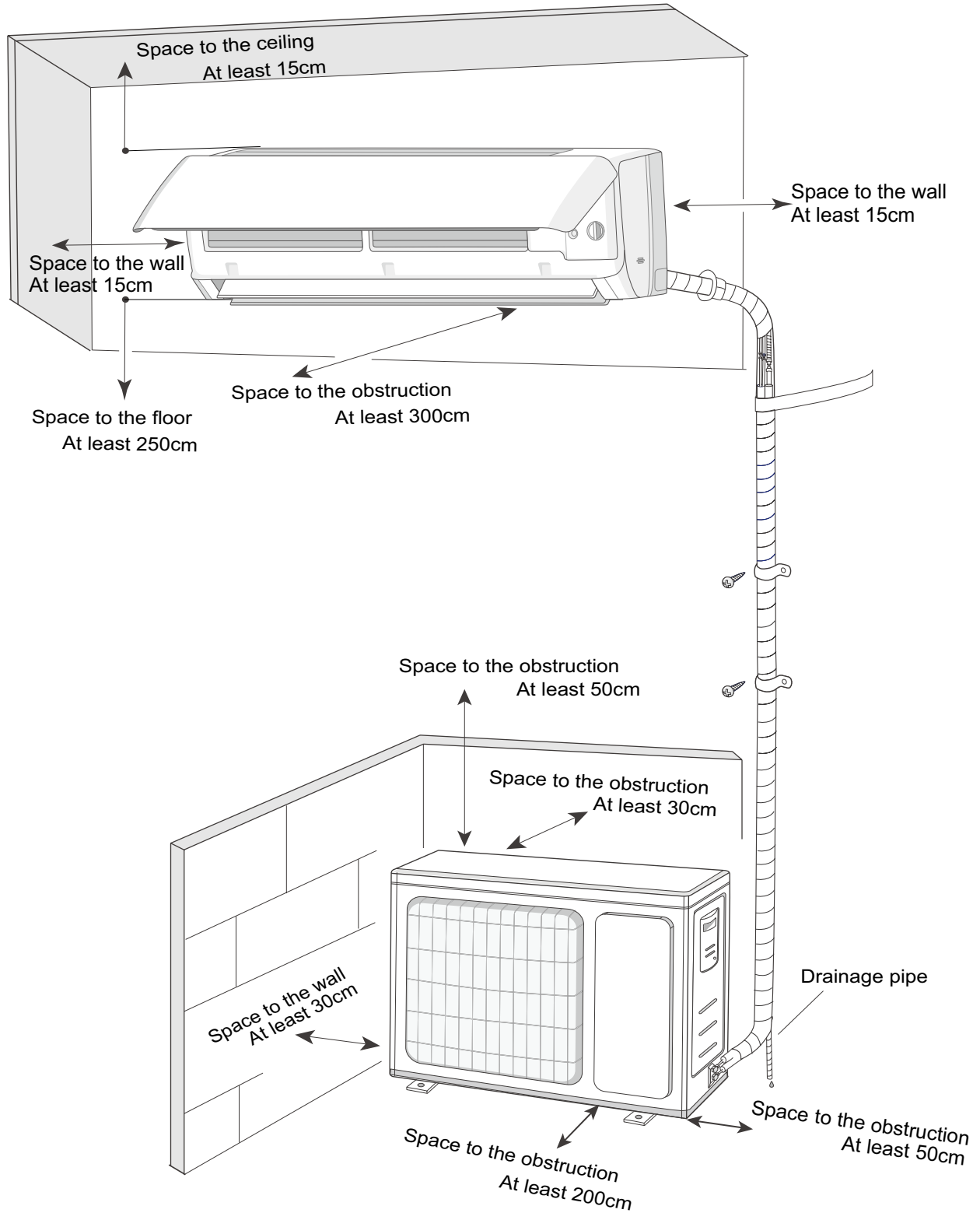
Poor connections may lead to electric shock or fire.

8. Use the specified types of wires for electrical connections between the indoor and outdoor units. Firmly clamp the wires so that their terminals receive no external stresses.

Electric wires with insufficient capacity, wrong wire connections and insecure wire terminals may cause electric shock or fire.

8. Installation

8.1 Installation Dimension Diagram



8.2 Installation Parts-checking

No.	Name	No.	Name
1	Indoor unit	8	Sealing gum
2	Outdoor unit	9	Wrapping tape
3	Connection pipe	10	Support of outdoor unit
4	Drainage pipe	11	Fixing screw
5	Wall-mounting frame	12	Drainage plug(cooling and heating unit)
6	Connecting cable(power cord)	13	Owners manual, remote controller
7	Wall pipe		

⚠ Note:

- 1.Please contact the local agent for installation.
- 2.Dont use unqualified power cord.

8.3 Selection of Installation Location

1. Basic Requirement:

Installing the unit in the following places may cause malfunction. If it is unavoidable, please consult the local dealer:

- (1) The place with strong heat sources, vapors, flammable or explosive gas, or volatile objects spread in the air.
- (2) The place with high-frequency devices (such as welding machine, medical equipment).
- (3) The place near coast area.
- (4) The place with oil or fumes in the air.
- (5) The place with sulfured gas.
- (6) Other places with special circumstances.
- (7) The appliance shall not be installed in the laundry.
- (8) It's not allowed to be installed on the unstable or motive base structure(such as truck) or in the corrosive environment (such as chemical factory).

2. Indoor Unit:

- (1) There should be no obstruction near air inlet and air outlet.
- (2) Select a location where the condensation water can be dispersed easily and won't affect other people.
- (3) Select a location which is convenient to connect the outdoor unit and near the power socket.
- (4) Select a location which is out of reach for children.
- (5) The location should be able to withstand the weight of indoor unit and won't increase noise and vibration.
- (6) The appliance must be installed 2.5m above floor.
- (7) don't install the indoor unit right above the electric appliance.
- (8) Please try your best to keep way from fluorescent lamp.

3. Outdoor Unit:

- (1) Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.
- (2) The location should be well ventilated and dry, in which the outdoor unit won't be exposed directly to sunlight or strong wind.
- (3) The location should be able to withstand the weight of outdoor unit.
- (4) Make sure that the installation follows the requirement of installation dimension diagram.
- (5) Select a location which is out of reach for children and far away from animals or plants.If it is unavoidable, please add fence for safety purpose.

8.4 Electric Connection Requirement

1. Safety Precaution

- (1) Must follow the electric safety regulations when installing the unit.
- (2) According to the local safety regulations, use qualified power supply circuit and air switch.
- (3) Make sure the power supply matches with the requirement of air conditioner. Unstable power supply or incorrect wiring may result in electric shock, fire hazard or malfunction. Please install proper power supply cables before using the air conditioner.
- (4) Properly connect the live wire, neutral wire and grounding wire of power socket.
- (5) Be sure to cut off the power supply before proceeding any work related to electricity and safety.
- (6) Do not put through the power before finishing installation.
- (7) The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.
- (8) The appliance shall be installed in accordance with national wiring regulations.

2. Grounding Requirement:

- (1) The air conditioner is I class electric appliance. It must be properly grounding with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.
- (2) The yellow-green wire in air conditioner is grounding wire, which can't be used for other purposes.
- (3) The grounding resistance should comply with national electric safety regulations.
- (4) The appliance must be positioned so that the plug is accessible.
- (5) An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
- (6) Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Model	Air switch capacity	Power cord
7K	10A	3G1.0
9K(AGA AGB)	10A	3G1.0
12K(AGB AGC)	10A	3G1.0
18 AGC	16A	3G1.5
18K AGD	20A	3G1.5
24K	25A	3G1.5

8.5 Installation of Indoor Unit

1. Choosing Installation location

Recommend the installation location to the client and then confirm it with the client.

2. Install Wall-mounting Frame

- (1) Hang the wall-mounting frame on the wall; adjust it in horizontal position with the level meter and then point out the screw fixing holes on the wall.
- (2) Drill the screw fixing holes on the wall with impact drill (the specification of drill head should be the same as the plastic expansion particle) and then fill the plastic expansion particles

in the holes.

(3) Fix the wall-mounting frame on the wall with tapping screws and then check if the frame is firmly installed by pulling the frame. If the plastic expansion particle is loose, please drill another fixing hole nearby.

3. Install Wall-mounting Frame

(1) Choose the position of piping hole according to the direction of outlet pipe. The position of piping hole should be a little lower than the wall-mounted frame.(As show in Fig.1)

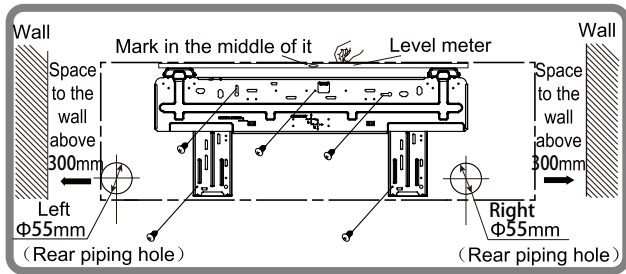


Fig.1

(2) Open a piping hole with the diameter of $\Phi 55\text{mm}$ on the selected outlet pipe position. In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of $5\text{-}10^\circ$.(As show in Fig.2)

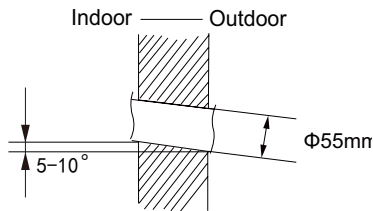


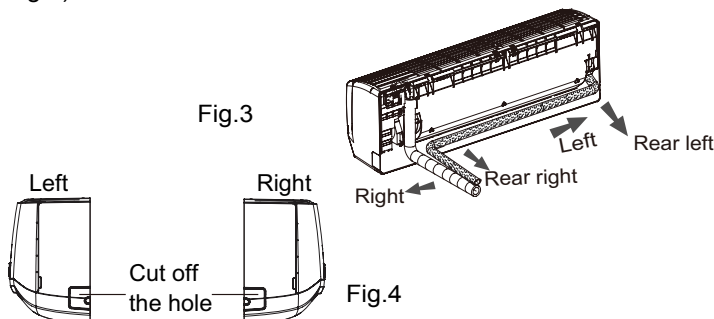
Fig.2

⚠ Note:

Pay attention to dust prevention and take relevant safety measures when opening the hole.

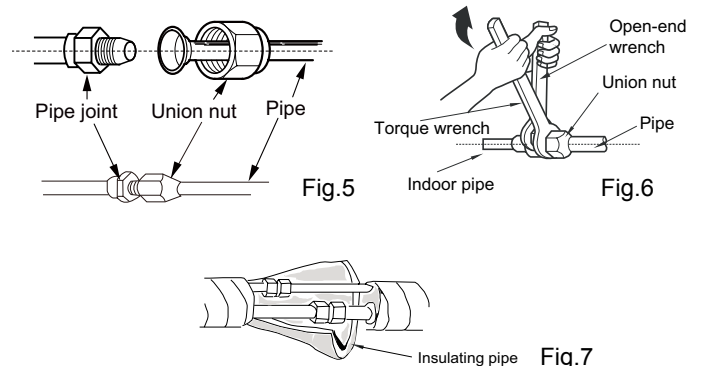
4. Outlet Pipe

(1) The pipe can be led out in the direction of right, rear right, left or rear left.(As show in Fig.3)
 (2) When selecting leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.(As show in Fig.4)



5. Connect the Pipe of Indoor Unit

(1) Aim the pipe joint at the corresponding bellmouth.(As show in Fig.5)
 (2) Pretightening the union nut with hand.
 (3) Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench.(As show in Fig.6)
 (4) Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.(As show in Fig.7)

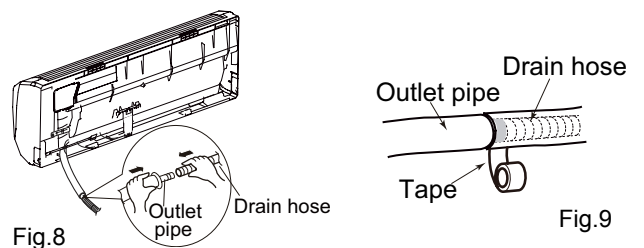


Refer to the following table for wrench moment of force:

Hex nut diameter(mm)	Tightening torque(N·m)
$\Phi 6$	15~20
$\Phi 9.52$	30~40
$\Phi 12$	45~55
$\Phi 16$	60~65
$\Phi 19$	70~75

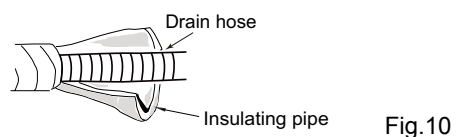
6. Install Drain Hose

(1) Connect the drain hose to the outlet pipe of indoor unit.(As show in Fig.8)
 (2) Bind the joint with tape.(As show in Fig.9)



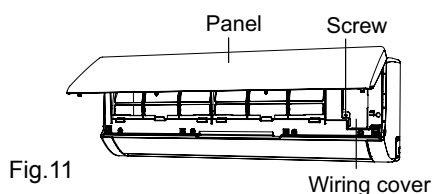
⚠ Note:

(1) Add insulating pipe in the indoor drain hose in order to prevent condensation.
 (2) The plastic expansion particles are not provided.(As show in Fig.10)

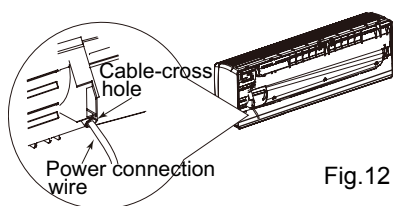


7. Connect Wire of Indoor Unit

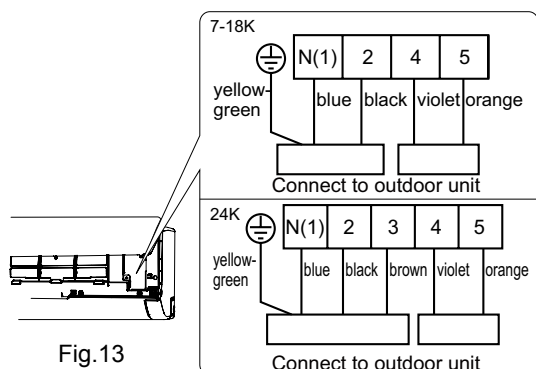
(1) Open the panel, remove the screw on the wiring cover and then take down the cover.(As show in Fig.11)



(2) Make the power connection wire go through the cable-cross hole at the back of indoor unit and then pull it out from the front side.(As show in Fig.12)



(3) Remove the wire clip; connect the power connection wiresignal control wire (only for cooling and heating unit) to the wiring terminal according to the color; tighten the screw and then fix the power connection wire with wire clip.(As show in Fig.13)



Note: The wiring connect is for reference only, please refer to the actual one.

(4) Put wiring cover back and then tighten the screw.
 (5) Close the panel.

⚠ Note:

- (1) All wires of indoor unit and outdoor unit should be connected by a professional.
- (2) If the length of power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire by yourself.
- (3) For the air conditioner with plug, the plug should be reachable after finishing installation.
- (4) For the air conditioner without plug, an air switch must be installed in the line. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.

8. Bind up Pipe

- (1) Bind up the connection pipe, power cord and drain hose with the band.(As show in Fig.14)
- (2) Reserve a certain length of drain hose and power cord for installation when binding them. When binding to a certain degree, separate the indoor power and then separate the drain hose.(As show in Fig.15)
- (3) Bind them evenly.
- (4) The liquid pipe and gas pipe should be bound separately at the end.

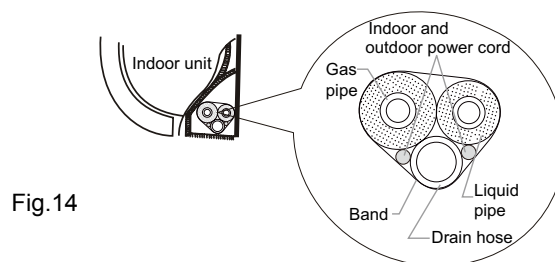


Fig.14

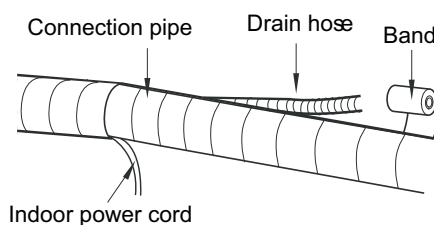


Fig.15

⚠ Note:

- (1) The power cord and control wire can't be crossed or winding.
- (2) The drain hose should be bound at the bottom.

9. Hang the Indoor Unit

- (1) Put the bound pipes in the wall pipe and then make them pass through the wall hole.
- (2) Hang the indoor unit on the wall-mounting frame.
- (3) Stuff the gap between pipes and wall hole with sealing gum.
- (4) Fix the wall pipe.(As show in Fig.16)
- (5) Check if the indoor unit is installed firmly and closed to the wall.(As show in Fig.17)

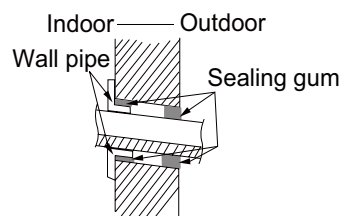


Fig.16

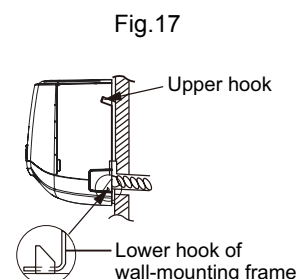


Fig.17

⚠ Note:

Do not bend the drain hose too excessively in order to prevent blocking.

8.6 Installation of Outdoor unit

1. Fix the Support of Outdoor Unit(Select it according to the actual installation situation)

- (1) Select installation location according to the house structure.
- (2) Fix the support of outdoor unit on the selected location with expansion screws.

▲ Note:

- (1) Take sufficient protective measures when installing the outdoor unit.
- (2) Make sure the support can withstand at least four times the unit weight.
- (3) The outdoor unit should be installed at least 3cm above the floor in order to install drain joint.(As show in Fig.18)
- (4) For the unit with cooling capacity of 2300W~5000W, 6 expansion screws are needed; for the unit with cooling capacity of 6000W~8000W, 8 expansion screws are needed; for the unit with cooling capacity of 10000W~16000W, 10 expansion screws are needed.

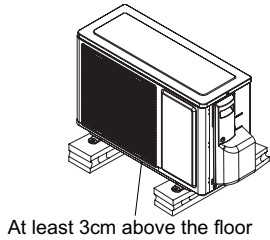


Fig.18

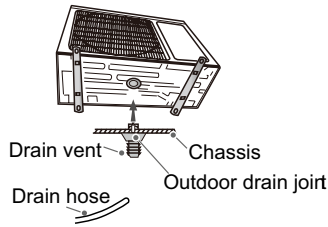


Fig.19

2. Install Drain Joint(Only for cooling and heating unit)

- (1) Connect the outdoor drain joint into the hole on the chassis.
 - (2) Connect the drain hose into the drain vent.
- (As show in Fig.19)

3. Fix Outdoor Unit

- (1) Place the outdoor unit on the support.
 - (2) Fix the foot holes of outdoor unit with bolts.
- (As show in Fig.20)

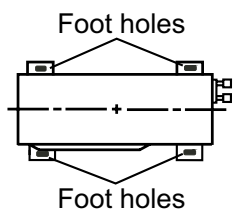


Fig.20

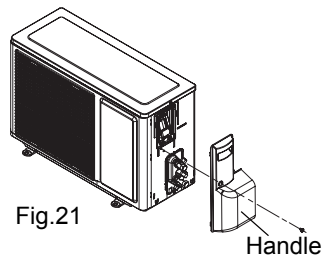


Fig.21

4. Connect Indoor and Outdoor Pipes

- (1) Remove the screw on the right handle of outdoor unit and then remove the handle.(As show in Fig.21)
- (2) Remove the screw cap of valve and aim the pipe joint at the bellmouth of pipe.(As show in Fig.22)

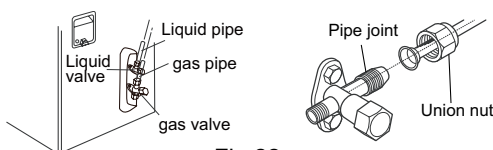


Fig.22

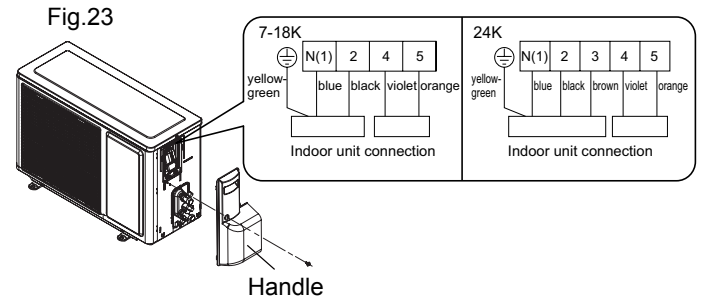
- (3) Pretightening the union nut with hand.
- (4) Tighten the union nut with torque wrench .

Refer to the following table for wrench moment of force:

Hex nut diameter(mm)	Tightening torque(N·m)
Φ6	15~20
Φ9.52	30~40
Φ12	45~55
Φ16	60~65
Φ19	70~75

5. Connect Outdoor Electric Wire

- (1) Remove the wire clip; connect the power connection wire and signal control wire (only for cooling and heating unit) to the wiring terminal according to the color; fix them with screws.(As show in Fig.23)



Note: the wiring connect is for reference only,please refer to the actual one.

- (2) Fix the power connection wire and signal control wire with wire clip (only for cooling and heating unit).

▲ Note:

- (1) After tightening the screw, pull the power cord slightly to check if it is firm.
- (2) Never cut the power connection wire to prolong or shorten the distance.

6. Neaten the Pipes

- (1) The pipes should be placed along the wall, bent reasonably and hidden possibly. Min. semidiameter of bending the pipe is 10cm.
- (2) If the outdoor unit is higher than the wall hole, you must set a U-shaped curve in the pipe before pipe goes into the room, in order to prevent rain from getting into the room.(As show in Fig.24)

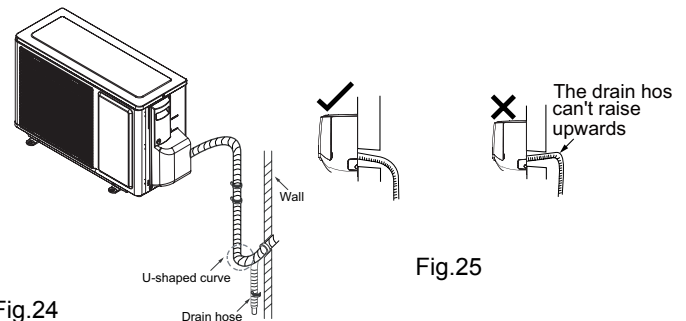


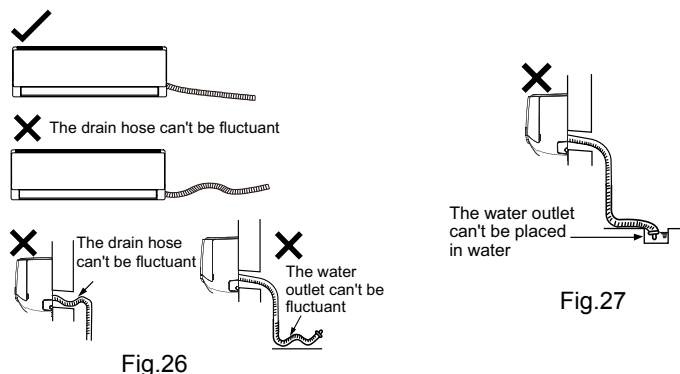
Fig.24

Fig.25

▲ Note:

- (1) The through-wall height of drain hose shouldnt be higher than the outlet pipe hole of indoor unit.(As show in Fig.25)
- (2) Slant the drain hose slightly downwards. The drain hose can't be curved, raised and fluctuant, etc.(As show in Fig.26)

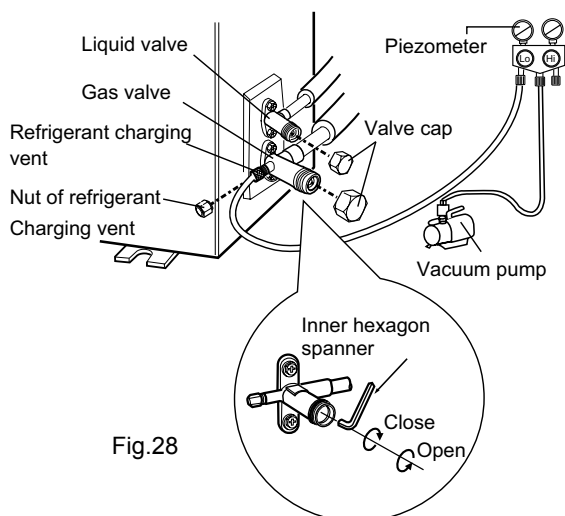
(3) The water outlet can't be placed in water in order to drain smoothly.(As show in Fig.27)



8.7 Vacuum Pumping and Leak Detection

1. Use Vacuum Pump

- (1) Remove the valve caps on the liquid valve and gas valve and the nut of refrigerant charging vent.
- (2) Connect the charging hose of piezometer to the refrigerant charging vent of gas valve and then connect the other charging hose to the vacuum pump.
- (3) Open the piezometer completely and operate for 10-15min to check if the pressure of piezometer remains in -0.1MPa.
- (4) Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in -0.1MPa. If the pressure decreases, there may be leakage.
- (5) Remove the piezometer, open the valve core of liquid valve and gas valve completely with inner hexagon spanner.
- (6) Tighten the screw caps of valves and refrigerant charging vent.(As show in Fig.28)



2. Leakage Detection

- (1) With leakage detector:
Check if there is leakage with leakage detector.
- (2) With soap water:
If leakage detector is not available, please use soap water for leakage detection. Apply soap water at the suspected position and keep the soap water for more than 3min. If there are air bubbles coming out of this position, there's a leakage.

8.8 Check after Installation and Test operation

1. Check after Installation

Check according to the following requirement after finishing installation.

NO.	Items to be checked	Possible malfunction
1	Has the unit been installed firmly?	The unit may drop, shake or emit noise.
2	Have you done the refrigerant leakage test?	It may cause insufficient cooling (heating) capacity.
3	Is heat insulation of pipeline sufficient?	It may cause condensation and water dripping.
4	Is water drained well?	It may cause condensation and water dripping.
5	Is the voltage of power supply according to the voltage marked on the nameplate?	It may cause malfunction or damage the parts.
6	Is electric wiring and pipeline installed correctly?	It may cause malfunction or damage the parts.
7	Is the unit grounded securely?	It may cause electric leakage.
8	Does the power cord follow the specification?	It may cause malfunction or damage the parts.
9	Is there any obstruction in air inlet and air outlet?	It may cause insufficient cooling (heating) capacity.
10	The dust and sundries caused during installation are removed?	It may cause malfunction or damaging the parts.
11	The gas valve and liquid valve of connection pipe are open completely?	It may cause insufficient cooling (heating) capacity.
12	Is the inlet and outlet of piping hole been covered?	It may cause insufficient cooling (heating) capacity or waster eletricity.

2. Test Operation

- (1) Preparation of test operation
 - The client approves the air conditioner installation.
 - Specify the important notes for air conditioner to the client.
- (2) Method of test operation
 - Put through the power, press ON/OFF button on the remote controller to start operation.
 - Press MODE button to select AUTO, COOL, DRY, FAN and HEAT to check whether the operation is normal or not.
 - If the ambient temperature is lower than 16℃ , the air conditioner can't start cooling.

9. Maintenance

9.1 Error Code List

No.	Malfunction Name	Display Method of Indoor Unit (Error Code)	A/C Status	Possible Causes(For specific maintenance method, please refer to the following procedure of troubleshooting)
1	Indoor ambient temperature sensor is open/short-circuited	F1	The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except IDU fan motor operates, other loads stop operation; During heating operation, the system stops operation.	1.The wiring terminal between indoor ambient temperature sensor and main board is loosened or poorly contacted; 2.There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
2	Indoor evaporator temperature sensor is open/short-circuited	F2	The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except IDU fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1.The wiring terminal between indoor evaporator temperature sensor and main board is loosened or poorly contacted; 2.There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
3	Blocked protection of IDU fan motor	H6	IDU fan, ODU fan, compressor and electric heat tube stop operation. Horizontal louver stops at the current position.	1.The feedback terminal of PG motor is not connected tightly. 2.The control terminal of PG motor is not connected tightly. 3.Fan blade rotates unsmoothly. 4.Malfunction of motor 5.Main board is broken.
4	Malfunction protection of jumper cap	C5	Operation of remote controller or control panel is available, but the unit won't act.	1.There's not jumper cap on the main board. 2.Jumper cap is not inserted properly and tightly. 3.Jumper cap is damaged. 4.Controller is damaged.
5	Overload malfunction	E8	The entire unit stops.	1.Indoor and outdoor heat exchanger is too dirty? Or air inlet/outlet is blocked? 2.Fan motor doesn't work at a normal fan speed; fan speed is too low or the fan doesn't run. 3.Compressor operates normally or not? Is there any abnormal noise or oil leak? Casing is too hot? 4.System is blocked inside? (Dirt blockage? Ice blockage? Oil blockage? Y-valve is not fully open?) 5.Main board temperature sensor detects wrongly.

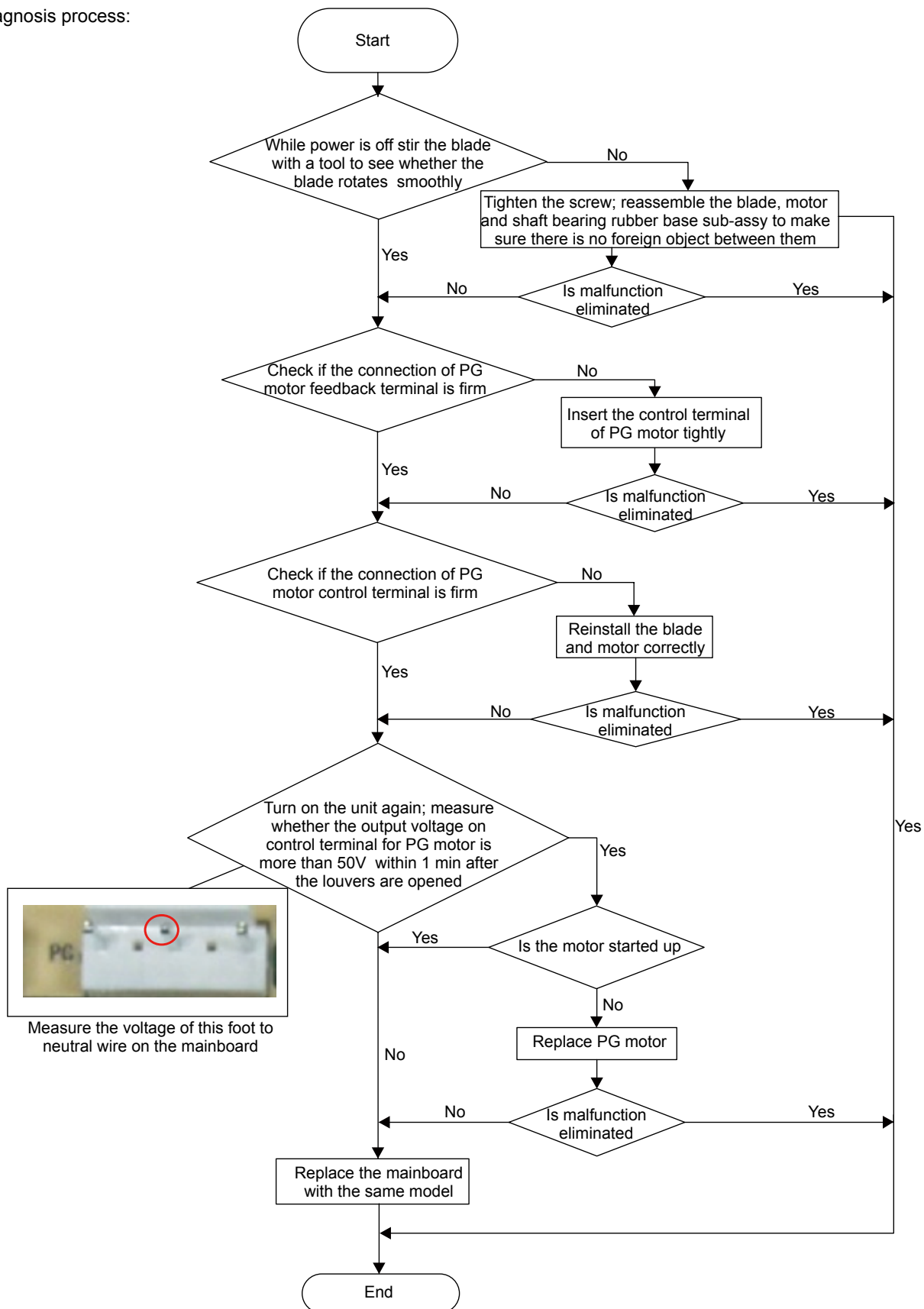
6	Zero-crossing inspection circuit malfunction of the IDU fan motor	U8	Operation of remote controller or control panel is available, but the unit won't act.	<ol style="list-style-type: none"> 1.Quick de-energization and energization. Wrong judgement by the controller because the electric-discharging of capacitor is slow. 2.Zero-crossing inspection circuit of main board for controller is abnormal.
7	Lack of refrigerant or block protection for the system(not applicable to residential air conditioner) or Overload protection compressor	F0	The Dual-8 Code Display will show F0 and the complete unit stops.	<ol style="list-style-type: none"> 1.Refrigerant leakage; 2.Indoor evaporator temperature sensor works abnormally; 3.The unit has been plugged up somewhere; 4.The compressor can't be started up normally. Because the power voltage for the complete unit is too low, and the outdoor working condition is too high.
8	Overcurrent protection	E5	Cool/Dry: compressor and outdoor fan stops operation, while indoor fan operates; Heat: all loads stops operation.	<ol style="list-style-type: none"> 1.Power voltage is unstable; 2.Power voltage is too low; 3.System load is too high, which leads to high current; 4.Heat exchange of indoor unit is too dirty, or it blocked the air inlet/outlet; 5.Fan motor operation is abnormal; the fan speed is too low or not functioning; 6.Compressor is blocked; 7.The internal system is blocked; (dirt blockage, ice blockage, oil blockage, angle valve is not completely opened) 8.Main board of outdoor unit is damaged.
9	High pressure protection of system	E1		<ol style="list-style-type: none"> 1.Heat exchange of outdoor unit is too dirty, or it blocked the air inlet/outlet; 2.Ambient temperature is too high; 3.Is power voltage normal; (three-phase unit) 4.Refrigerant is too much. 5.Wiring of high pressure switch is loose or high pressure switch is damaged; 6.The internal system is blocked; (dirt blockage, ice blockage, oil blockage, angle valve is not completely opened)
10	Overload protection for compressor	H3	The entire unit stops.	<ol style="list-style-type: none"> 1. Outdoor and indoor heat exchangers are too dirty or the air inlet/outlet is blocked. 2. Fan motor is not working Abnormal fan speed; fan speed is too low or the fan doesn't run. 3. Compressor doesn't work normally.Strange noise or leakage occurs.Temperature of the shell is too high. 4. System is blocked inside(dirt block, ice block, oil block, Y-valve not fully open). 5. High pressure switch is abnormal. 6. The refrigerant is leaking and cause overheating protection to compressor.

2. Malfunction of Blocked Protection of IDU Fan Motor H6

Main detection points:

- Smoothly is the control terminal of PG motor connected tightly?
- Smoothly is the feedback interface of PG motor connected tightly?
- The fan motor can't operate?
- The motor is broken?
- Detection circuit of the mainboard is defined abnormal?

Malfunction diagnosis process:

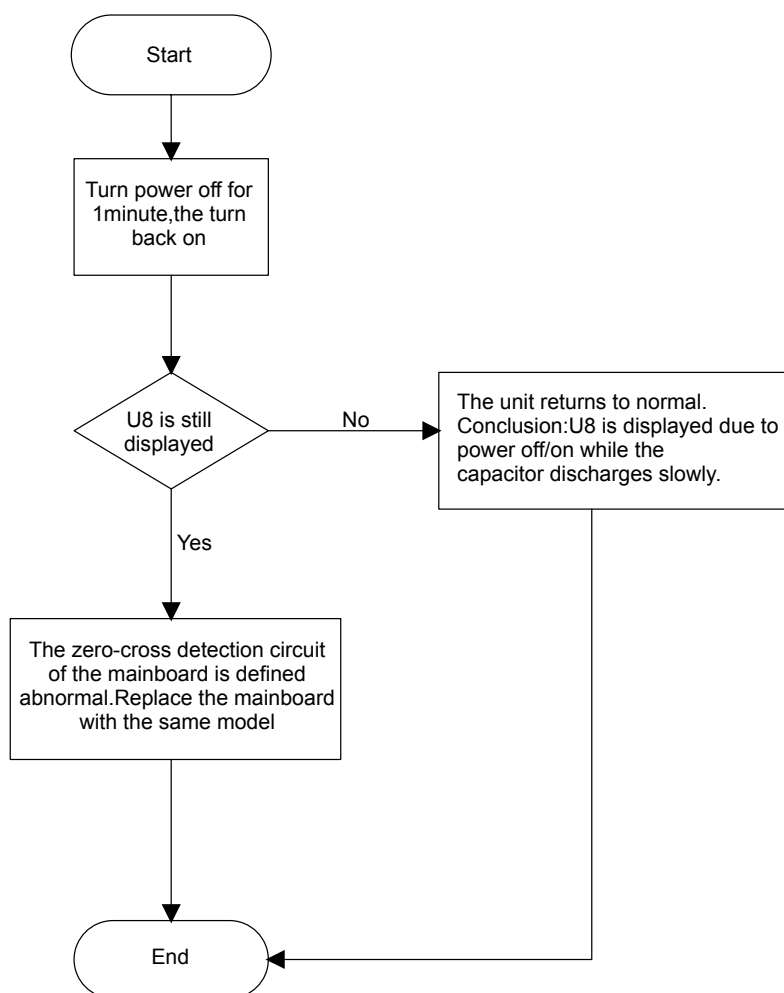


4. Malfunction of Zero-crossing Inspection Circuit Malfunction of the IDU Fan Motor U8

Main detection points:

- Instant energization after de-energization while the capacitor discharges slowly?
- The zero-cross detection circuit of the mainboard is defined abnormal?

Malfunction diagnosis process:



9.3 Troubleshooting for Normal Malfunction

1. Air Conditioner Can't be Started Up

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
No power supply, or poor connection for power plug	After energization, operation indicator isn't bright and the buzzer can't give out sound	Confirm whether it's due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well.
Wrong wire connection between indoor unit and outdoor unit, or poor connection for wiring terminals	Under normal power supply circumstances, operation indicator isn't bright after energization	Check the circuit according to circuit diagram and connect wires correctly. Make sure all wiring terminals are connected firmly
Electric leakage for air conditioner	After energization, room circuit breaker trips off at once	Make sure the air conditioner is grounded reliably Make sure wires of air conditioner is connected correctly Check the wiring inside air conditioner. Check whether the insulation layer of power cord is damaged; if yes, place the power cord.
Model selection for air switch is improper	After energization, air switch trips off	Select proper air switch
Malfunction of remote controller	After energization, operation indicator is bright, while no display on remote controller or buttons have no action.	Replace batteries for remote controller Repair or replace remote controller

2. Poor Cooling (Heating) for Air Conditioner

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Set temperature is improper	Observe the set temperature on remote controller	Adjust the set temperature
Rotation speed of the IDU fan motor is set too low	Small wind blow	Set the fan speed at high or medium
Filter of indoor unit is blocked	Check the filter to see it's blocked	Clean the filter
Installation position for indoor unit and outdoor unit is improper	Check whether the installation position is proper according to installation requirement for air conditioner	Adjust the installation position, and install the rainproof and sunproof for outdoor unit
Refrigerant is leaking	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; unit's pressure is much lower than regulated range	Find out the leakage causes and deal with it. Add refrigerant.
Malfunction of 4-way valve	Blow cold wind during heating	Replace the 4-way valve
Malfunction of capillary	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit pressure is much lower than regulated range. If refrigerant isn't leaking, part of capillary is blocked	Replace the capillary
Flow volume of valve is insufficient	The pressure of valves is much lower than that stated in the specification	Open the valve completely
Malfunction of horizontal louver	Horizontal louver can't swing	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	The IDU fan motor can't operate	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	The ODU fan motor can't operate	Refer to point 4 of maintenance method for details
Malfunction of compressor	Compressor can't operate	Refer to point 5 of maintenance method for details

3. Horizontal Louver Can't Swing

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Stepping motor is damaged	Stepping motor can't operate	Repair or replace stepping motor
Main board is damaged	Others are all normal, while horizontal louver can't operate	Replace the main board with the same model

4. ODU Fan Motor Can't Operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of the ODU fan motor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the capacity of fan
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Motor of outdoor unit is damaged	When unit is on, cooling/heating performance is bad and ODU compressor generates a lot of noise and heat.	Change compressor oil and refrigerant. If no better, replace the compressor with a new one

5. Compressor Can't Operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of compressor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the compressor capacitor
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Coil of compressor is burnt out	Use universal meter to measure the resistance between compressor terminals and it's 0	Repair or replace compressor
Cylinder of compressor is blocked	Compressor can't operate	Repair or replace compressor

6. Air Conditioner is Leaking

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Drain pipe is blocked	Water leaking from indoor unit	Eliminate the foreign objects inside the drain pipe
Drain pipe is broken	Water leaking from drain pipe	Replace drain pipe
Wrapping is not tight	Water leaking from the pipe connection place of indoor unit	Wrap it again and bundle it tightly

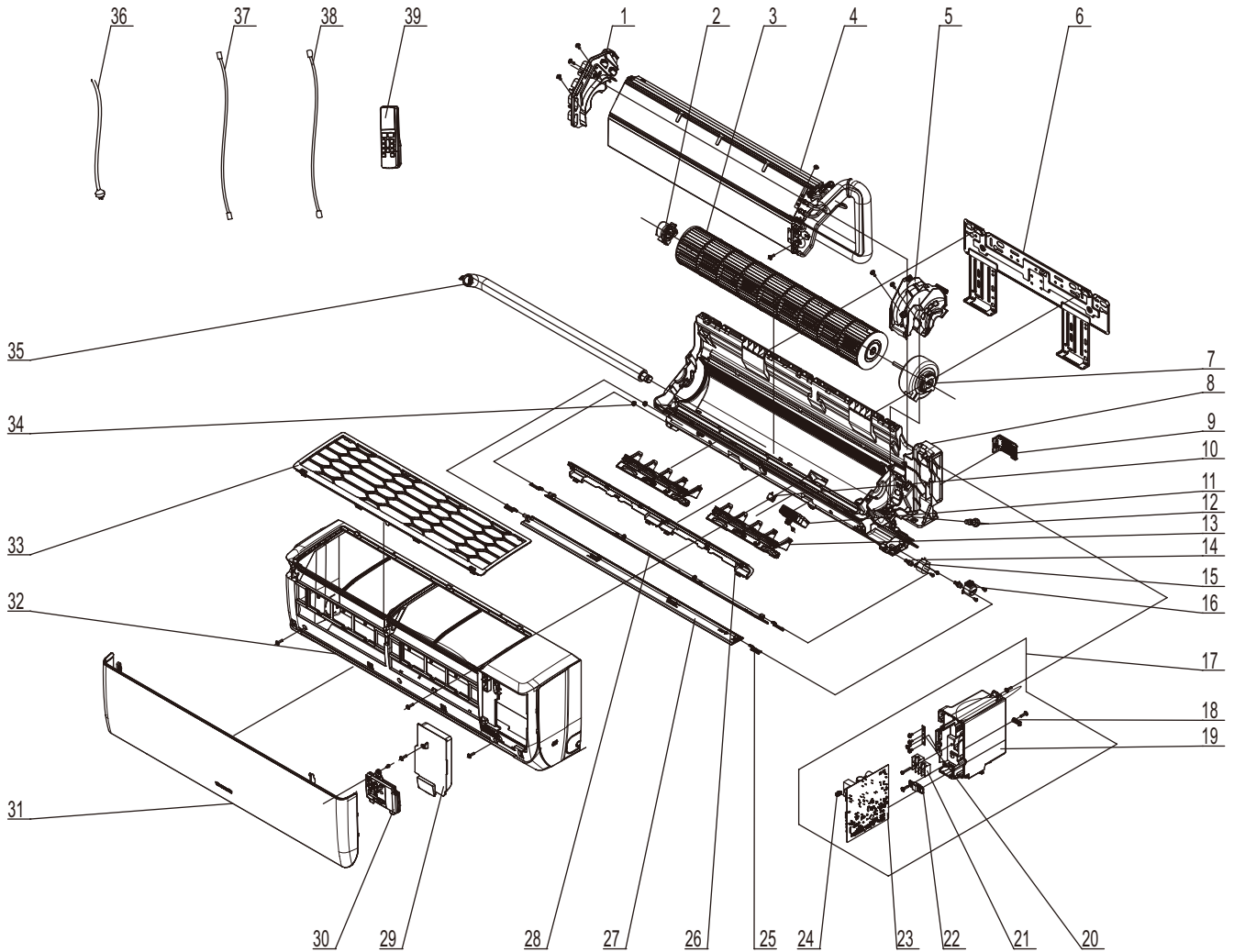
7. Abnormal Sound and Vibration

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and there's abnormal sound	Theres the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, there's abnormal sound due to flow of refrigerant inside air conditioner	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
Foreign objects inside the indoor unit or therere parts touching together inside the indoor unit	Theres abnormal sound fro indoor unit	Remove foreign objects. Adjust all parts position of indoor unit, tighten screws and stick damping plaster between connected parts
Foreign objects inside the outdoor unit or therere parts touching together inside the outdoor unit	Theres abnormal sound fro outdoor unit	Remove foreign objects. Adjust all parts position of outdoor unit, tighten screws and stick damping plaster between connected parts
Short circuit inside the magnetic coil	During heating, the way valve has abnormal electromagnetic sound	Replace magnetic coil
Abnormal shake of compressor	Outdoor unit gives out abnormal sound	Adjust the support foot mat of compressor, tighten the bolts
Abnormal sound inside the compressor	Abnormal sound inside the compressor	If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances.

10. Exploded View and Parts List

10.1 Indoor Unit

AGA /AGB



The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code		Qty
		GWH07AGA-K3NNA1B/I	GWH07AGA-K3NNA1B/I	
	Product Code	CA385N00300	CA385N00301	
1	Evaporator Support	200025000002	200025000002	1
2	Axile Bush Sub-assy	10542047	10542047	1
3	Cross Flow Fan	10352067	10352067	1
4	Evaporator Assy	011001000123	011001000123	1
5	Motor Press Plate	200020060008	200020060008	1
6	Wall Mounting Frame Sub-assy	017211000005	017211000005	1
7	Fan Motor	1501208904	1501208904	1
8	Rear Case	200001060035	20000106003501	1
9	Connecting pipe clamp	200017000001	200017000001	1
10	Screw Cover	200005060018	200005060018	1
11	Plasmacluster Ion	430001060002	/	1
12	Rubber Plug (Water Tray)	76712012	76712012	1
13	Air Louver	200007060050	200007060050	2
14	Crank	200023060004	200023060004	2
15	Stepping Motor	1521210710	1521210710	1
16	Stepping Motor	1521200602	1521200602	1
17	Electric Box Assy	100002067673	100002067673	1
18	Wire Clamp	26112174	26112174	1
19	Electric Box	200013060064	200013060064	1
20	Earthing	42012411	42012411	1
21	Terminal Board	42010268	42010268	1
22	Cable Clamp 2	71012065	71012065	1
23	Main Board	300002061077	300002061077	1
24	Jumper	4202021901	4202021901	1
25	Plug Pin	200033060002	200033060002	4
26	Helicoid Tongue	200006060010	200006060010	1
27	Guide Louver (lower)	200004060084	200004060084	1
28	Guide Louver (upper)	200004060083	200004060083	1
29	Electric Box Cover2	200082060052	200082060052	1
30	Display Board	300001060574	300001060574	1
31	Front Panel	200003060157T	200003060157T	1
32	Front Case	200002060040	200002060040	1
33	Filter Sub-Assy	111001060144	111001060144	1
34	Left Axile Bush	10512037	10512037	2
35	Drainage Hose	0523001408	0523001408	1
36	Power Cord	4002048739	4002048739	1
37	Connecting Cable	40020540	40020540	0
38	Connecting Cable	40020536	40020536	0
39	Remote Controller	305001060059	305001060059	1

Above data is subject to change without notice.

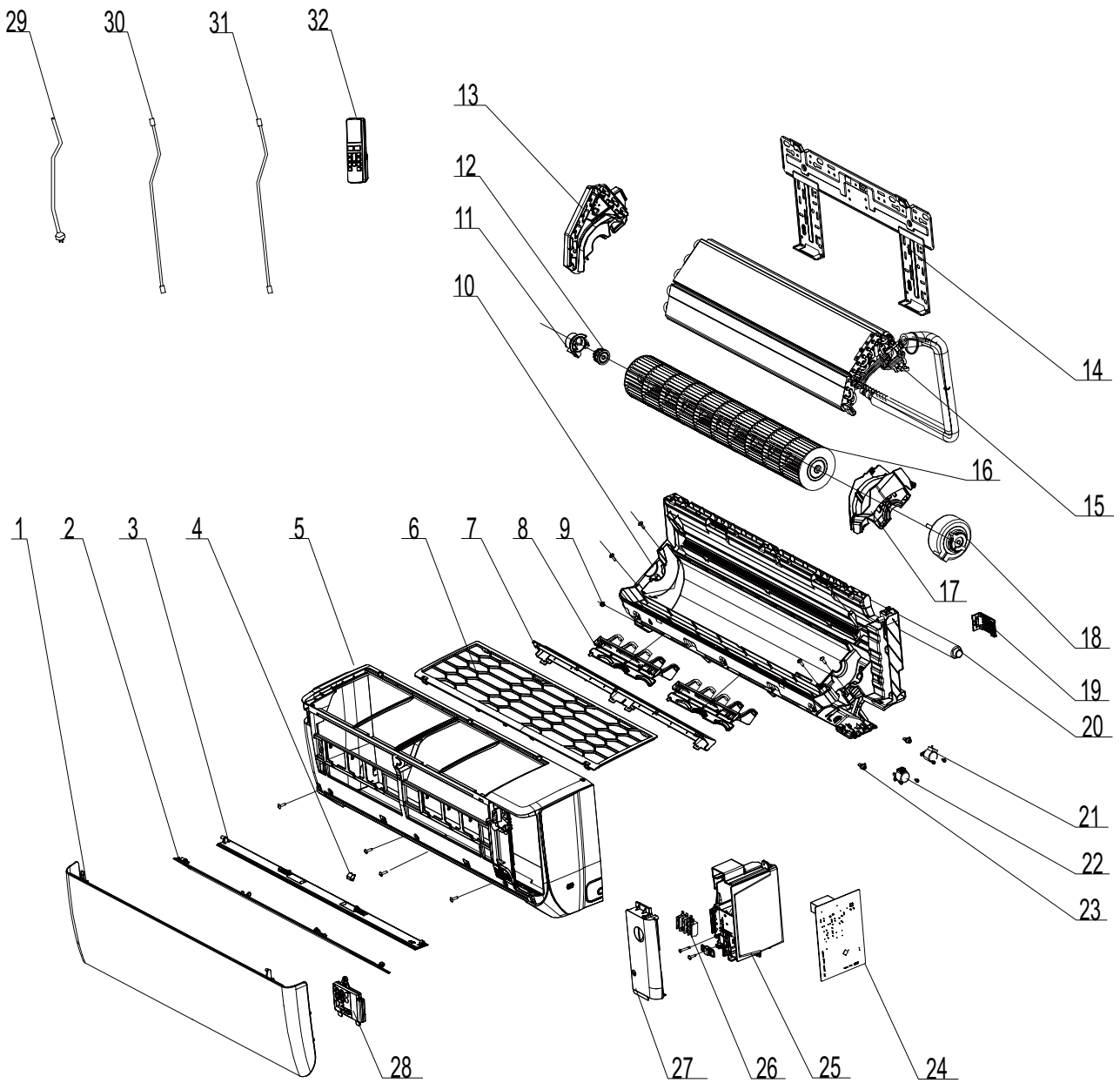
NO.	Description	Part Code		Qty
		GWH09AGA-K3NNA1A	GWH09AGA-K3NNA1A	
	Product Code	CA385N01000	CA385N01001	
1	Evaporator Support	200025000002	200025000002	1
2	Axile Bush Sub-assy	10542047	10542047	1
3	Cross Flow Fan	10352067	10352067	1
4	Evaporator Assy	011001000123	011001000123	1
5	Motor Press Plate	200020060008	200020060008	1
6	Wall Mounting Frame Sub-assy	017211000005	017211000005	1
7	Fan Motor	1501208904	1501208904	1
8	Rear Case	200001060035	20000106003501	1
9	Connecting pipe clamp	200017000001	200017000001	1
10	Screw Cover	200005060018	200005060018	1
11	Plasmacluster Ion	430001060002	/	1
12	Rubber Plug (Water Tray)	76712012	76712012	1
13	Air Louver	200007060050	200007060050	2
14	Crank	200023060004	200023060004	2
15	Stepping Motor	1521210710	1521210710	1
16	Stepping Motor	1521200602	1521200602	1
17	Electric Box Assy	100002067673	100002067673	1
18	Wire Clamp	26112174	26112174	1
19	Electric Box	200013060064	200013060064	1
20	Earthing	42012411	42012411	1
21	Terminal Board	42010268	42010268	1
22	Cable Clamp 2	71012065	71012065	1
23	Main Board	300002061077	300002061077	1
24	Jumper	4202021901	4202021901	1
25	Plug Pin	200033060002	200033060002	4
26	Helicoid Tongue	200006060010	200006060010	1
27	Guide Louver (lower)	200004060084	200004060084	1
28	Guide Louver (upper)	200004060083	200004060083	1
29	Electric Box Cover2	200082060052	200082060052	1
30	Display Board	300001060574	300001060574	1
31	Front Panel	200003060157T	200003060157T	1
32	Front Case	200002060040	200002060040	1
33	Filter Sub-Assy	111001060144	111001060144	1
34	Left Axile Bush	10512037	10512037	2
35	Drainage Hose	0523001408	0523001408	1
36	Power Cord	4002048739	4002048739	1
37	Connecting Cable	40020540	40020540	0
38	Connecting Cable	40020536	40020536	0
39	Remote Controller	305001060059	305001060059	1

Above data is subject to change without notice.

NO.	Description	Part Code			Qty
		GWH09AGB-K3NNA1B/I	GWH12AGB-K3NNA1A/I	GWH12AGB-K3NNA1A/I	
	Product Code	CA385N00200	CA385N01100	CA385N01101	
1	Evaporator Support	200025000002	200025000002	200025000002	1
2	Axile Bush Sub-assy	10542047	10542047	10542047	1
3	Cross Flow Fan	10352066	10352066	10352066	1
4	Evaporator Assy	011001000352	01100100014301	01100100014301	1
5	Motor Press Plate	200020060008	200020060008	200020060008	1
6	Wall Mounting Frame Sub-assy	017211000005	017211000005	017211000005	1
7	Fan Motor	150120874	150120874	150120874	1
8	Rear Case	200001060034	200001060034	20000106003401	1
9	Connecting pipe clamp	200017000001	200017000001	200017000001	1
10	Screw Cover	200005060018	200005060018	200005060018	1
11	Plasmacluster Ion	430001060002	430001060002	/	1
12	Rubber Plug (Water Tray)	76712012	76712012	76712012	1
13	Air Louver	200007060048	200007060048	200007060048	2
14	Crank	200023060004	200023060004	200023060004	2
15	Stepping Motor	1521210710	1521210710	1521210710	1
16	Stepping Motor	1521200602	1521200602	1521200602	1
17	Electric Box Assy	100002067642	100002068526	100002068526	1
18	Wire Clamp	26112174	26112174	26112174	1
19	Electric Box	200013060064	200013060064	200013060064	1
20	Earthing	42012411	42012411	42012411	1
21	Terminal Board	42010268	42010268	42010268	1
22	Cable Clamp 2	71012065	71012065	71012065	1
23	Main Board	300002061077	300002061077	300002061077	1
24	Jumper	4202021905	4202021930	4202021930	1
25	Plug Pin	200033060002	200033060002	200033060002	4
26	Helicoid Tongue	200006060009	200006060009	200006060009	1
27	Guide Louver (lower)	200004060082	200004060082	200004060082	1
28	Guide Louver (upper)	200004060081	200004060081	200004060081	1
29	Electric Box Cover2	200082060052	200082060052	200082060052	1
30	Display Board	300001060574	300001060574	300001060574	1
31	Front Panel	200003060156T	200003060156T	200003060156T	1
32	Front Case	200002060039	200002060039	200002060039	1
33	Filter Sub-Assy	111001060143	111001060143	111001060143	1
34	Left Axile Bush	10512037	10512037	10512037	2
35	Drainage Hose	0523001408	0523001408	0523001408	1
36	Power Cord	4002048739	4002048739	4002048739	1
37	Connecting Cable	40020540	40020540	40020540	0
38	Connecting Cable	40020536	40020536	40020536	0
39	Remote Controller	305001060059	305001060059	305001060059	1

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AGC

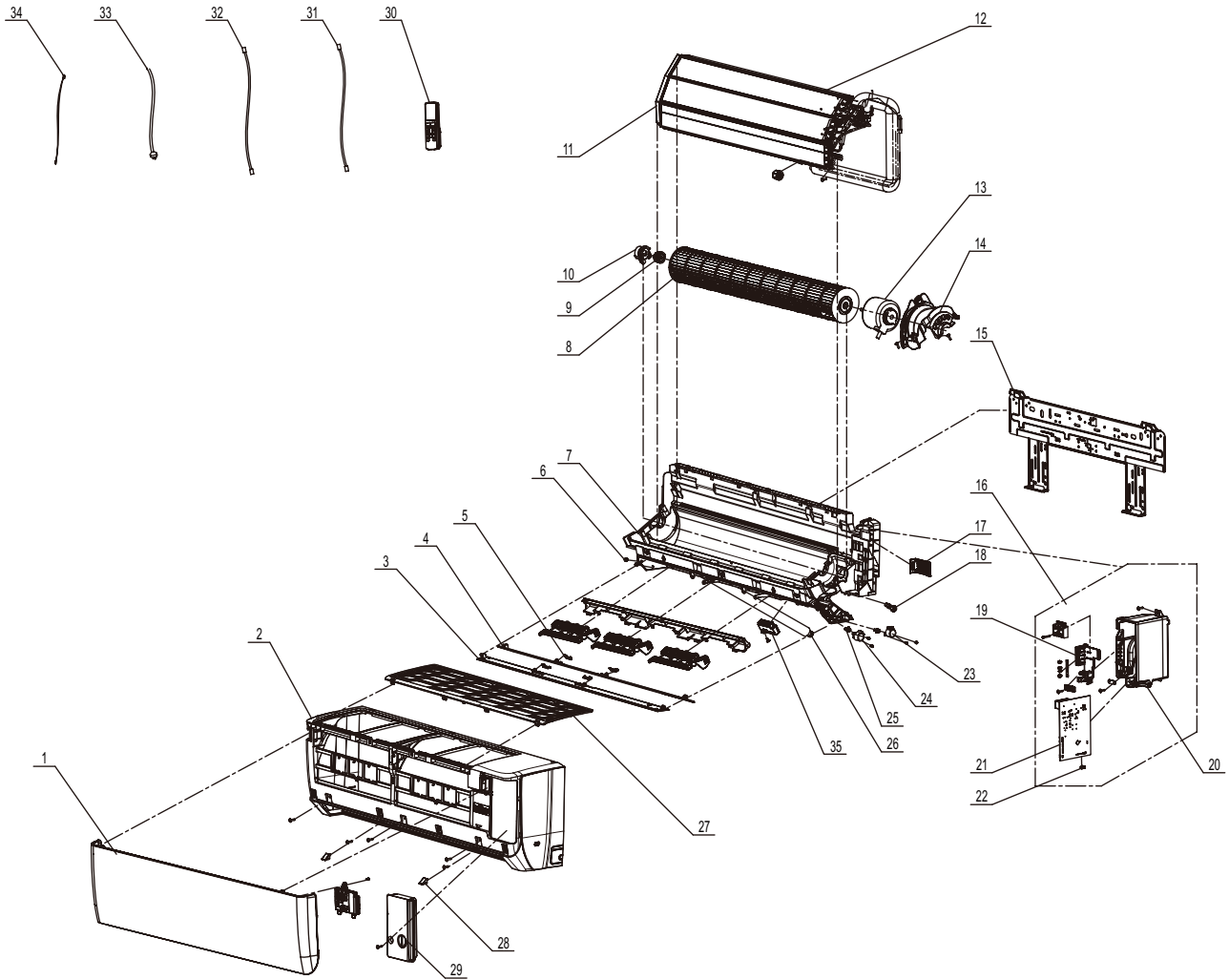


The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code			Qty
		GWH12AGC-K3NNA1B/I	GWH18AGC-K3NNA1A/I	GWH18AGC-K3NNA1A/I	
		Product Code	CA385N00400	CA385N00800	
1	Front Panel	200003060158T	200003060158T	200003060158T	1
2	Guide Louver (upper)	200004060088	200004060088	200004060088	1
3	Guide Louver (lower)	200004060087	200004060087	200004060087	1
4	Screw Cover	200005060003	200005060003	200005060003	1
5	Front Case	200002060041	200002060041	200002060041	1
6	Filter Sub-Assy	111001060145	111001060145	111001060145	1
7	Helicoid Tongue	200006060012	200006060012	200006060012	1
8	Air Louver	200007060054	200007060054	200007060054	2
9	Left Axile Bush	10512037	10512037	10512037	2
10	Rear Case assy	000001060123	000001060123	00000106012301	1
11	Ring of Bearing	26152022	26152022	26152022	1
12	O-Gasket sub-assy of Bearing	76512051	76512051	76512051	1
13	Evaporator Support	200025060004	200025060005	200025060005	1
14	Wall Mounting Frame	01252484	01252484	01252484	1
15	Evaporator Assy	011001060881	011001061255	011001061255	1
16	Cross Flow Fan	103001060004	103001060004	103001060004	1
17	Motor Press Plate	200020060002	200020060002	200020060002	1
18	Fan Motor	150101060282	150101060282	150101060282	1
19	Connecting pipe clamp	200017000001	200017000001	200017000001	1
20	Drainage Hose	05230014	05230014	05230014	1
21	Stepping Motor	1521200601	1521200601	1521200601	1
22	Stepping Motor	1521210710	1521210710	1521210710	1
23	Crank	200023060004	200023060004	200023060004	2
24	Main Board	300002061147	300002061147	300002061147	1
25	Electric Box Assy	100002067182	100002068627	100002068627	1
26	Terminal Board	422000000023	422000000023	422000000023	1
27	Electric Box Cover	200082060053	200082060053	200082060053	1
28	Display Board	300001060574	300001060574	300001060574	1
29	Power Cord	4002048718	4002048740	4002048740	1
30	Connecting Cable	40020540	400205401	400205401	0
31	Connecting Cable	40020536	40020536	40020536	0
32	Remote Controller	305001060059	305001060059	305001060059	1

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AGD



The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code	Qty
		GWH18AGD-K3NNA1B/I	
	Product Code	CA385N00100	
1	Front Panel	200003060155T	1
2	Front Case Assy	000002060180	1
3	Guide Louver Sub-assy 1	000136060056	1
4	Guide Louver Sub-assy 2	000136060057	1
5	Plug Pin	200033060002	2
6	Left Axile Bush	10512037	2
7	Rear Case	200001060033	1
8	Cross Flow Fan	103001060017	1
9	Ring of Bearing	26152022	1
10	O-Gasket sub-assy of Bearing	76512051	1
11	Evaporator Support	200025060013	1
12	Evaporator Assy	011001060868	1
13	Fan Motor	15012145	1
14	Motor Press Plate	200020060007	1
15	Wall Mounting Frame Sub-assy	012043060008	1
16	Electric Box Assy	209068060004	1
17	Connecting pipe clamp	200017060004	1
18	Rubber Plug (Water Tray)	76712012	1
19	Supporter	200114060044	1
20	Electric Box	200013060061	1
21	Main Board	300002061081	1
22	Jumper	4202021920	1
23	Stepping Motor	1521210710	1
24	Stepping Motor	1521200602	1
25	Crank	200023060004	2
26	Drainage Hose	05230014	1
27	Filter Sub-Assy	111001060142	1
28	Screw Cover	200005060017	2
29	Electric Box Cover	200082060050	1
30	Remote Controller	305001060059	1
31	Connecting Cable	400205401	0
32	Connecting Cable	4002053603	0
33	Power Cord	4002048715	1
34	Temperature Sensor	3900031302	1
35	Plasmacluster Ion	430001060002	1

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NO.	Description	Part Code		Qty
		GWH24AGD-K3NNA1A/I	GWH24AGD-K3NNA1A/I	
	Product Code	CA385N00900	CA385N00901	
1	Front Panel	000003060384	200003060155T	1
2	Front Case Assy	000002060180	000002060180	1
3	Guide Louver Sub-assy 1	000136060056	000136060056	1
4	Guide Louver Sub-assy 2	000136060057	000136060057	1
5	Plug Pin	200033060002	200033060002	2
6	Left Axile Bush	10512037	10512037	2
7	Rear Case	200001060033	20000106003301	1
8	Cross Flow Fan	103001060017	103001060017	1
9	Ring of Bearing	26152022	26152022	1
10	O-Gasket sub-assy of Bearing	76512051	76512051	1
11	Evaporator Support	200025060013	200025060013	1
12	Evaporator Assy	011001060868	011001060868	1
13	Fan Motor	15012145	15012145	1
14	Motor Press Plate	200020060007	200020060007	1
15	Wall Mounting Frame Sub-assy	012043060008	012043060008	1
16	Electric Box Assy	100002068650	209068060004	1
17	Connecting pipe clamp	200017060004	200017060004	1
18	Rubber Plug (Water Tray)	76712012	76712012	1
19	Supporter	200114060044	200114060044	1
20	Electric Box	200013060061	200013060061	1
21	Main Board	300002061295	300002061081	1
22	Jumper	4202021918	4202021920	1
23	Stepping Motor	1521210710	1521210710	1
24	Stepping Motor	1521200602	1521200602	1
25	Crank	200023060004	200023060004	2
26	Drainage Hose	05230014	05230014	1
27	Filter Sub-Assy	111001060142	111001060142	1
28	Screw Cover	200005060017	200005060017	2
29	Electric Box Cover	200082060050	200082060050	1
30	Remote Controller	305001060059	305001060059	1
31	Connecting Cable	40020538	400205401	0
32	Connecting Cable	40020538	4002053603	0
33	Power Cord	4002048715	4002048715	1
34	Temperature Sensor	3900031302	3900031302	1
35	Plasmacluster Ion	430001060002	/	1

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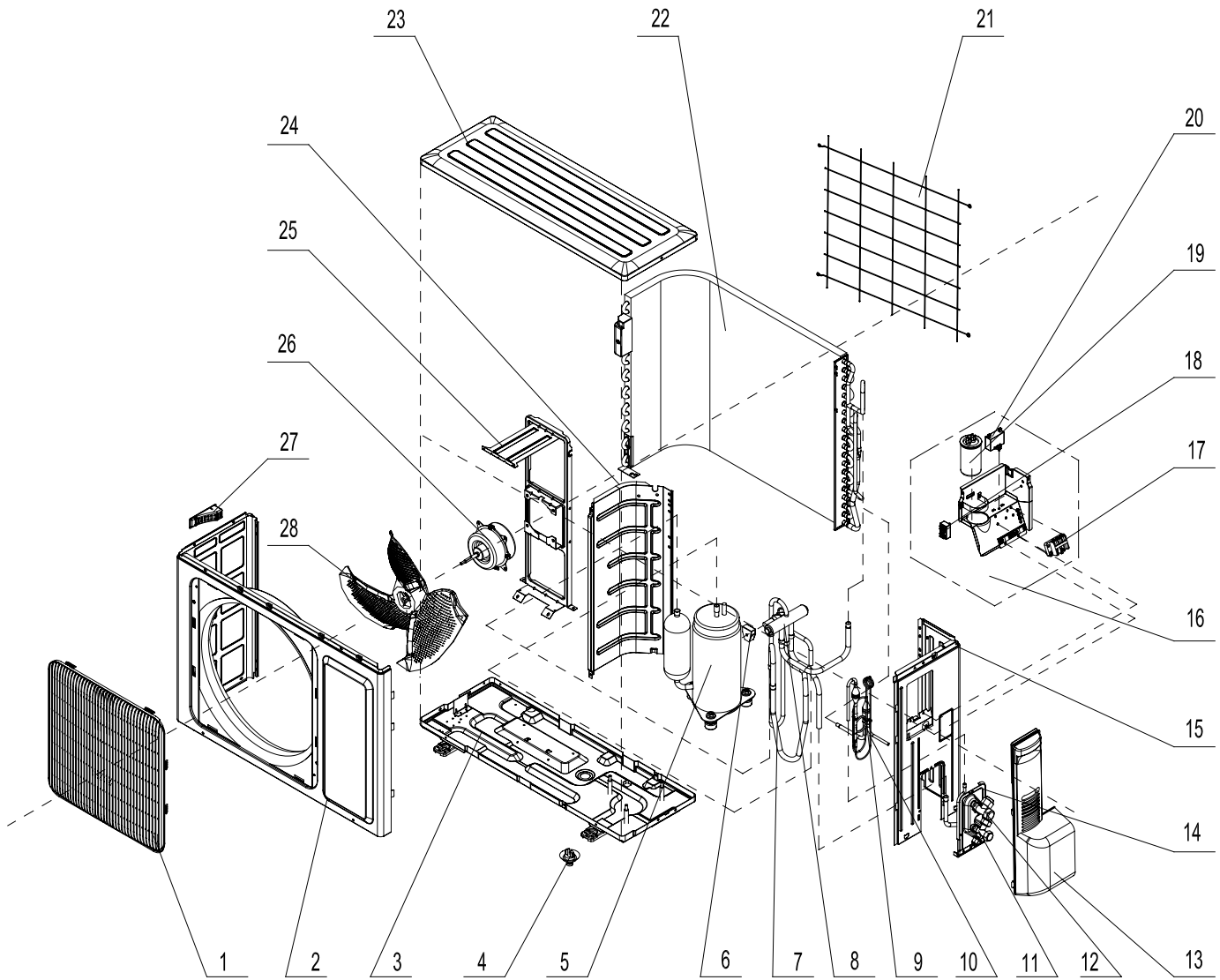
NO.	Description	Part Code		Qty
		GWH07AGA-K3NNA1B/O	GWH09AGB-K3NNA1B/O	
		Product Code	Product Code	
		CA385W00300	CA385W00200	
1	Front Grill	22263002	22263002	1
2	Front Panel	01533255P	01533255P	1
3	Fan Motor	1501315604	1501315604	1
4	Chassis Sub-assy	017000000107P	0280312302P	1
5	Drainage Connector	06123401	06123401	1
6	Compressor and Fittings	009001060526	009001000101	1
7	Magnet Coil	4300040047	4300040047	1
8	4-Way Valve	430004022	430004022	1
9	4-Way Valve Assy	030152060484	030152000150	1
10	Capillary Sub-assy	030006060684	030006060694	1
11	Right Side Plate Sub-Assy	01303243	01303243	1
12	Valve	07100005	07100005	1
13	Valve	07133727	07133727	1
14	Big Handle	2623304202	2623304202	1
15	Valve Support	01713041	01713041	1
16	Terminal Board	420001000003	420001000003	1
17	Capacitor CBB61S	3301074701	3301074701	1
18	Capacitor CBB65	3300008102	33000081	1
19	Electric Box Assy	100002064976	100002067112	1
20	Rear Grill	01473041	01473041	1
21	Condenser Assy	011002060951	011002060965	1
22	Top Cover Plate	01253045P	01253045P	1
23	Motor Support Sub-Assy	01703204	01703204	1
24	Clapboard Sub-Assy	01233207	01233207	1
25	Axial Flow Fan	10333002	10333002	1
26	Small Handle	26233100	26233100	1

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NO.	Description	Part Code	Qty
		GWH09AGA-K3NNA1A/O	
		Product Code	
		CA385W01000	
1	Front Grill	22413030	1
2	Front Panel	01533255P	1
3	Fan Motor	1501315604	1
4	Chassis Sub-assy	017000000112P	1
5	Drainage Connector	06123401	1
6	Compressor and Fittings	009001000025	1
7	Magnet Coil	4300040047	1
8	4-Way Valve	430004022	1
9	4-Way Valve Assy	030152000203	1
10	Capillary Sub-assy	030006000277	1
11	Right Side Plate Sub-Assy	01303243	1
12	Valve	07100005	1
13	Valve	07133727	1
14	Big Handle	2623304202	1
15	Valve Support	01713041	1
16	Terminal Board	420001000003	1
17	Capacitor CBB61S	3301074701	1
18	Capacitor CBB65	33000081	1
19	Electric Box Assy	100002000477	1
20	Rear Grill	01473041	1
21	Condenser Assy	011002000294	1
22	Top Cover Plate	01253045P	1
23	Motor Support Sub-Assy	01703204	1
24	Clapboard Sub-Assy	01233207	1
25	Axial Flow Fan	10333002	1
26	Small Handle	26233100	1

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12K

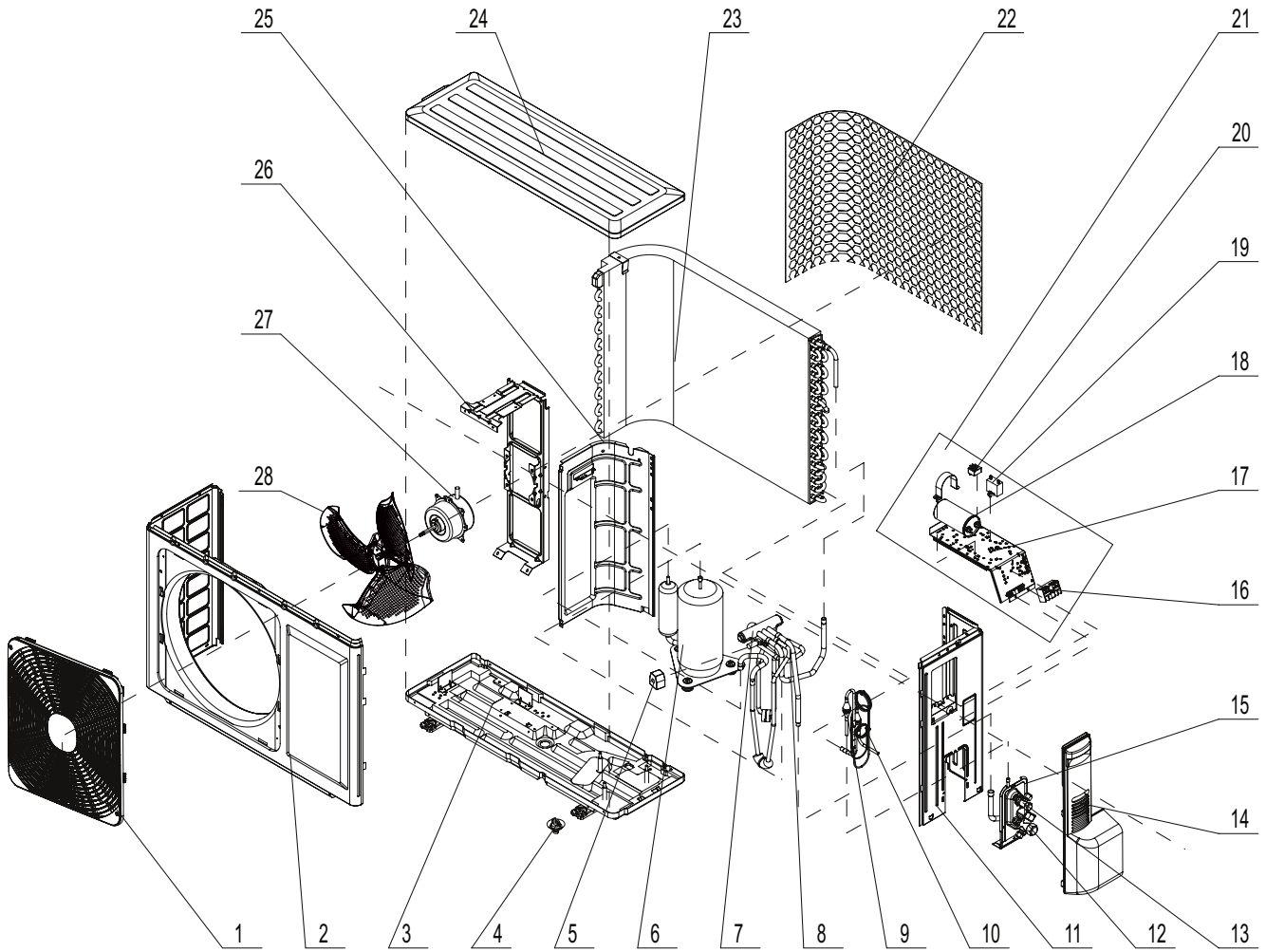


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NO.	Description	Part Code		Qty
		GWH12AGB-K3NNA1A/O	GWH12AGC-K3NNA1B/O	
	Product code	CA385W01100	CA385W00400	
1	Front grill	22413027	22413433	1
2	Front Panel	01533034P	01533034P	1
3	Chassis Sub-assy	01700000168P	0170000023403P	1
4	Drainage Joint	06123401	06123401	1
5	Compressor and fittings	009001000024	009001000184	1
6	Magnet Coil	4300040047	4300040047	1
7	4-way Valve Assy	030152060531	030152060335	1
8	4-way Valve	430004022	430004022	1
9	StrainerA	07210022	07210022	1
10	Capillary Sub-Assy	030006000259	030006060634	1
11	Valve	0713386901	07100006	1
12	Valve	07100003	07100003	1
13	Big Handle	262334332	262334332	1
14	Valve Support	0170308901P	0170308901P	1
15	Right Side Plate Sub-Assy	0130200404	0130200404	1
16	Electric Box Assy	100002000615	100002067763	1
17	Terminal Board	420001000003	420001000003	1
18	Terminal Board	/	/	/
19	Capacitor CBB65	3300008101	3300008101	1
20	Capacitor CBB61	3301074710	3301074710	1
21	Rear grill	01473009	01473009	1
22	Condenser Assy	011002000277	011002060875	1
23	Top Cover Sub-Assy	000051060085	000051060085	1
24	Clapboard Sub-Assy	017021000154	017021000154	1
25	Motor Support	01703104	01703104	1
26	Fan Motor	150130676	150130676	1
27	Small Handle	26233100	26233100	1
28	Axial Flow Fan	10333427	10333427	1

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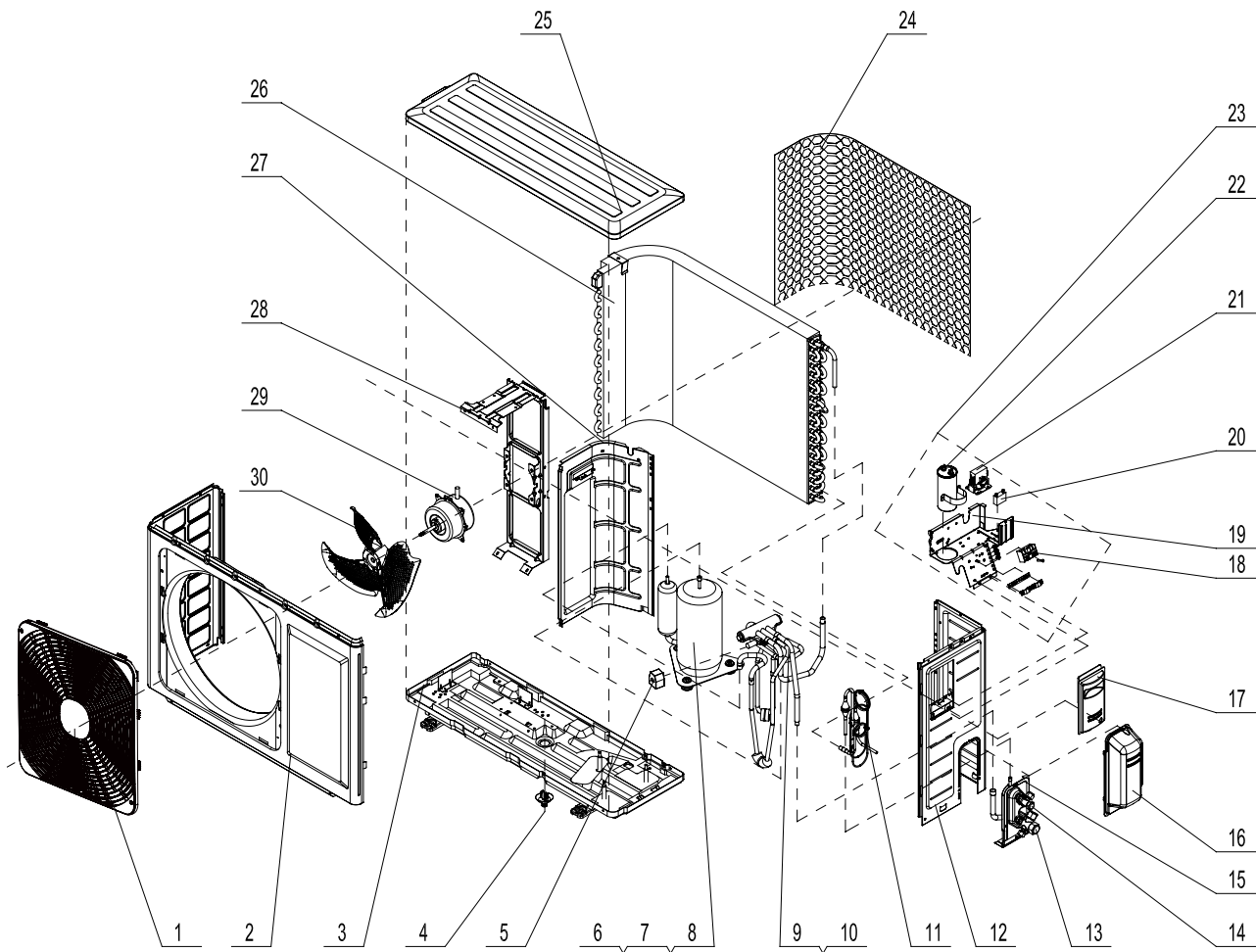
GWH18AGC-K3NNA1A/O



NO.	Description	Part Code	Qty
		GWH18AGC-K3NNA1A/O	
		Product Code	
		CA385W00800	
1	Front Grill	22413049	1
2	Front Panel	0153303204P	1
3	Chassis Sub-assy	017000000042P	1
4	Drainage Connector	06123401	1
5	Magnet Coil	4300040047	1
6	Compressor and Fttings	009001000074	1
7	4-way Valve	430004032	1
8	4-way Valve Assy	030152060525	1
9	StrainerA	07210022	1
10	Capillary Sub-Assy	030006060895	1
11	Right Side Plate Assy	0130200404	1
12	Valve	07100006	1
13	Valve	07100003	1
14	Big Handle	262334332	1
15	Valve Support	01713041	1
16	Terminal Board	420001000003	1
17	Electric Box Sub-Assy	0261308902	1
18	Capacitor CBB65	3300008104	1
19	Capacitor CBB61	3301074710	1
20	Terminal Board	/	/
21	Electric Box Assy	100002068653	1
22	Rear grill	01473057	1
23	Condenser Assy	011002061277	1
24	Top Cover Plate	00005106009401	1
25	Clapboard Sub-Assy	017021000152	1
26	Motor Support Sub-Assy	0170310401	1
27	Fan Motor	150130676	1
28	Axial Flow Fan	10333427	1

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GWH18AGD-K3NNA1B/O

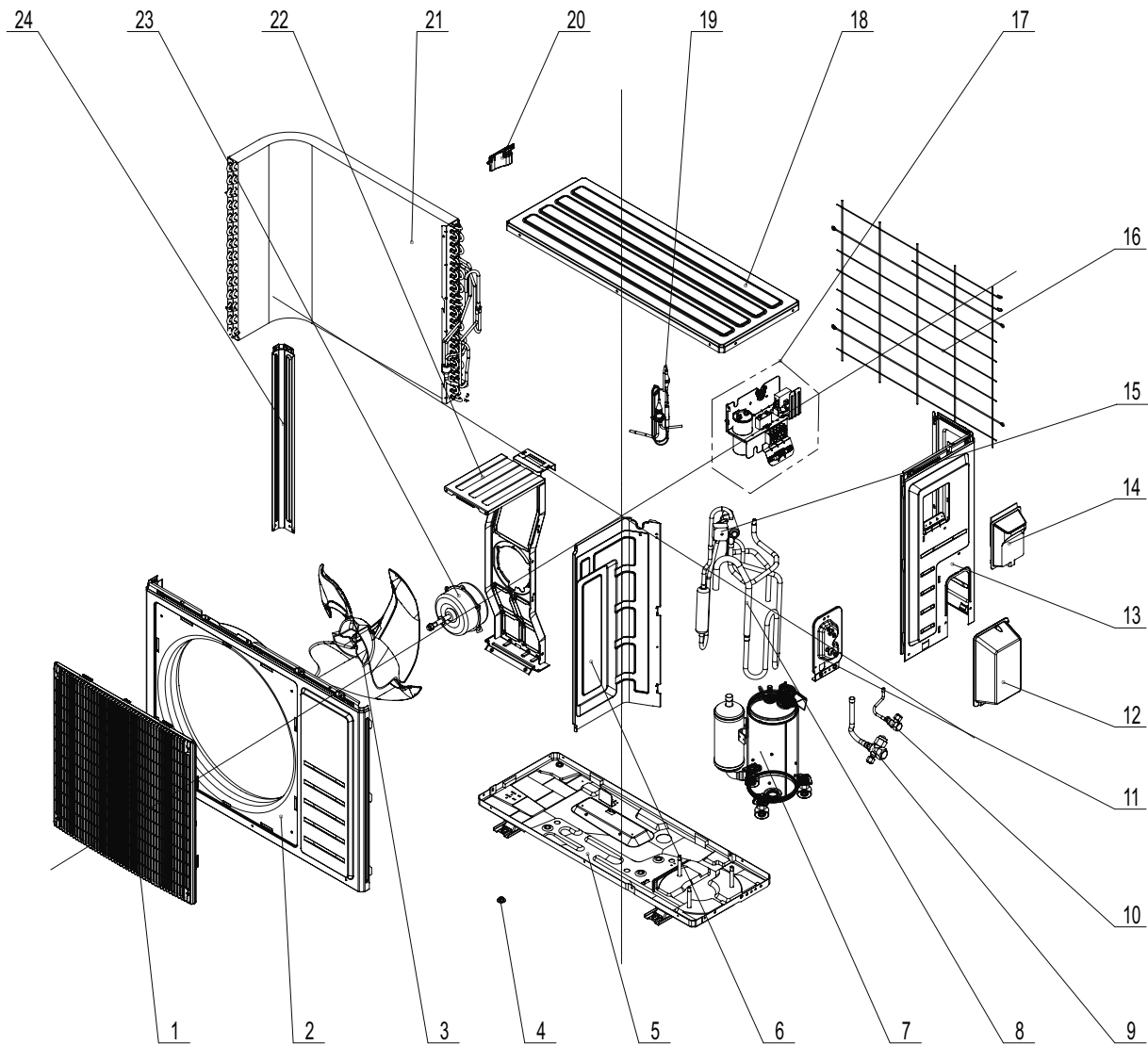


The component is only for reference; please refer to the actual product.

NO.	Description	Part Code	Qty
		GWH18AGD-K3NNA1B/O	
Product Code		CA385W00100	
1	Front grill	22413050	1
2	Front Panel	01433034P	1
3	Chassis Sub-assy	017000060253P	1
4	Drainage Connector	26113009	1
5	Magnet Coil	4300040047	1
6	Compressor and fittings	009001060172	1
7	Compressor Gasket	009012000004	3
8	Overload Protector	/	/
9	4-way Valve Assy	030152060231	1
10	4-way Valve	430004032	1
11	Capillary Sub-Assy	030006060698	1
12	Right Side Plate	0130324403P	1
13	Valve	0713506703	1
14	Valve	0713506803	1
15	Valve Support Sub-Assy	01713115P	1
16	Valve Cover	22243005	1
17	Big Handle	2623343106	1
18	Terminal Board	420001000003	1
19	Electric Box	01413186	1
20	Capacitor CBB61S	3301074704	1
21	Relay	/	/
22	Capacitor CBB65	3300008104	1
23	Electric Box Assy	100002067739	1
24	Rear grill	01473060	1
25	Top Cover Plate	000051060060	1
26	Condenser Assy	011002060970	1
27	Clapboard Sub-Assy	017021060228	1
28	Motor Support Sub-Assy	0170339802	1
29	Fan Motor	15013075	1
30	Axial Flow Fan	10333016	1

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24K



The component is only for reference; please refer to the actual product.

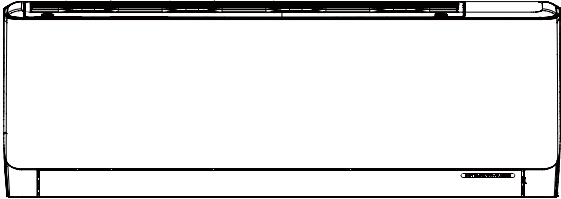
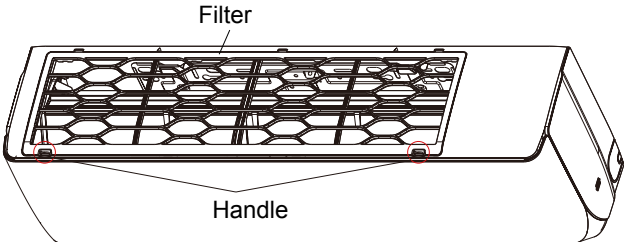
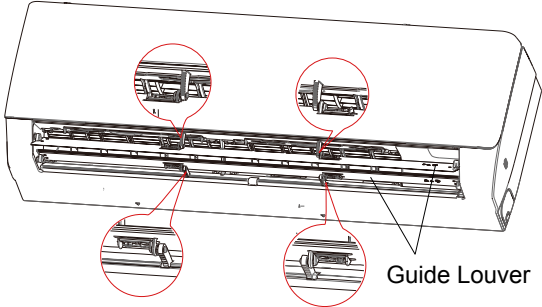
NO.	Description	Part Code	Qty
		GWH24AGD-K3NNA1A/O	
	Product Code	CA385W00900	
1	Front Grill	200057000007	1
2	Cabinet	01433072	1
3	Axial Flow Fan	10333023	1
4	Nut with Washer	70310014	3
5	Chassis Sub-assy	017000060543P	1
6	Clapboard Sub-Assy	0001840000601	1
7	Compressor and Fittings	009001060040	1
8	4-Way Valve Assy	030152060518	1
9	Cut off Valve Assy	030164000038	1
10	Cut off Valve Assy	030164000037	1
11	Valve Support Sub-Assy	017104000002P	1
12	Valve Cover	22243015	1
13	Right Side Plate	000081060031	1
14	Handle	26233013	1
15	Magnet Coil	4300040047	1
16	Rear Grill	016001000028	1
17	Electric Box Assy	100002068663	1
18	Coping	01253105	1
19	Capillary Sub-assy	030006060837	1
20	Handle	26233014	1
21	Condenser Assy	011002061171	1
22	Motor Support Sub-Assy	00004606005802	1
23	Fan Motor	15015068	1
24	Left Side Plate	01303025	1

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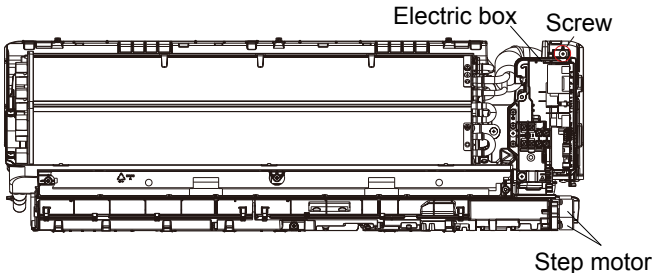
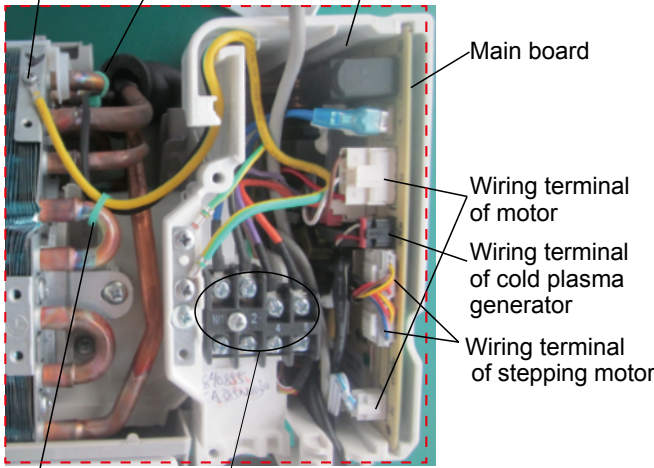
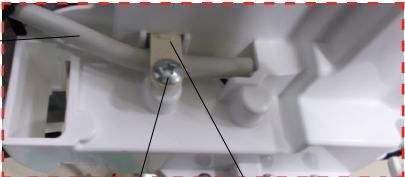
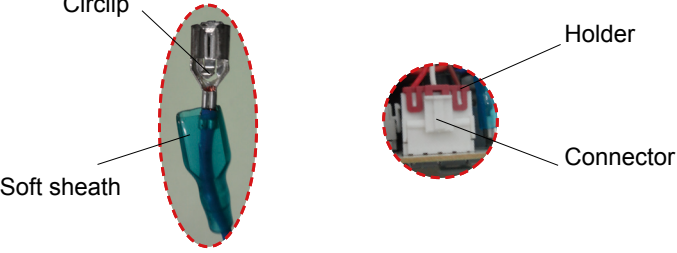
11. Removal Procedure

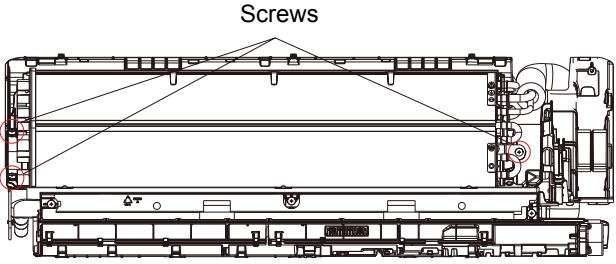
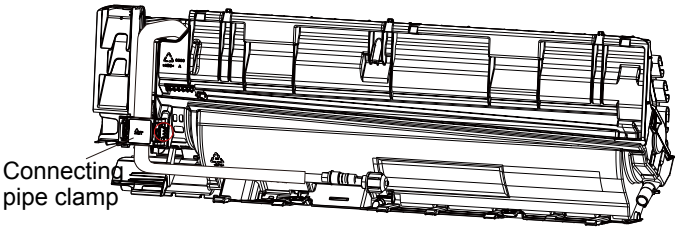
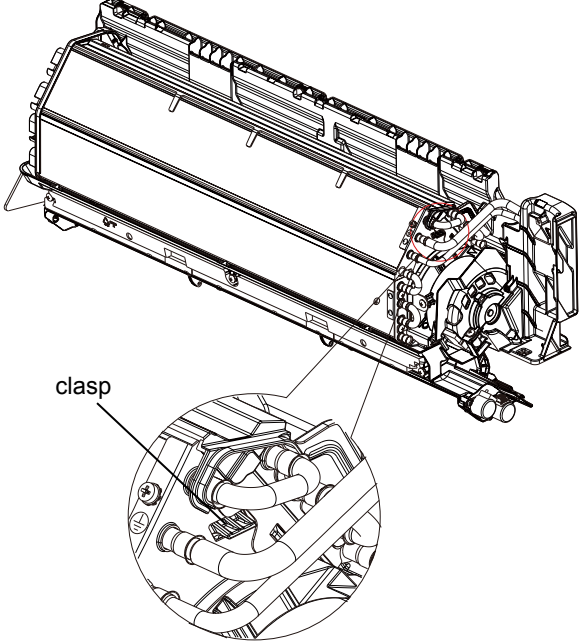
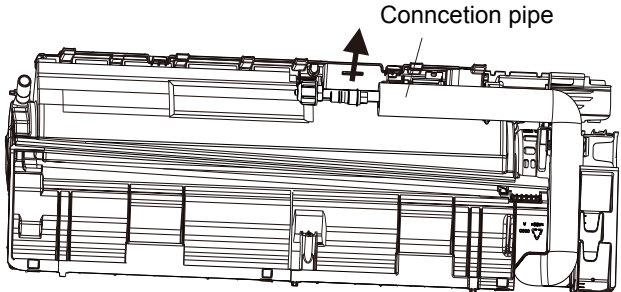
⚠ Caution: discharge the refrigerant completely before removal.

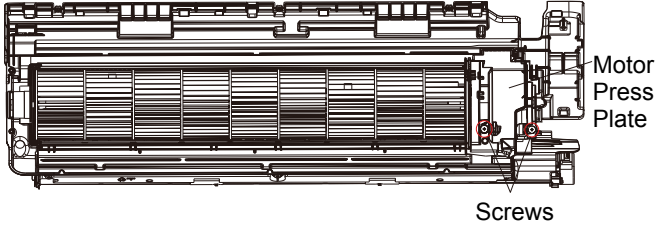
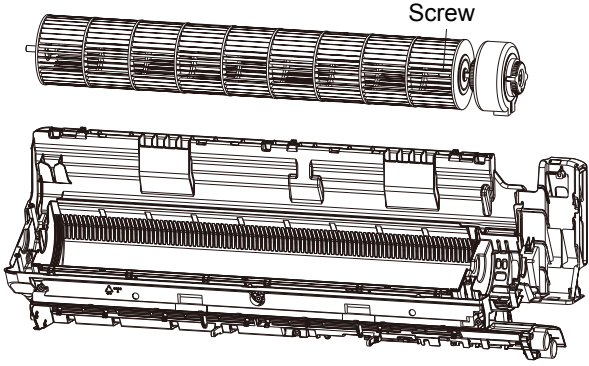
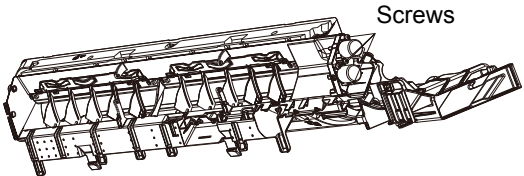
11.1 Removal Procedure of Indoor Unit

Step	Procedure	Procedure
Before disassemble	Turn off the air conditioner and disconnect the power before disassemble the air conditioner.	
1. Remove filter	Hold the handle on the filter, pull it upwards to let the clasp at the top part of the filter loose, push it forwards and then the filter can be pulled out.	
2. Remove upper and lower guide louver	Push out the plug pin on upper and lower guide louver, Bend the guide louver with hand and then separate the guide louver from the crank shaft of step motor to remove it.	

Step	Procedure	Diagram
3.Remove panel	<p>Open the front panel; separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel.</p> <p>Note: The display of some models is fixed on the panel; unscrew the screws fixing the display on the panel before removing the panel.</p>	
4.Remove electric box cover 2	<p>Remove the screws on the electric box cover 2 to remove the electric box cover 2.</p>	
5.Remove front case sub-assy	<p>a Remove the screws fixing front case.</p> <p>Note: (1) Open the screw caps before removing the screws around the air outlet. (2) The quantity of screws fixing the front case sub-assy is different for different models.</p> <p>b Loosen the clasps at left, middle and right sides of front case. Lift the front case sub-assy upwards to remove it.</p>	

Step	Procedure
6.Remove electric box assy	
a	<p>Remove the screw fixing electric box assy.</p> 
b	<p>① Cut off the wire binder and pull out the indoor tube temperature sensor. ② Screw off one grounding screw. ③ Remove the wiring terminals of motor, cold plasma generator and stepping motor. ④ Remove the electric box assy. ⑤ Screw off the screws that are locking each.</p> 
c	<p>Rotate the electric box assy. Twist off the screws that are locking the wire clip and loosen the power cord. Remove the wiring terminal of power cord. Lift up the main board and take it off.</p> <p>Instruction:Some wiring terminal of this products is with lock catch and other devices.The pulling method is as below: 1.Remove the soft sheath for some terminals at first, hold the circlip and then pull out the terminals, 2.Pull out the holder for some terminals at first(holder is not available for some wiring terminal).hold the connector and then pull the terminal.</p>  

Step	Procedure	
5.Remove panel		
a	Remove 3 screws fixing evaporator Assy.	 <p style="text-align: center;">Screws</p>
b	At the back of the unit, Loosen the clasp of the connection pipe clamp and then remove the connection pipe clamp.	 <p style="text-align: center;">Connecting pipe clamp</p>
c	First remove the left side of evaporator from the groove of bottom shell and then remove the right side from the clasp on the bottom shell.	 <p style="text-align: center;">clasp</p>
d	Adjust the position of connection pipe on evaporator slightly and then lift the evaporator upwards to remove it.	 <p style="text-align: center;">Conncetion pipe</p>

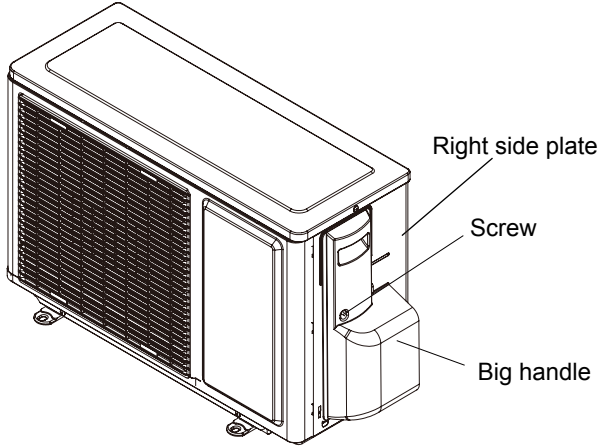
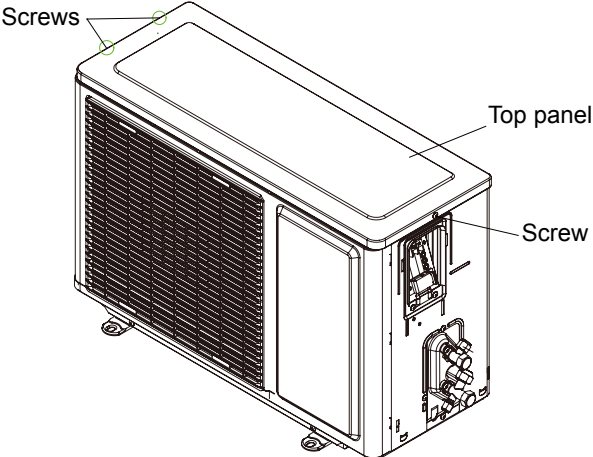
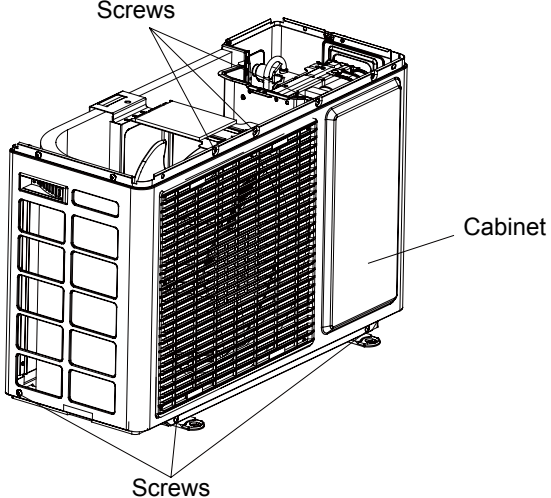
Step	Procedure	
8. Remove motor and cross flow fan		
a	Remove 3 screws fixing motor clamp and then remove the motor clamp.	
b	Loose the screws (2-3 circles) used for fixing the cross flow fan, pull right to pull out the motor.	
9. Remove swing motor		
	Screw off the screws that are locking the swing motor and take the motor off.	

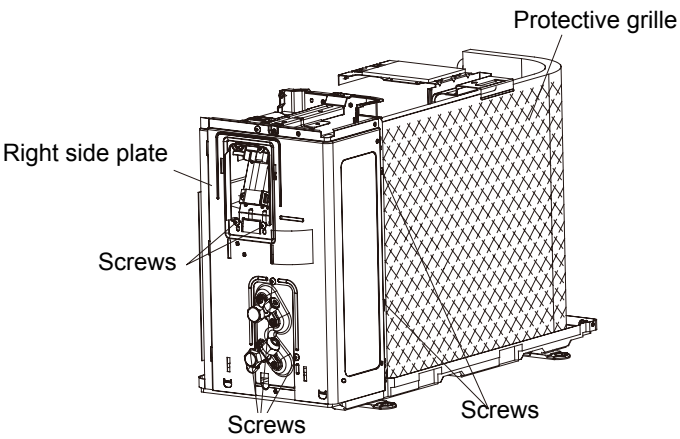
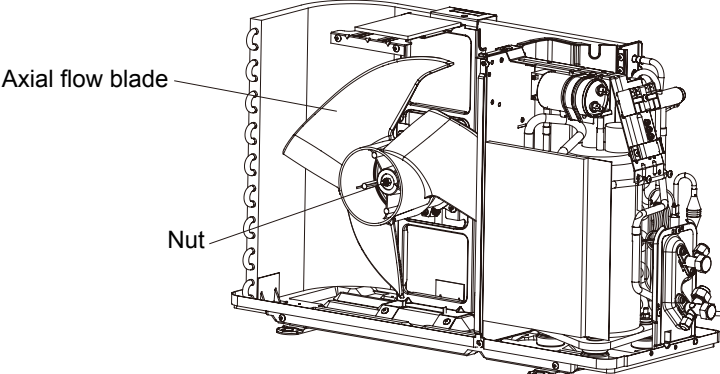
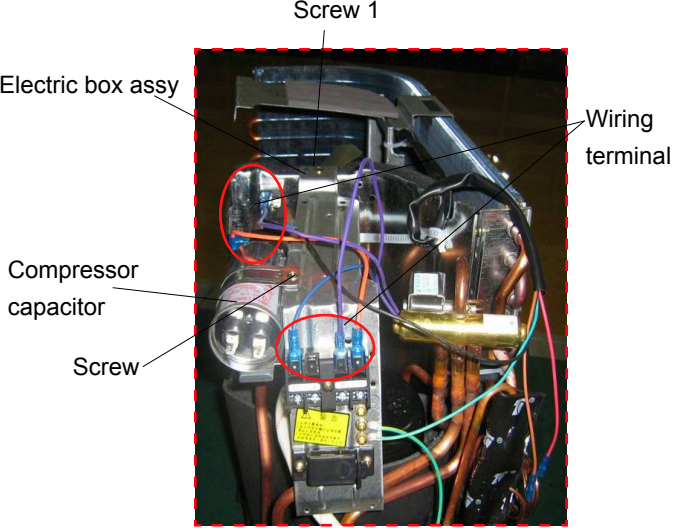
11.2 Removal Procedure of Outdoor Unit

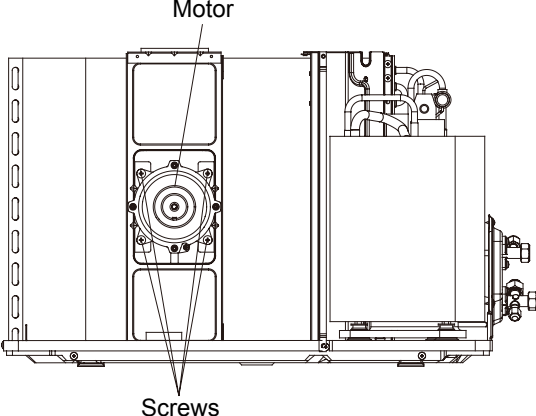
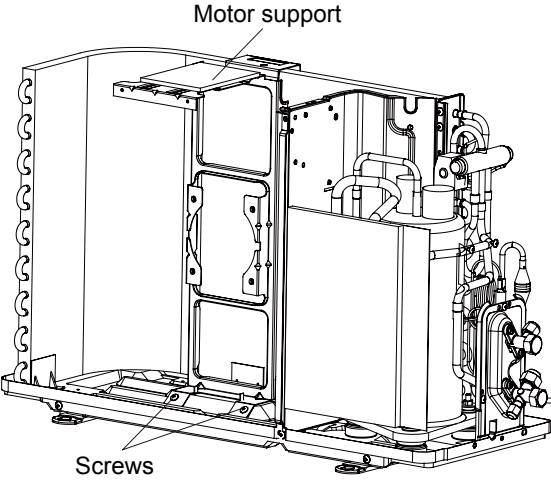
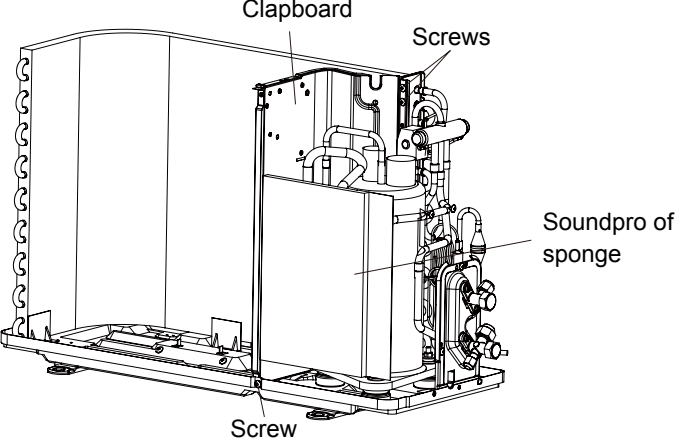


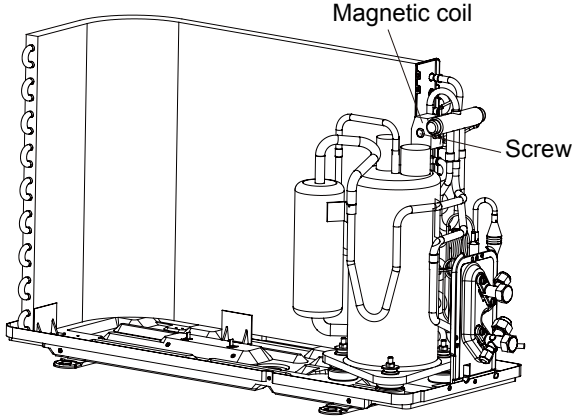
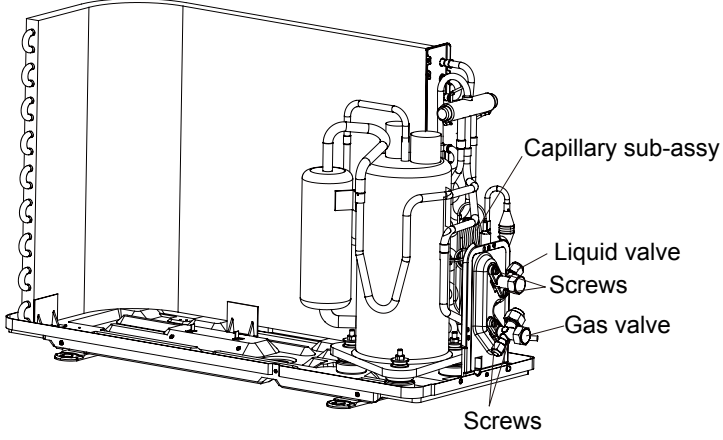
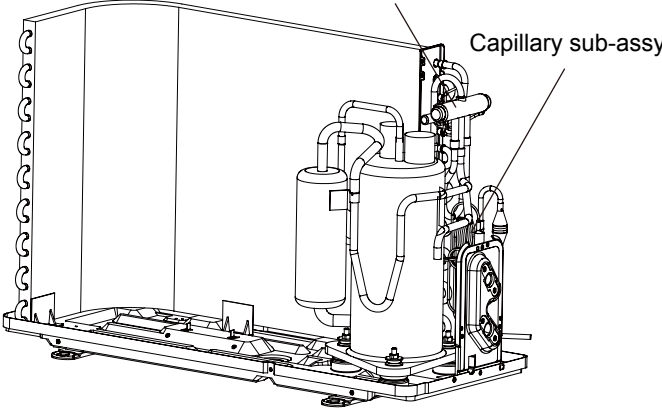
Caution: discharge the refrigerant completely before removal.

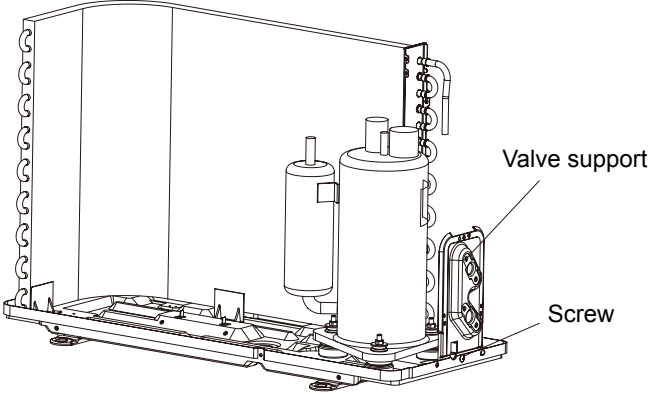
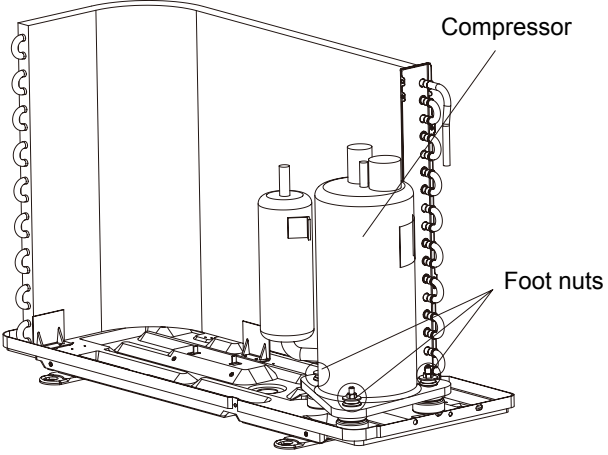
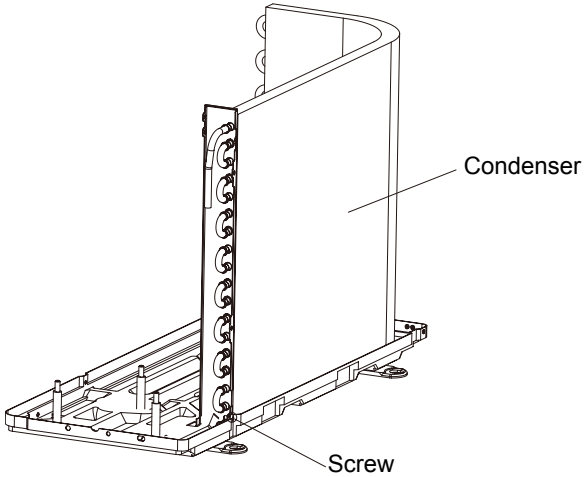
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Step	Procedure	
1. Remove big handle	Remove the screw fixing big handle; slide out the big handle upwards to make the clasp of big handle separate from the groove of right side plate, and then remove the big handle.	 <p>Right side plate Screw Big handle</p>
2. Remove top panel	Remove the screws fixing top panel and then remove the top panel.	 <p>Screws Top panel Screw</p>
3. Remove cabinet	Remove the cabinet by screwing off the locking screws on cabinet.	 <p>Screws Cabinet Screws</p>

Step	Procedure
<p>4. Remove right side plate</p>	<p>Remove the screws fixing right side plate and then remove the right side plate.</p> <p>Cut off the wire binder fixing the protective grille and then remove the protective grille.</p> 
<p>5. Remove axial flow blade</p>	<p>Remove the nut fixing axial flow blade and then remove the axial flow blade.</p> 
<p>6. Remove electric box assy</p>	<p>Remove the wiring terminals on electric box. Screw off screw 1 fixing the electric box assy and then remove the electric box assy. Screw off the screws fixing compressor capacitor. Then remove the compressor capacitor.</p> 

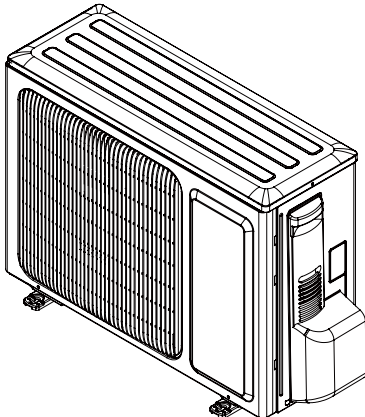
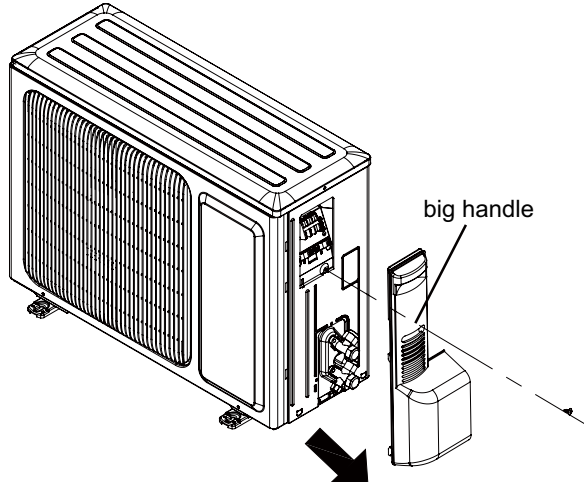
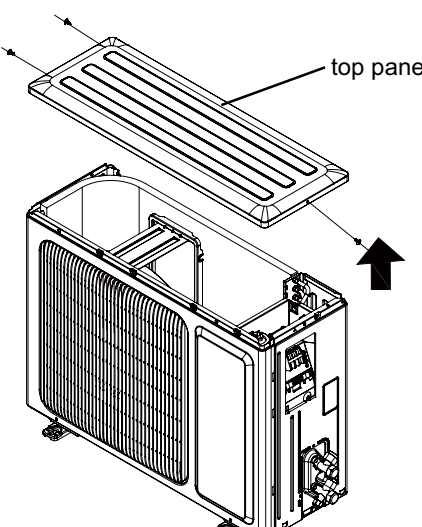
Step	Procedure
<p>7. Remove motor</p>	<p>Remove the screws fixing motor and then remove the motor.</p> 
<p>8. Remove motor support</p>	<p>Remove the screws fixing motor support and then remove the motor support.</p> 
<p>9. Remove clapboard and soundproof sponge</p>	<p>Remove the screws fixing clapboard and then remove the clapboard.</p> <p>Remove the soundproof sponge wrapping the compressor.(Some models are without soundproof sponge)</p> 

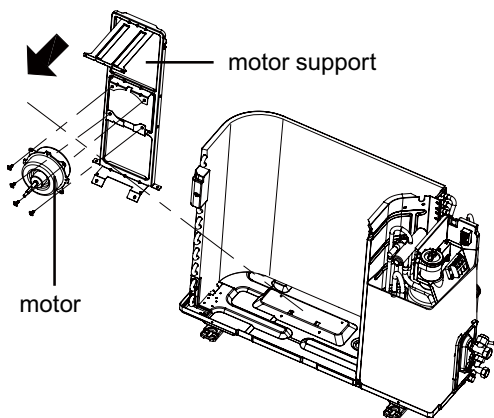
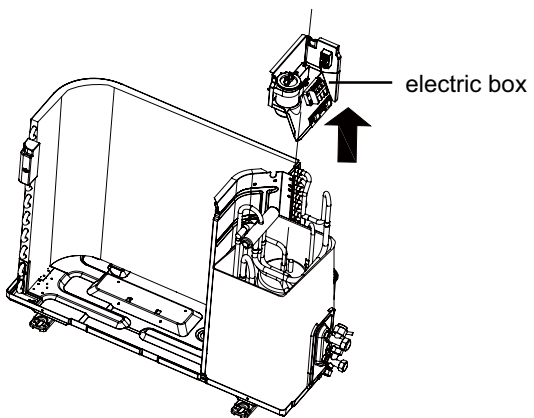
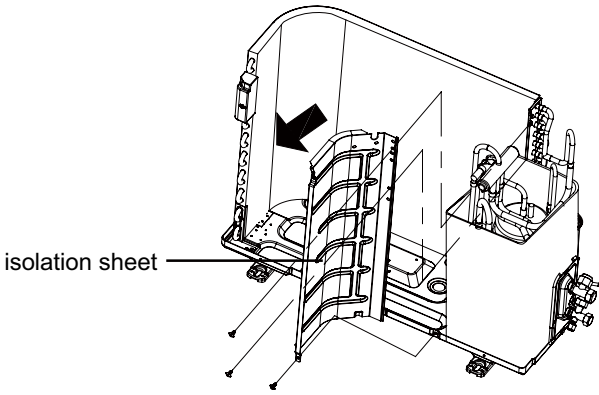
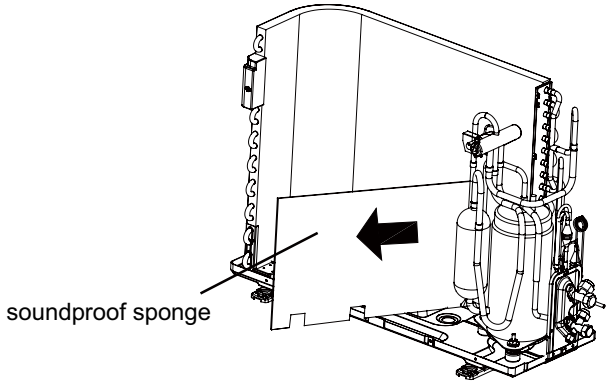
Step	Procedure
<p>10. Remove magnetic coil</p>	<p>Remove one screw on magnetic coil, and then remove the magnetic coil.</p>  <p>The diagram shows a side view of the magnetic coil assembly. A line points to a screw on the top of the coil, labeled 'Screw'. Another line points to the coil itself, labeled 'Magnetic coil'.</p>
<p>11. Remove gas valve and liquid valve</p>	<p>Cutting the pipeline of welding the gas valve and the liquid valve, Remove the screws fixing the valves, remove the gas valve and the liquid valve.</p> <p>Note: When cutting weld, wrap the valve with wet cloth completely to avoid damaging the valve due to high temperature.</p>  <p>The diagram shows the gas and liquid valve assembly. Labels include 'Capillary sub-assy' pointing to the top pipe, 'Liquid valve' pointing to the upper valve, 'Gas valve' pointing to the lower valve, and 'Screws' pointing to the mounting screws on the base.</p>
<p>12. Remove 4-way valve assy and capillary sub-assy</p>	<p>Cut off the welded pipe of the 4-way valve component to the condenser assy and compressor, and then remove the 4-way valve.</p> <p>Note: When cutting weld, wrap the 4-way valve with wet cloth completely to avoid damaging the valve due to high temperature.</p> <p>Cut off the capillary welded tube to the condenser and remove the capillary.</p>  <p>The diagram shows the 4-way valve and capillary sub-assembly. Labels include '4-way valve assy' pointing to the valve body and 'Capillary sub-assy' pointing to the tube connecting it to the condenser.</p>

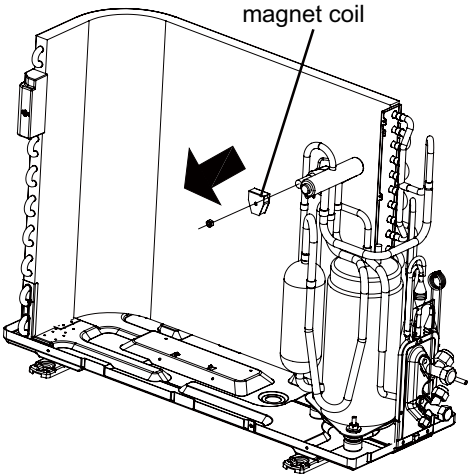
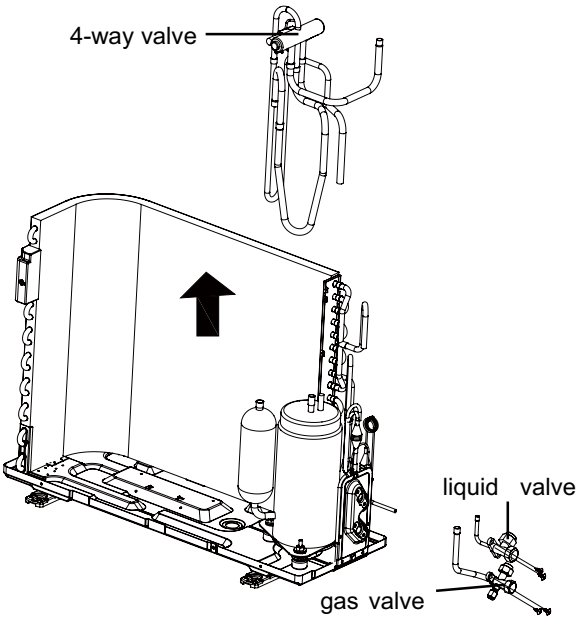
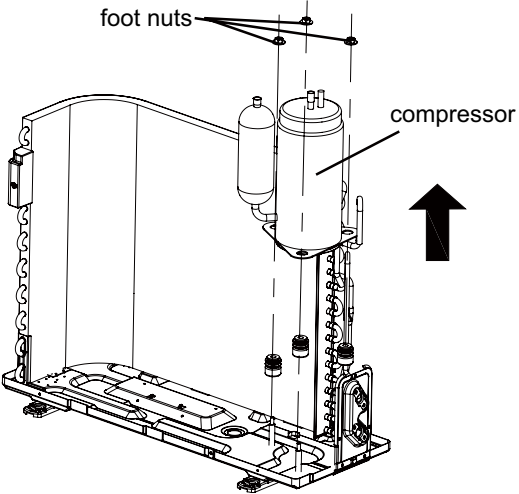
Step	Procedure
13. Remove valve support	<p>Screw off the screw fixing the valve support and then remove the valve support.</p>  A line drawing of a refrigeration unit with its front panel removed. The internal components, including a compressor and condenser, are visible. A bracket labeled 'Valve support' is attached to the side of the unit, and a screw is shown passing through it into the base. Labels 'Valve support' and 'Screw' point to these specific parts.
14. Remove compressor	<p>Remove 3 foot nuts on compressor, and then remove the compressor.</p> <p>Note: Protect the ports of discharge pipe and suction pipe to avoid foreign objects to enter it.</p>  A line drawing of a refrigeration unit with its front panel removed. The compressor is the central cylindrical component. Three nuts are shown being removed from the side of the compressor. Labels 'Compressor' and 'Foot nuts' point to these components.
15. Remove condenser	<p>Remove one screw fixing the condenser, then remove the condenser.</p>  A line drawing of a refrigeration unit with its front panel removed. The condenser is the vertical coil on the right side of the unit. A screw is shown being removed from the bottom of the condenser. Labels 'Condenser' and 'Screw' point to these parts.

! Caution: discharge the refrigerant completely before removal.

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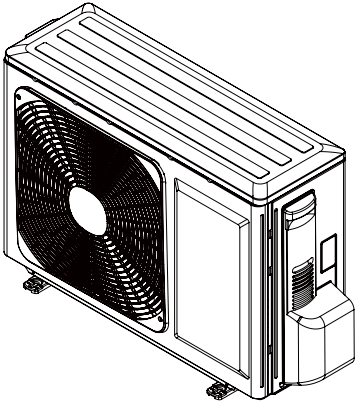
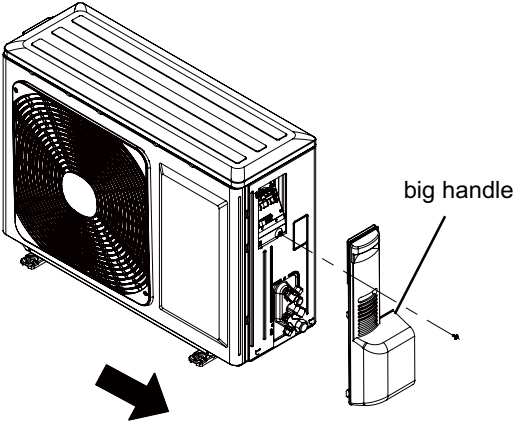
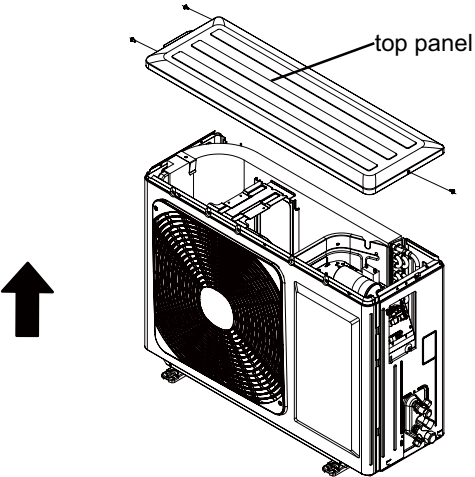
Steps	Procedure
1. Before disassembly	
2. Remove big handle	<p data-bbox="194 982 730 1048">Remove the connection screw fixing the big handle and then remove the handle.</p> 
3. Remove top panel	<p data-bbox="194 1485 730 1572">Remove connection screws connecting the top panel with the front panel and the right side plate, and then remove the top panel.</p> 

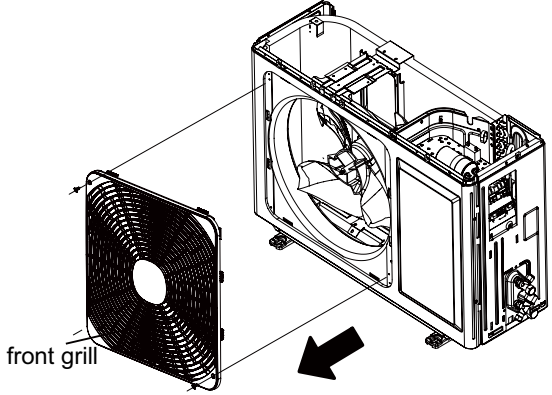
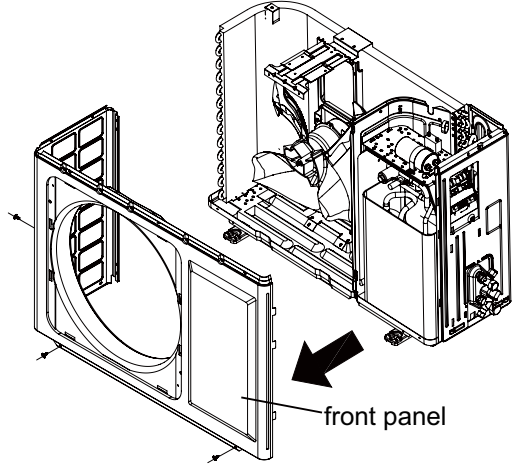
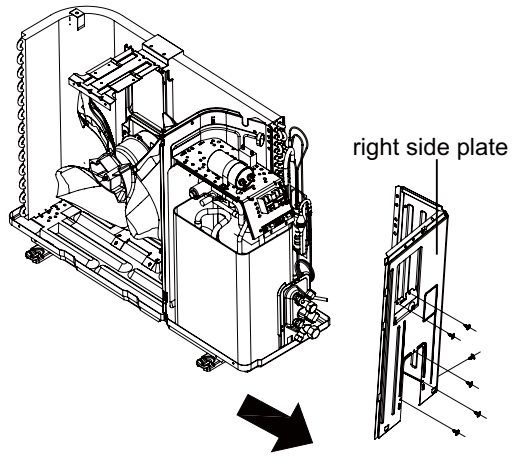
Steps	Procedure
8. Remove motor and motor support	<p>Remove the 4 tapping screws fixing the motor and disconnect the leading wire insert of the motor. Then remove the motor.</p> <p>Remove the 2 tapping screws fixing the motor support and lift the motor support to remove it.</p> 
9. Remove electric box	<p>Remove screws fixing the electric box subassembly; loosen the wire bundle and unplug the wiring terminals. Then lift the electric box to remove it.</p> 
10. Remove isolation sheet	<p>Remove the 3 screws fixing the isolation sheet and then remove the isolation sheet.</p> 
11. Remove soundproof sponge	<p>Remove the soundproof sponge wrapping the compressor.</p> 

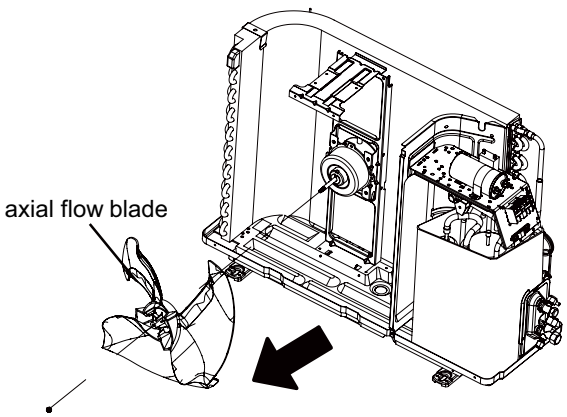
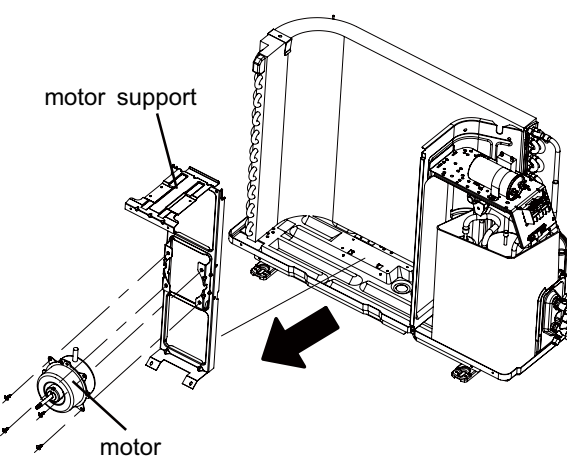
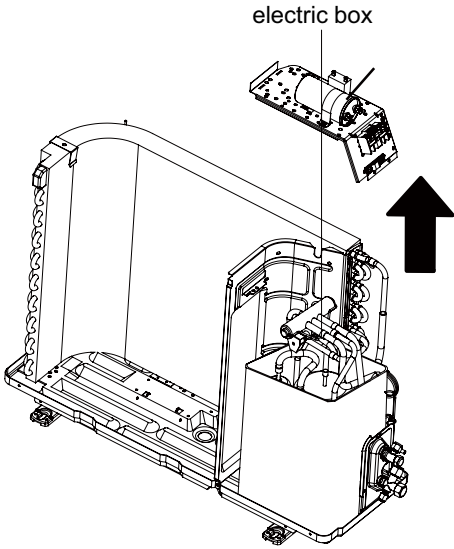
Steps	Procedure
<p>12. Remove magnet coil</p>	<p>Remove the screw fixing the magnet coil and then remove the coil.</p> 
<p>13. Remove valves and 4-way valve subassembly</p>	<p>Cut off the welded pipe of the 4-way valve component to the gas valve, the condenser assembly and compressor, and then remove the 4-way valve.</p> <p>Remove the screws fixing the valves. Cut the pipeline of welding the gas valve and the liquid valve, and remove the gas valve and the liquid valve.</p> <p>Note: When cutting weld, wrap the valve with wet cloth completely to avoid damaging the valve due to high temperature.</p> 
<p>14. Remove compressor</p>	<p>Remove the foot nuts on the compressor and then remove the compressor.</p> 

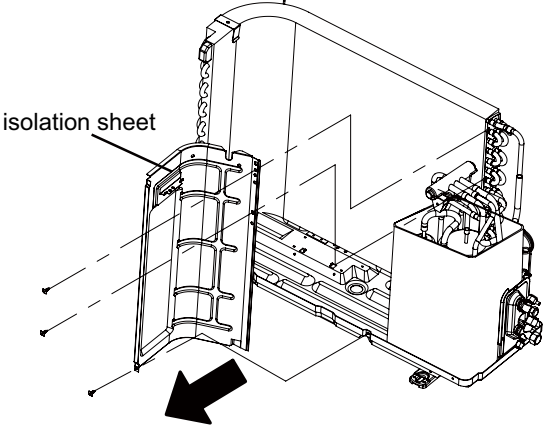
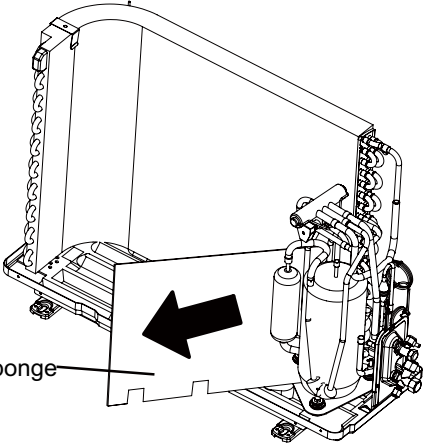
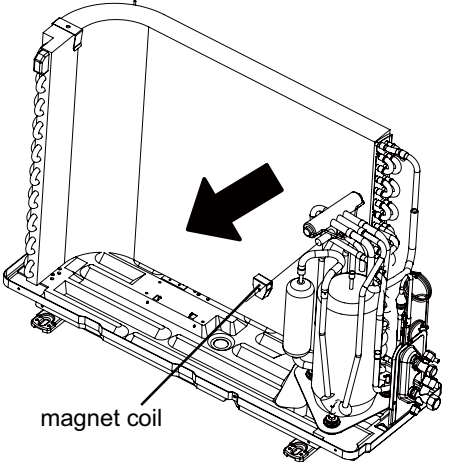
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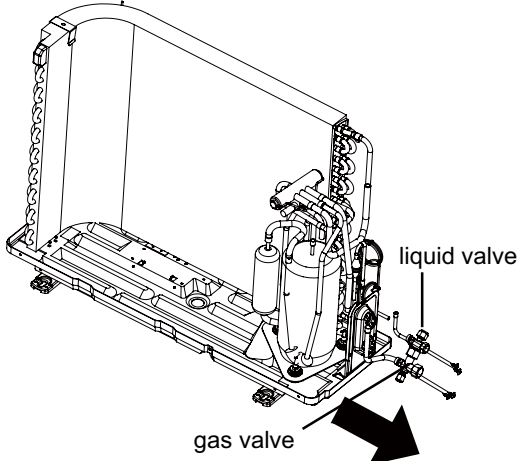
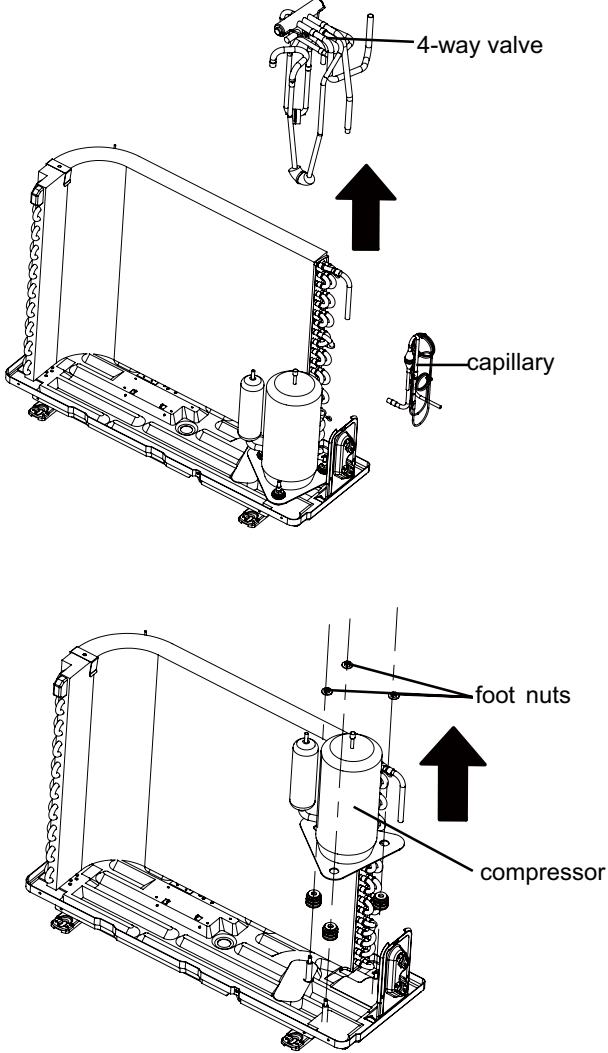
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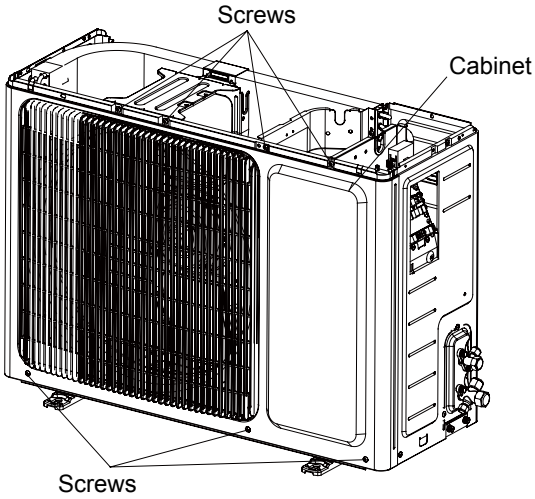
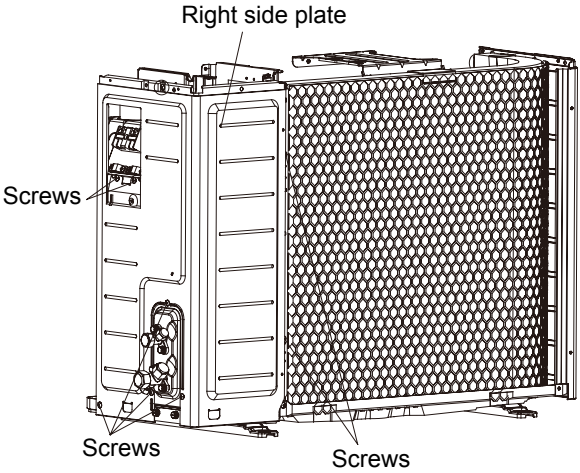
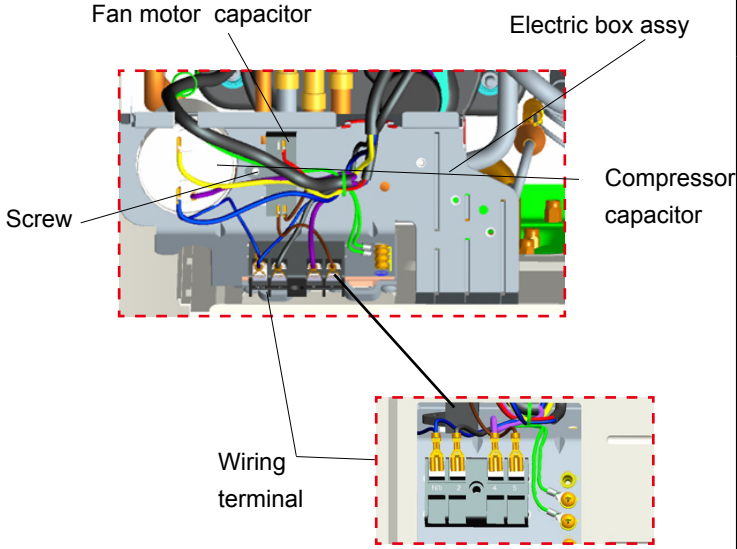
Steps	Procedure
<p>1. Before disassembly</p>	
<p>2. Remove big handle</p>	<p>Remove the connection screw fixing the big handle and then remove the handle.</p> 
<p>3. Remove top cover plate</p>	<p>Remove connection screws connecting the top panel with the front panel and the right side plate, and then remove the top panel.</p> 

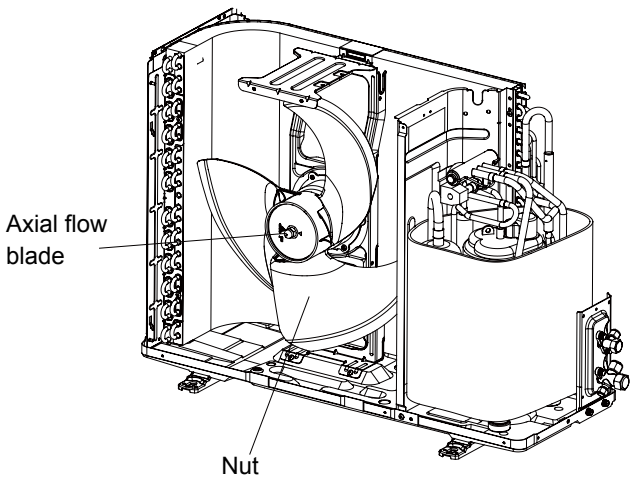
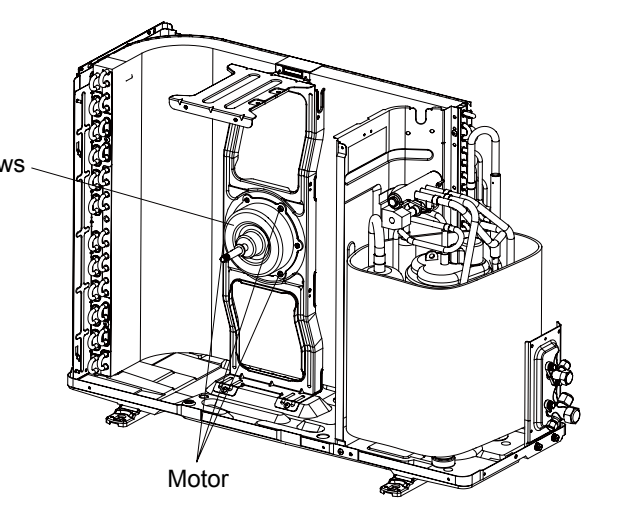
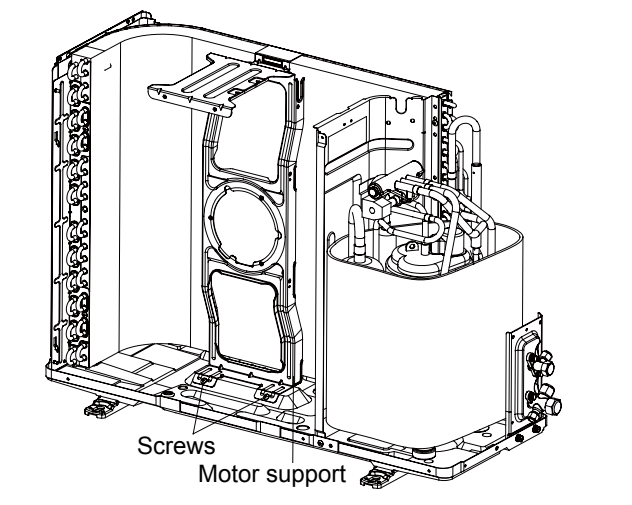
Steps	Procedure
<p>4. Remove front grille</p>	<p>Remove connection screws between the front grille and the front panel. Then remove the front grille.</p>  <p>The diagram shows a perspective view of the appliance with the front panel partially open. A black arrow points from the front grille, which is shown detached to the left, towards the front panel. The label 'front grill' is positioned below the detached grille. The appliance's internal components, including the motor and valve, are visible through the opening.</p>
<p>5. Remove front panel</p>	<p>Remove connection screws connecting the front panel with the chassis and the motor support and then remove the front panel.</p>  <p>The diagram shows the front panel being pulled away from the appliance chassis. A large black arrow points from the front panel towards the chassis. The label 'front panel' is located below the detached panel. The internal motor and valve assembly are clearly visible within the chassis.</p>
<p>6. Remove right side plate</p>	<p>Remove connection screws connecting the right side plate with the valve support and the electric box. Then remove the right side plate.</p>  <p>The diagram shows the right side plate being removed from the appliance chassis. A large black arrow points from the right side plate towards the chassis. The label 'right side plate' is positioned above the detached plate. The internal components, including the valve and electric box, are visible through the opening.</p>

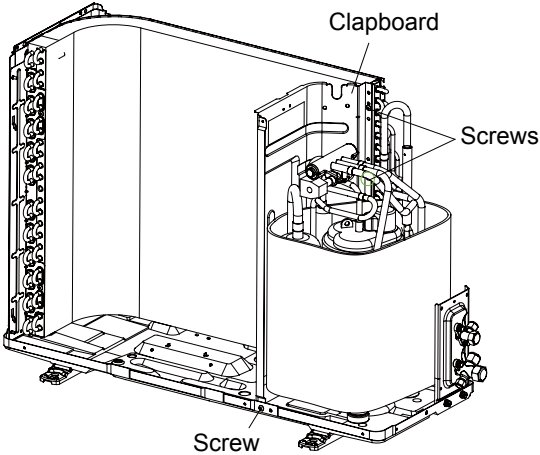
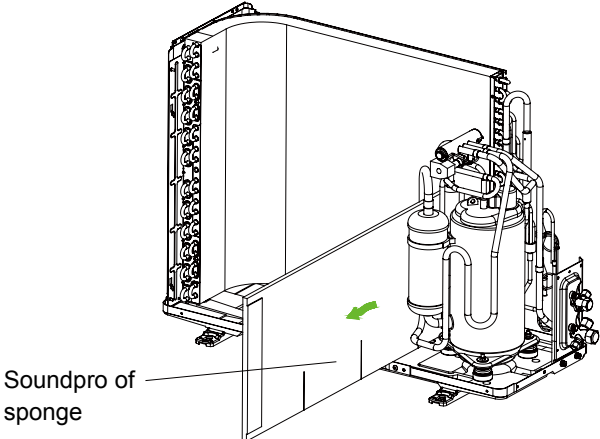
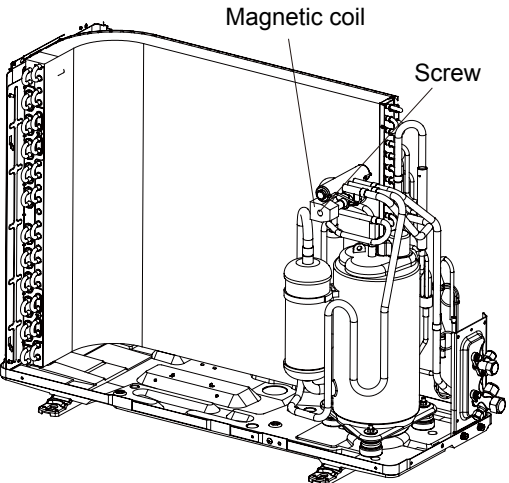
Steps	Procedure
<p>7. Remove axial flow blade</p>	<p>Remove the nut on the blade and then remove the axial flow blade.</p>  <p>axial flow blade</p>
<p>8. Remove motor and motor support</p>	<p>Remove the 4 tapping screws fixing the motor and disconnect the leading wire insert of the motor. Then remove the motor. Remove the 2 tapping screws fixing the motor support and lift the motor support to remove it.</p>  <p>motor support</p> <p>motor</p>
<p>9. Remove electric box</p>	<p>Remove screws fixing the electric box subassembly; loosen the wire bundle and unplug the wiring terminals. Then lift the electric box to remove it.</p>  <p>electric box</p>

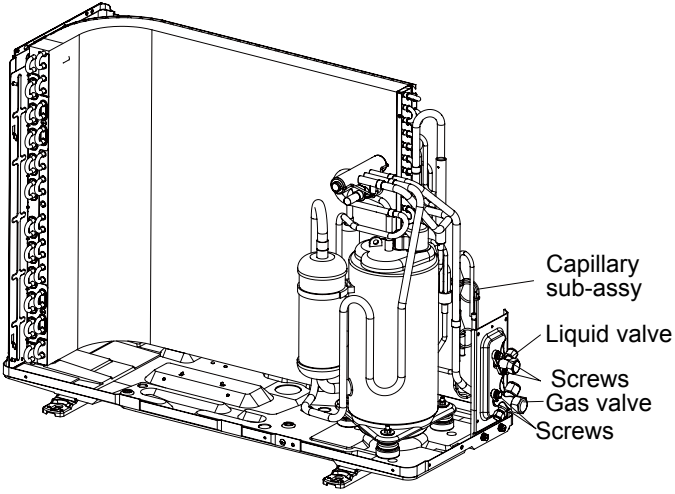
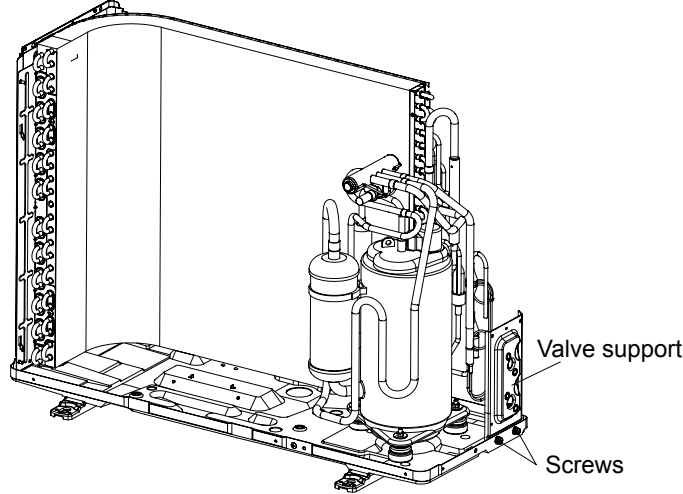
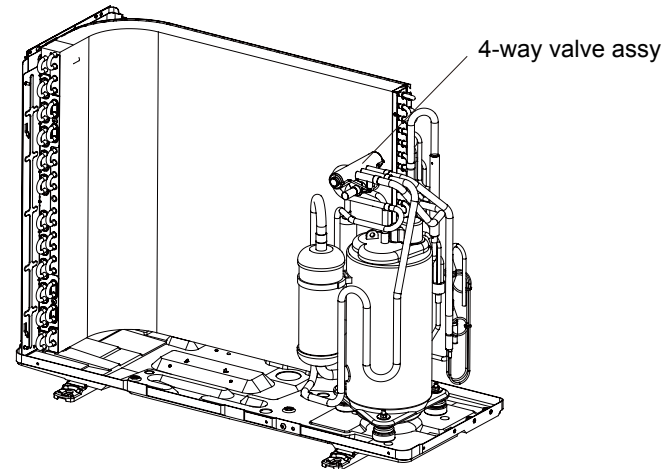
Steps	Procedure
<p>10. Remove isolation sheet</p>	<p>Remove the 3 screws fixing the isolation sheet and then remove the isolation sheet.</p>  <p>isolation sheet</p>
<p>11. Remove soundproof sponge</p>	<p>Remove the soundproof sponge wrapping the compressor.</p>  <p>soundproof sponge</p>
<p>12. Remove magnet coil</p>	<p>Remove the screw fixing the magnet coil and then remove the coil.</p>  <p>magnet coil</p>

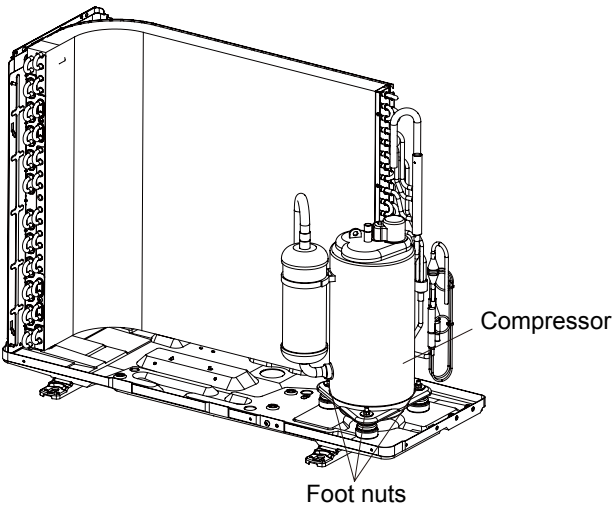
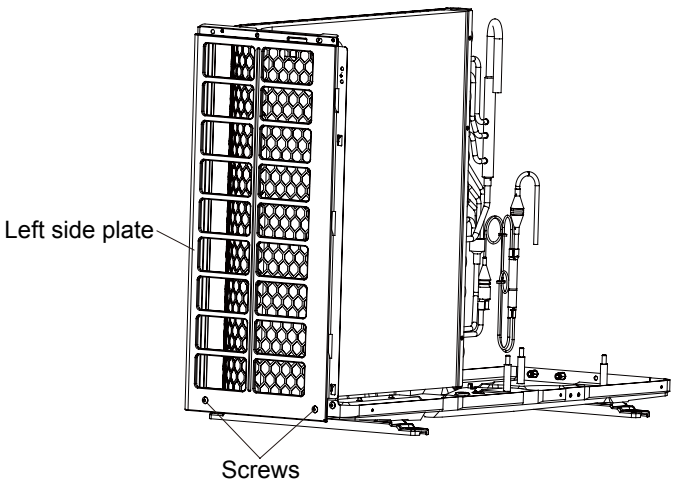
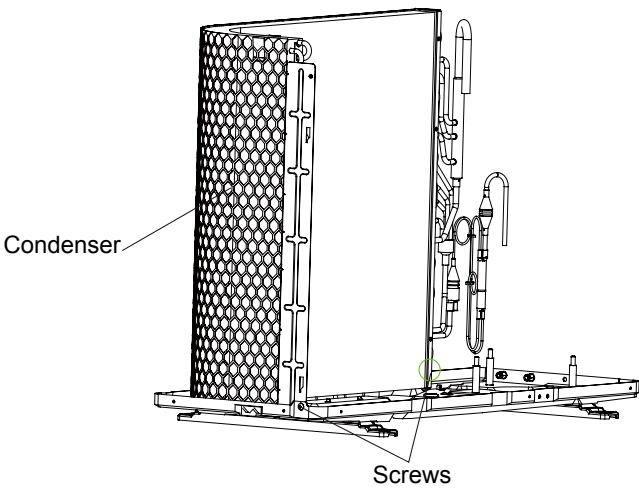
Steps	Procedure	
<p>13. Remove liquid valve and gas valve</p>	<p>Unsolder the welding joint connecting the capillary, valves and the outlet pipe of condenser to remove the capillary. Do not block the capillary with welding slag during unsoldering.</p> <p>Remove the 2 screws fixing the gas valve and unsolder the welding joint between the gas valve and the air-return pipe to remove the gas valve. (NOTE: Discharge the refrigerant completely before unsoldering; when unsoldering, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature).</p> <p>Remove the 2 screws fixing the liquid valve and unsolder the welding joint connecting the liquid valve to the Y-type pipe to remove the liquid valve.</p>	
<p>14. Remove compressor</p>	<p>a Unsolder pipes connecting with compressor.</p> <p>b Remove the 3 foot nuts on the compressor and then remove the compressor.</p>	

Step	Procedure
<p>4. Remove cabinet</p>	<p>Remove the cabinet by screwing off the locking screws on cabinet.</p>  <p>The diagram shows the outdoor unit with the cabinet partially removed. Labels 'Screws' point to the locking screws on the top and bottom of the cabinet. The label 'Cabinet' points to the main body of the unit.</p>
<p>5. Remove right side plate</p>	<p>Remove the screws fixing right side plate and then remove the right side plate.</p>  <p>The diagram shows the outdoor unit with the right side plate being removed. Labels 'Screws' point to the screws on the left side of the unit. The label 'Right side plate' points to the mesh-covered panel on the right.</p>
<p>6. Remove electric box assy</p>	<p>Remove the wiring terminals on electric box. Screw off the screws fixing fan motor capacitor and compressor capacitor, Then remove the fan motor capacitor and compressor capacitor. remove the electric box assy.</p>  <p>The diagram shows a close-up of the electrical components. Labels include 'Fan motor capacitor', 'Electric box assy', 'Screw', 'Wiring terminal', and 'Compressor capacitor'. A red dashed box highlights the wiring terminal area.</p>

Step	Procedure
<p>7. Remove axial flow blade</p>	<p>Remove the nut fixing axial flow blade and then remove the axial flow blade.</p>  <p>The diagram shows a cutaway view of the appliance's internal compartment. A large, curved axial flow blade is mounted on a central motor shaft. A nut is shown at the base of the blade, securing it to the shaft. Labels with leader lines point to the 'Axial flow blade' and the 'Nut'.</p>
<p>8. Remove motor</p>	<p>Remove the screws fixing motor and then remove the motor.</p>  <p>The diagram shows the internal compartment with the motor assembly. The motor is mounted on a support structure. Several screws are shown securing the motor to the support. A label with a leader line points to these 'Screws'.</p>
<p>9. Remove motor support</p>	<p>Remove the screws fixing motor support and then remove the motor support.</p>  <p>The diagram shows the internal compartment with the motor support structure. The support is a rectangular frame that holds the motor. Screws are shown at the base of the support, securing it to the bottom of the compartment. Labels with leader lines point to these 'Screws' and the 'Motor support' structure.</p>

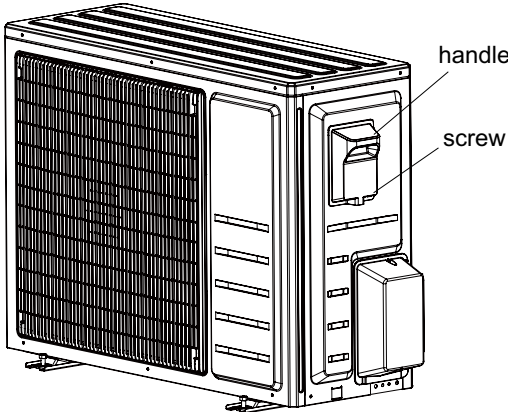
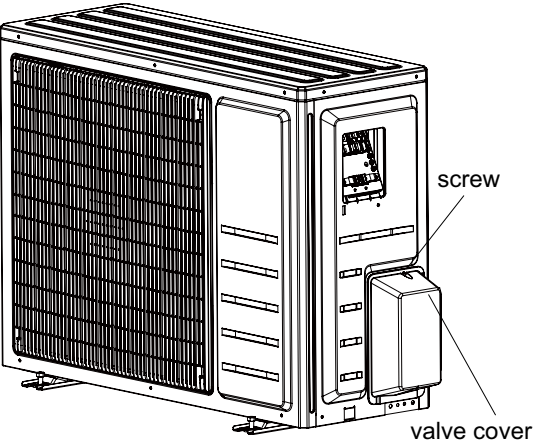
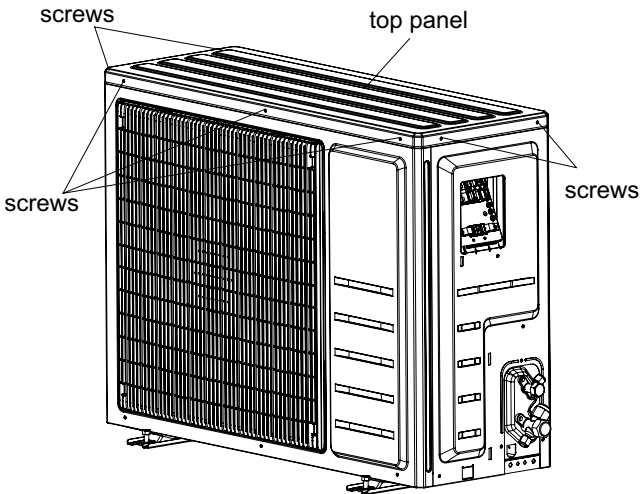
Step	Procedure
<p>10. Remove clapboard</p>	<p>Remove the screws fixing clapboard and then remove the clapboard.</p> 
<p>11. Remove soundproof sponge</p>	<p>Remove the soundproof sponge wrapping the compressor.(Some models are without soundproof sponge)</p> 
<p>12. Remove magnetic coil</p>	<p>Remove one screw on magnetic coil, and then remove the magnetic coil.</p> 

Step	Procedure
<p>13. Remove gas valve and liquid valve</p>	<p>Cutting the pipeline of welding the gas valve and the liquid valve, Remove the screws fixing the valves, remove the gas valve and the liquid valve.</p> <p>Note: When cutting weld, wrap the valve with wet cloth completely to avoid damaging the valve due to high temperature.</p> 
<p>14. Remove valve support</p>	<p>Screw off the screws fixing the valve support and then remove the valve support</p> 
<p>15. Remove 4-way valve assy</p>	<p>Cut off the welded pipe of the 4-way valve component to the condenser assy and compressor, and then remove the 4-way valve.</p> <p>Note: When cutting weld, wrap the 4-way valve with wet cloth completely to avoid damaging the valve due to high temperature.</p> 

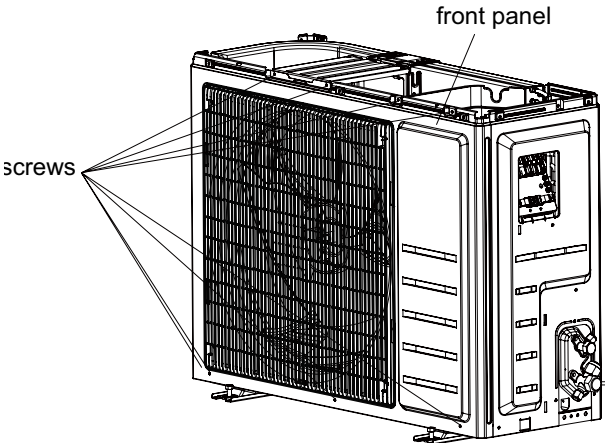
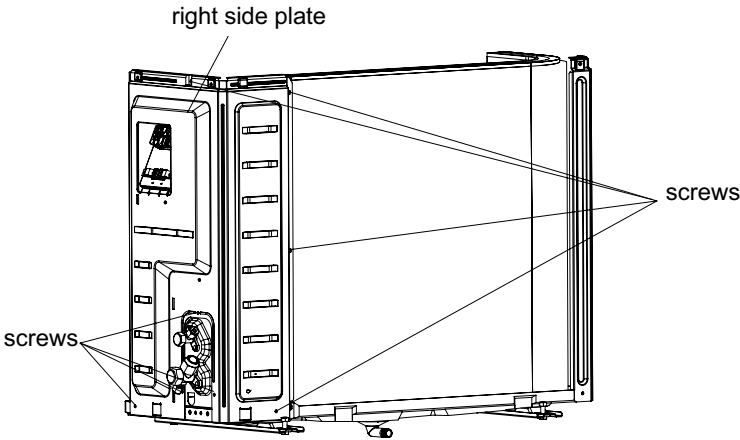
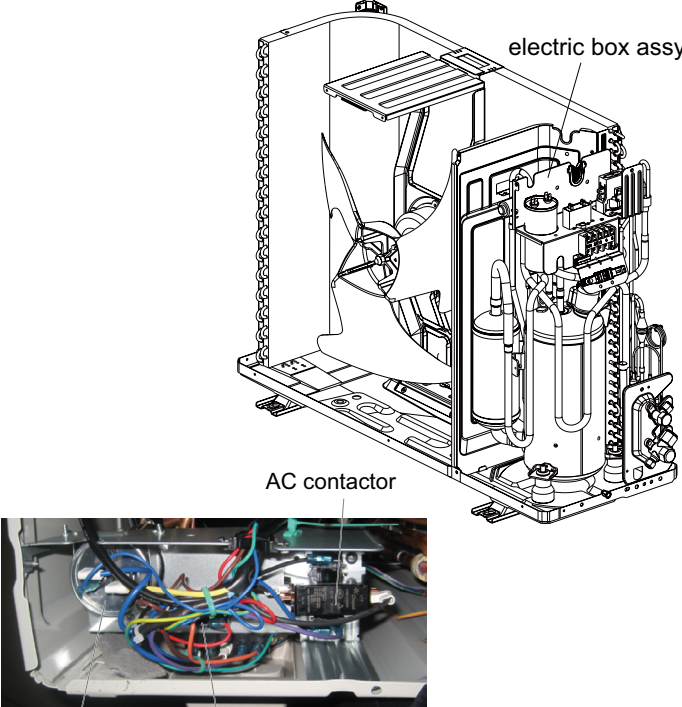
Step	Procedure	Procedure
16. Remove compressor	<p>Remove 3 foot nuts on compressor, and then remove the compressor.</p> <p>Note: Protect the ports of discharge pipe and suction pipe to avoid foreign objects to enter it.</p>	
17. Remove left side plate	<p>Remove the screws fixing right side plate and then remove the left side plate.</p>	
18. Remove condenser	<p>Remove one screw fixing the condenser, then remove the condenser.</p>	

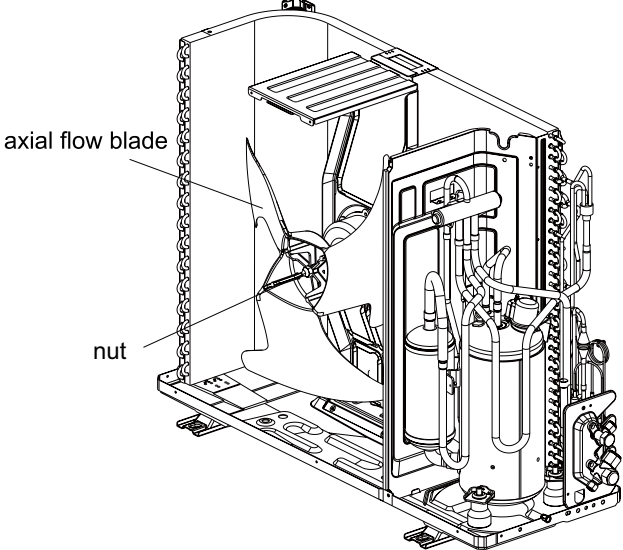
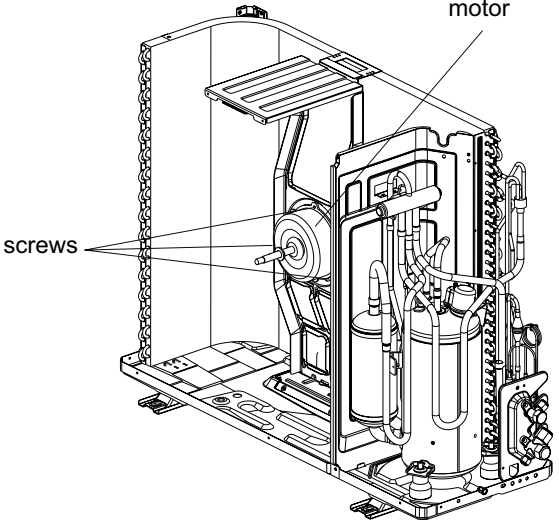
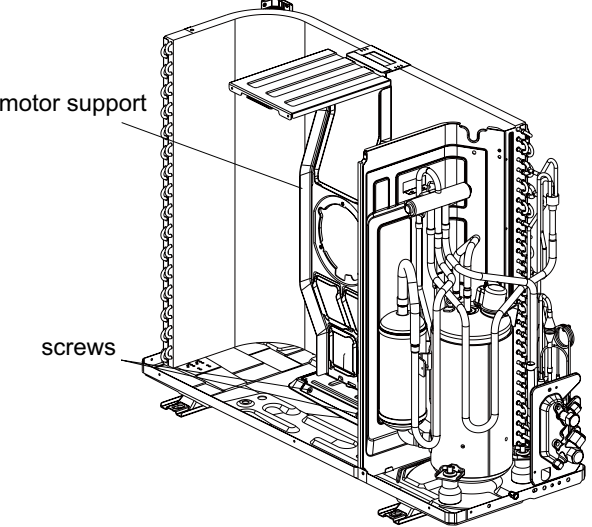


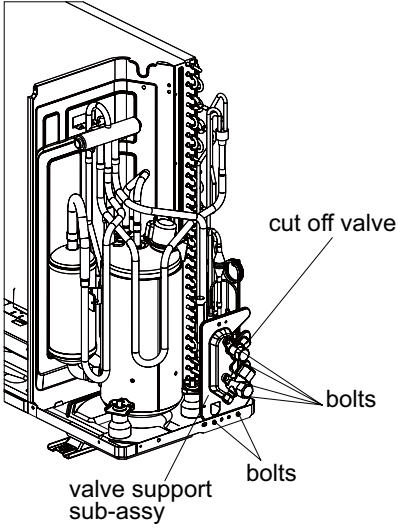
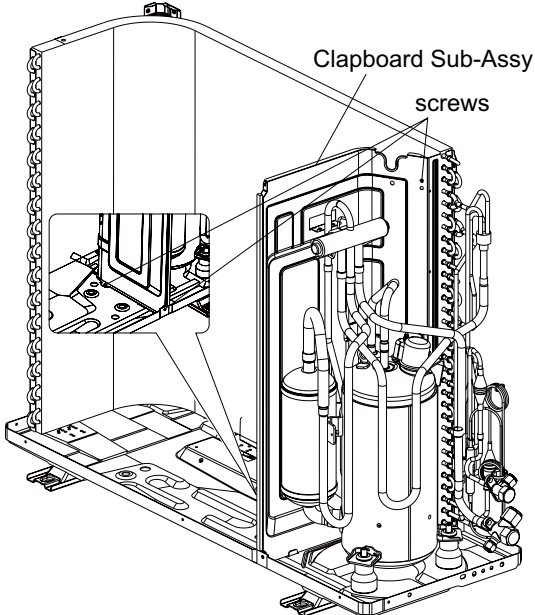
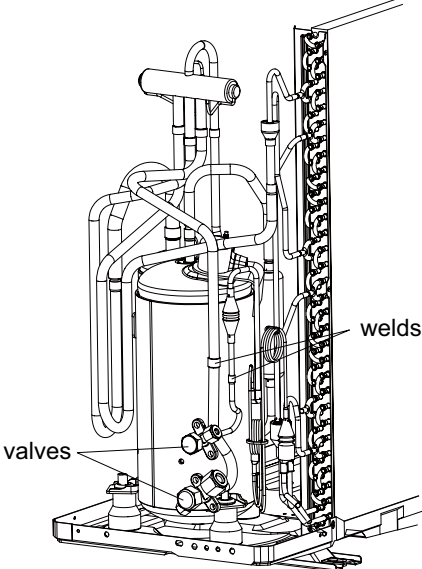
Caution: discharge the refrigerant completely before removal.

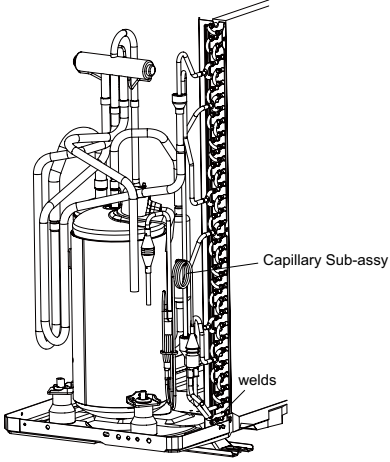
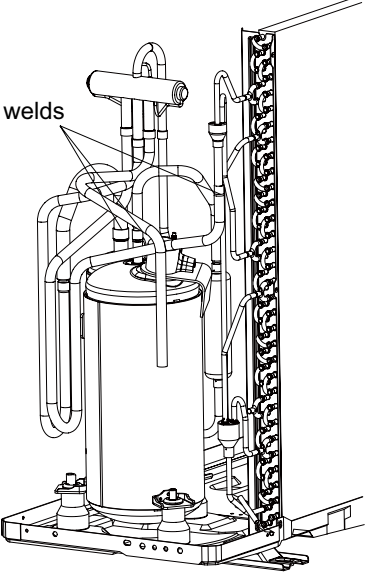
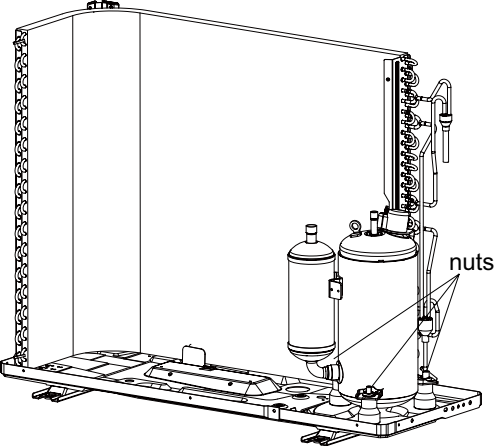
Step	Procedure
<p>1. Remove handle</p>	<p>Remove the screw fixing the handle and then remove the handle.</p> 
<p>2. Remove valve cover</p>	<p>Remove the screw fixing the valve cover and then remove the valve cover.</p> 
<p>3. Remove top panel</p>	<p>Remove the screws fixing the top panel and then remove the top panel.</p> 



Step	Procedure
<p>4. Remove cabinet</p>	<p>Remove the cabinet by screwing off the locking screws on cabinet.</p>  <p>The diagram shows the front panel of the unit, which is a metal mesh grille. It is attached to the main cabinet body. Several screws are shown being removed from the top and sides of the front panel. Labels include 'front panel' pointing to the grille and 'screws' pointing to the fasteners.</p>
<p>5. Remove right side plate</p>	<p>Remove the screws fixing right side plate and then remove the right side plate.</p>  <p>The diagram shows the right side of the unit with the side plate being removed. The side plate is a vertical metal panel. Several screws are shown being removed from the top and bottom of the side plate. Labels include 'right side plate' pointing to the panel and 'screws' pointing to the fasteners.</p>
<p>6. Remove electric box assy</p>	<p>Remove the wiring terminals on electric box. Screw off the screws fixing fan motor capacitor and compressor capacitor. Then remove the fan motor capacitor and compressor capacitor and then remove the electric box assy.</p>  <p>The diagram shows the internal components of the unit, including the electric box assembly, fan motor, and capacitors. The electric box assembly is a metal enclosure containing electrical components. The fan motor is a circular component with a fan blade. The AC contactor is a rectangular component. The compressor capacitor and fan capacitor are cylindrical components. Labels include 'electric box assy', 'AC contactor', 'Compressor capacitor', and 'Fan capacitor'. A photograph below the diagram shows the internal wiring and components, with labels for 'Compressor capacitor' and 'Fan capacitor'.</p>

Step		
7. Remove axial flow blade		
	<p>Remove the nut fixing axial flow blade and then remove the axial flow blade.</p>	 <p>axial flow blade</p> <p>nut</p>
8. Remove motor		
	<p>Remove the screws fixing motor and then remove the motor.</p>	 <p>motor</p> <p>screws</p>
9. Remove motor support		
	<p>Remove the screws fixing motor support and then remove the motor support.</p>	 <p>motor support</p> <p>screws</p>

Step	Procedure
<p>10. Remove valve support</p>	<p>Screw off the bolts fixing the valve support and valves, and then remove the valve support.</p> 
<p>11. Remove clapboard</p>	<p>Remove the screws fixing clapboard and then remove the clapboard.</p> 
<p>13. Remove gas valve and liquid valve</p>	<p>Cutting the pipeline of the welding gas valve and the liquid valve, and remove the gas valve and the liquid valve.</p> <p>Note: When cutting weld, wrap the valve with wet cloth completely to avoid damaging the valve due to high temperature.</p> 

Step	Procedure
14. Remove capillary sub-assy	<p>Cut off the capillary welded tube to the condenser and remove the capillary.</p> 
15. Remove 4-way valve assy	<p>Cut off the welded pipe of the 4-way valve component to the condenser assy and compressor, and then remove the 4-way valve.</p> <p>Note: When cutting weld, wrap the 4-way valve with wet cloth completely to avoid damaging the valve due to high temperature.</p> 
16. Remove compressor	<p>Remove 3 foot nuts on compressor, and then remove the compressor.</p> <p>Note: Protect the ports of discharge pipe and suction pipe to avoid foreign objects to enter it.</p> 

Appendix:

Appendix 1: Reference Sheet of Celsius and Fahrenheit

Conversion formula for Fahrenheit degree and Celsius degree: $T_f = T_c \times 1.8 + 32$

Set temperature

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)	Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)	Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
61	60.8	16	69/70	69.8	21	78/79	78.8	26
62/63	62.6	17	71/72	71.6	22	80/81	80.6	27
64/65	64.4	18	73/74	73.4	23	82/83	82.4	28
66/67	66.2	19	75/76	75.2	24	84/85	84.2	29
68	68	20	77	77	25	86	86	30

Ambient temperature

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)	Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)	Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
32/33	32	0	55/56	55.4	13	79/80	78.8	26
34/35	33.8	1	57/58	57.2	14	81	80.6	27
36	35.6	2	59/60	59	15	82/83	82.4	28
37/38	37.4	3	61/62	60.8	16	84/85	84.2	29
39/40	39.2	4	63	62.6	17	86/87	86	30
41/42	41	5	64/65	64.4	18	88/89	87.8	31
43/44	42.8	6	66/67	66.2	19	90	89.6	32
45	44.6	7	68/69	68	20	91/92	91.4	33
46/47	46.4	8	70/71	69.8	21	93/94	93.2	34
48/49	48.2	9	72	71.6	22	95/96	95	35
50/51	50	10	73/74	73.4	23	97/98	96.8	36
52/53	51.8	11	75/76	75.2	24	99	98.6	37
54	53.6	12	77/78	77	25			

Appendix 2: Configuration of Connection Pipe

1. Standard length of connection pipe (More details please refer to the specifications.)

2. Min. length of connection pipe:

For the unit with standard connection pipe of 5m, there is no limitation for the min. length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min. length of connection pipe is 3m.

3. Max. length of connection pipe and max. high difference. (More details please refer to the specifications.)

4. The additional refrigerant oil and refrigerant charging required after prolonging connection pipe

- After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.
- The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
- Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.
- Additional refrigerant charging amount = prolonged length of liquid pipe X additional refrigerant charging amount per meter

Additional refrigerant charging amount for R22, R407C, R410A and R134a			
Diameter of connection pipe		Outdoor unit throttle	
Liquid pipe(mm)	Gas pipe(mm)	Cooling only(g/m)	Cooling and heating(g/m)
Φ6	Φ9.5 or Φ12	15	20
Φ6 or Φ9.5	Φ16 or Φ19	15	50
Φ12	Φ19 or Φ22.2	30	120
Φ16	Φ25.4 or Φ31.8	60	120
Φ19	/	250	250
Φ22.2	/	350	350

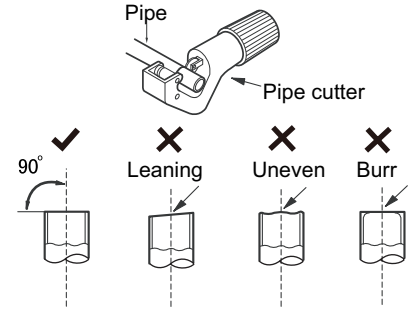
Appendix 3: Pipe Expanding Method

Note:

Improper pipe expanding is the main cause of refrigerant leakage. Please expand the pipe according to the following steps:

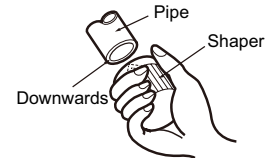
A: Cut the pipe

- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.



B: Remove the burrs

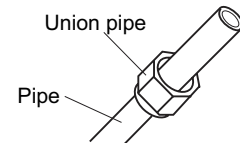
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.



C: Put on suitable insulating pipe

D: Put on the union nut

- Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.



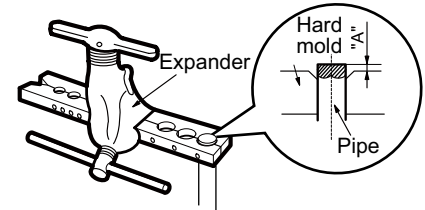
E: Expand the port

- Expand the port with expander.

Note:

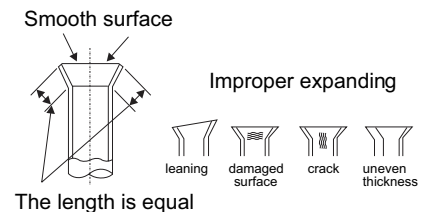
- "A" is different according to the diameter, please refer to the sheet below:

Outer diameter(mm)	A(mm)	
	Max	Min
Φ6 - 6.35 (1/4")	1.3	0.7
Φ9.52 (3/8")	1.6	1.0
Φ12 - 12.70 (1/2")	1.8	1.0
Φ16 - 15.88 (5/8")	2.4	2.2



F: Inspection

- Check the quality of expanding port. If there is any blemish, expand the port again according to the steps above.



Appendix 4: List of Resistance for Temperature Sensor

Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units(15K)

Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-19	138.10	0	49.02	20	18.75	40	7.97
-18	128.60	2	44.31	22	17.14	42	7.35
-16	115.00	4	40.09	24	15.68	44	6.79
-14	102.90	6	36.32	26	14.36	46	6.28
-12	92.22	8	32.94	28	13.16	48	5.81
-10	82.75	10	29.90	30	12.07	50	5.38
-8	74.35	12	27.18	32	11.09	52	4.99
-6	66.88	14	24.73	34	10.20	54	4.63
-4	60.23	16	22.53	36	9.38	56	4.29
-2	54.31	18	20.54	38	8.64	58	3.99

Resistance Table of Tube Temperature Sensors for Indoor and Outdoor (20K)

Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-19	181.40	20	25.01	60	4.95	100	1.35
-15	145.00	25	20.00	65	4.14	105	1.16
-10	110.30	30	16.10	70	3.48	110	1.01
-5	84.61	35	13.04	75	2.94	115	0.88
0	65.37	40	10.62	80	2.50	120	0.77
5	50.87	45	8.71	85	2.13	125	0.67
10	39.87	50	7.17	90	1.82	130	0.59
15	31.47	55	5.94	95	1.56	135	0.52

Resistance Table of Discharge Temperature Sensor for Outdoor(50K)

Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-30	911.400	10	98	50	17.65	90	4.469
-25	660.8	15	77.35	55	14.62	95	3.841
-20	486.5	20	61.48	60	12.17	100	3.315
-15	362.9	25	49.19	65	10.18	105	2.872
-10	274	30	39.61	70	8.555	110	2.498
-5	209	35	32.09	75	7.224	115	2.182
0	161	40	26.15	80	6.129	120	1.912
5	125.1	45	21.43	85	5.222	125	1.682

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For product improvement, specifications and appearance in this manual are subject to change without prior notice.