① Summary and features

Model	Remarks
GVA24AG-K3NNA5A	1Ph 220-240V~ 50Hz R410A

Model	Remarks
GVA36AH-M3NNA5A GVA48AH-M3NNA5A	380-415V 3N~ 50Hz R410A

② Technical specifications

Model	GVA24AG-K3NNA5A	
Function	COOLING	HEATING
Rated Voltage	1PH 220-240V~	
Rated Frequency	50Hz	
Total Capacity (W/Btu/h)	7050/ 24040	7800(9900)/ 26598(33759)
Power Input (W)	2430	2350(4450)
Rated Input (W)	3250	3250(5350)
Rated Current (A)	14.13	14.13(23.26)
Air Flow Volume (m³/h) (H/M/L)**	1100	
Dehumidifying Volume (l/h)	3	
EER / C.O.P (W/W)	2.90/3.32	
Energy Class	/	
Indoor unit	Model of Indoor Unit	GVA24AG-K3NNA5A/I
	Fan Motor Speed (r/min) (H/M/L)	510/450/425/390
	Output of Fan Motor (w)	50
	Input of Heater (w)	2100
	Fan Motor Capacitor (uF)	4.5
	Fan Motor RLA(A)	0.23
	Fan Type-Piece	Centrifugal fan - 1
	Diameter-Length (mm)	φ350X130
	Evaporator	Aluminum fin-copper tube
	Pipe Diameter (mm)	φ7
	Row-Fin Gap(mm)	2-1.3
	Coil length (l) x height (H) x coil width (L)	724X390X25.4
	Swing Motor Model	MP35AA
	Output of Swing Motor (W)	1.8
	Fuse (A)	PCB 5A Transformer 0.2A
	Sound Pressure Level dB (A) (H/M/L)	48/45/42/40
	Sound Power Level dB (A) (H/M/L)***	58/55/52/50
	Dimension (W/H/D) (mm)	500X1757X300
	Dimension of Package(W/H/D)(mm)	1940X630 X 435
	Net Weight /Gross Weight (kg)	40/60

	Model of Outdoor Unit	GVA24AG-K3NNA5A/O
	Compressor Manufacturer/trademark	PANASONIC
	Compressor Model	5VS270EAA21
	Compressor Type	ROTARY
	L.R.A. (A)	45.3/49.7
	Compressor RLA(A)	10.0/10.4
	Compressor Power Input(W)	2265/2360
	Overload Protector	INTERAL
	Throttling Method	Capillary
	Starting Method	Capacitor
	Working Temp Range (℃)	-7℃≤T≤43℃
	Condenser	Aluminum fin-copper tube
	Pipe Diameter (mm)	φ9.52
	Rows-Fin Gap(mm)	2-1.4
	Coil length(l) x height(H) x coil width(L)	665×813×44
	Fan Motor Speed (rpm) (H/M/L)	850
	Output of Fan Motor (W)	70
Outdoor unit	Fan Motor RLA(A)	0.3
	Fan Motor Capacitor (uF)	3.5
	Air Flow Volume of Outdoor Unit	3000 m3/h
	Fan Type-Piece	Axial fan -1
	Fan Diameter (mm)	Φ450
	Defrosting Method	Auto defrost
	Climate Type	T1
	Isolation	I
	Moisture Protection	IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	4.5
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.6
	Sound Pressure Level dB (A) (H/M/L)	56
	Sound Power Level dB (A) (H/M/L)	66
	Dimension (W/H/D) (mm)	1018x840x412
	Dimension of Package (L/W/H)(mm)	1100x450x905
	Net Weight /Gross Weight (kg)	69/74
	Refrigerant Charge (kg)	R410A/2.1
Connecti on Pipe	Length (m)		4
	Gas additional charge(g/m)		0
	Outer Diameter	Liquid Pipe (mm)	Φ9.52(3/8")
		Gas Pipe (mm)	Φ16(5/8")
	Max Distance	Height (m)	10
		Length (m)	20

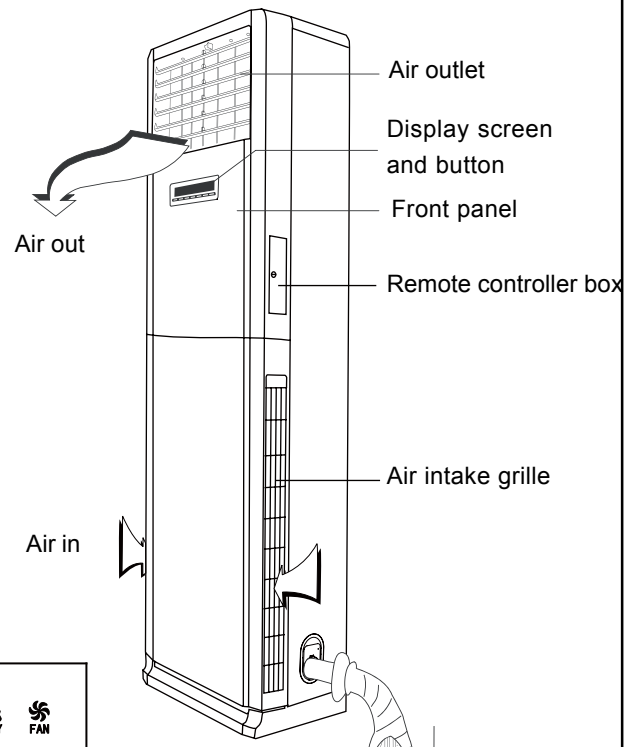The above dataa are subject to change without norice. Please refer to the nameplate of the unit.

Model	GVA36AH-M3NNA5A		GVA48AH-M3NNA5A	
Function	COOLING	HEATING	COOLING	HEATING
Rated Voltage	3N~ 380-415V~		3N~ 380-415V~	
Rated Frequency	50HZ		50Hz	
Total Capacity (W/Btu/h)	11000	12700(15200)	12400W	13600(16100)W
Power Input (W)	3920	4220(6720)	4940	4840(7340)
Rated Input (W)	5800	5600(8100)	6400	5800(8300)
Rated Current (A)	7.1	7.6(12.2)	11.6	10.5(15)
Air Flow Volume (m^3/h) (H/M/L)**	1700		1800	
Dehumidifying Volume (l/h)	4.5		6	
EER / C.O.P (W/W)	2.81/3.01		2.51/2.81	
Energy Class	/		/	
Indoor unit	Model of Indoor Unit	GVA36AH-M3NNA5A/I		GVA48AH-M3NNA5A /I	
	Fan Motor Speed (r/min) (H/M/L)	450/410/370/330	450/410/370/330	500/460/420/380	500/460/420/380
	Output of Fan Motor (w)	120		120	
	Input of Heater (w)	2500		3500	
	Fan Motor Capacitor (uF)	6		6	
	Fan Motor RLA(A)	1.36		1.36	
	Fan Type-Piece	Centrifugal fan - 1		Centrifugal fan - 1	
	Diameter-Length (mm)	φ379X180.5		φ379X180.5	
	Evaporator	Aluminum fin-copper tube		Aluminum fin-copper tube	
	Pipe Diameter (mm)	¢7		¢7	
	Row-Fin Gap(mm)	2-1.4		3-1.5	
	Coil length (l) x height (H) x coil width (L)	876.3X470X38.1		876.3X470X57.15	
	Swing Motor Model	MP35AA		MP35AA	
	Output of Swing Motor (W)	4		4	
	Fuse (A)	PCB 5A Transformer 0.2A		PCB 5A Transformer 0.2A	
	Sound Pressure Level dB (A) (H/M/L)	51/49/47/45		52/50/48/46	
	Sound Power Level dB (A) (H/M/L)***	51/49/47/45		52/50/48/46	
	Dimension (W/H/D) (mm)	518X1870X395		518X1870X395	
	Dimension of Package(W/H/D)(mm)	735X530X2080		735X530X2080	
	Net Weight /Gross Weight (kg)	60/86		63/89	

		GVA36AH-M3NNA5A/O	GVA48AH-M3NNA5A /O
Outdoor unit	Model of Outdoor Unit	GVA36AH-M3NNA5A/O	GVA48AH-M3NNA5A /O
	Compressor Manufacturer/trademark	DAIKIN	SANYO
	Compressor Model	JT125G-P8Y1	C-SBP160H38A
	Compressor Type	SCROLL	SCROLL
	L.R.A. (A)	48.2	72
	Compressor RLA(A)	5.4	8.33
	Compressor Power Input(W)	3000	4600
	Overload Protector	INTERAL	INTERAL
	Throttling Method	Capillary	Capillary
	Starting Method	/	/
	Working Temp Range (℃)	-7℃≤T≤43℃	-7℃≤T≤43℃
	Condenser	Aluminum fin-copper tube	Aluminum fin-copper tube
	Pipe Diameter (mm)	Φ7	Φ9.52
	Rows-Fin Gap(mm)	2-1.5	2-1.6
	Coil length(l) x height(H) x coil width(L)	730X1218X25.4	730X1218X44
	Fan Motor Speed (rpm) (H/M/L)	830	830
	Output of Fan Motor (W)	68	68
	Fan Motor RLA(A)	0.3	0.3
	Fan Motor Capacitor (uF)	3.5	3.5
	Air Flow Volume of Outdoor Unit	4000	4000
	Fan Type-Piece	Axial fan -2	Axial fan -2
	Fan Diameter (mm)	Φ472	Φ472
	Defrosting Method	Auto defrost	Auto defrost
	Climate Type	T1	T1
	Isolation	I	I
	Moisture Protection	IP24	IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8	3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2	1.2
	Sound Pressure Level dB (A) (H/M/L)	59	59
	Sound Power Level dB (A) (H/M/L)	67	67
	Dimension (W/H/D) (mm)	1032x1250x412	1032x1250x412
	Dimension of Package (L/W/H)(mm)	1110/1280/450	1110/1280/450
	Net Weight /Gross Weight (kg)	105/116	110/121
	Refrigerant Charge (kg)	R410A/3.2	R410A/3.6
Connection Pipe	Length (m)	5	5
	Gas additional charge(g/m)	0	0
	Outer Diameter — Liquid Pipe (mm)	Φ12	Φ12
	Outer Diameter — Gas Pipe (mm)	Φ19	Φ19
	Max Distance — Height (m)	5	5
	Max Distance — Length (m)	10	10

The above dataa are subject to change without norice. Please refer to the nameplate of the unit.

③ Part name
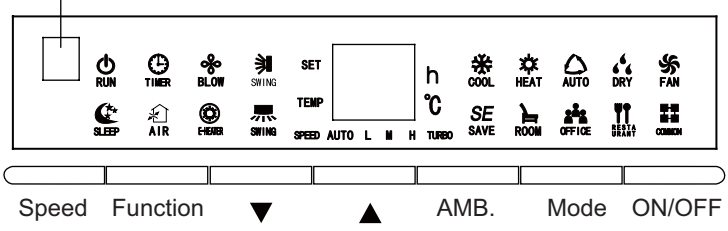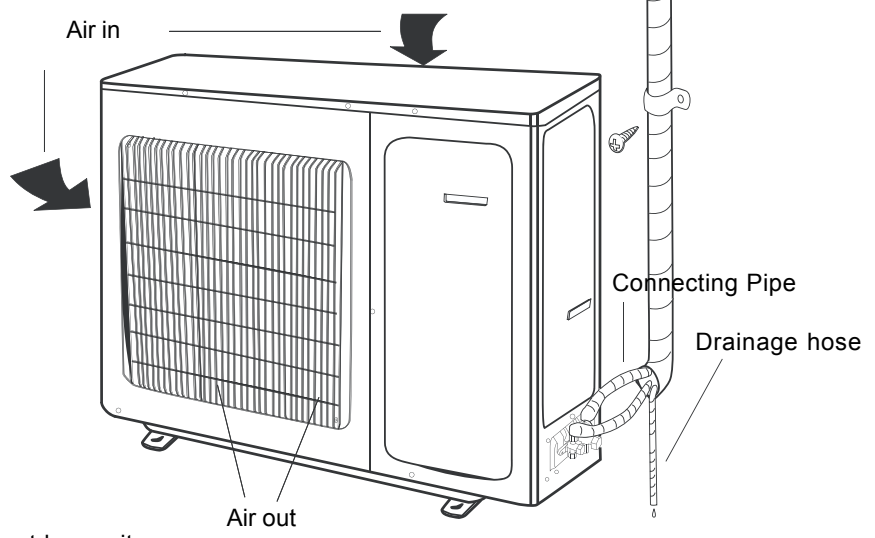
Indoor unit

Air outlet

Display screen
and button
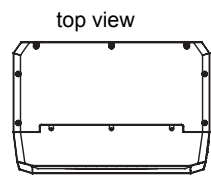
Air out

Front panel

Remote controller box

Air intake grille

Air in

LED displayer

Remote control window

				SET		h					
RUN	TIMER	BLOW	SWING	TEMP		℃	COOL	HEAT	AUTO	DRY	FAN
SLEEP	AIR	E-HEATER	SWING	SPEED AUTO L M H TURBO			SE SAVE	ROOM	OFFICE	RESTAURANT	COMMON

Speed   Function   ▼   ▲   AMB.   Mode   ON/OFF

Outdoor unit

Air in

Connecting Pipe

Drainage hose

Air out

Note:This is a example of 24K for outdoor unit.

④ Outline and installation dimension
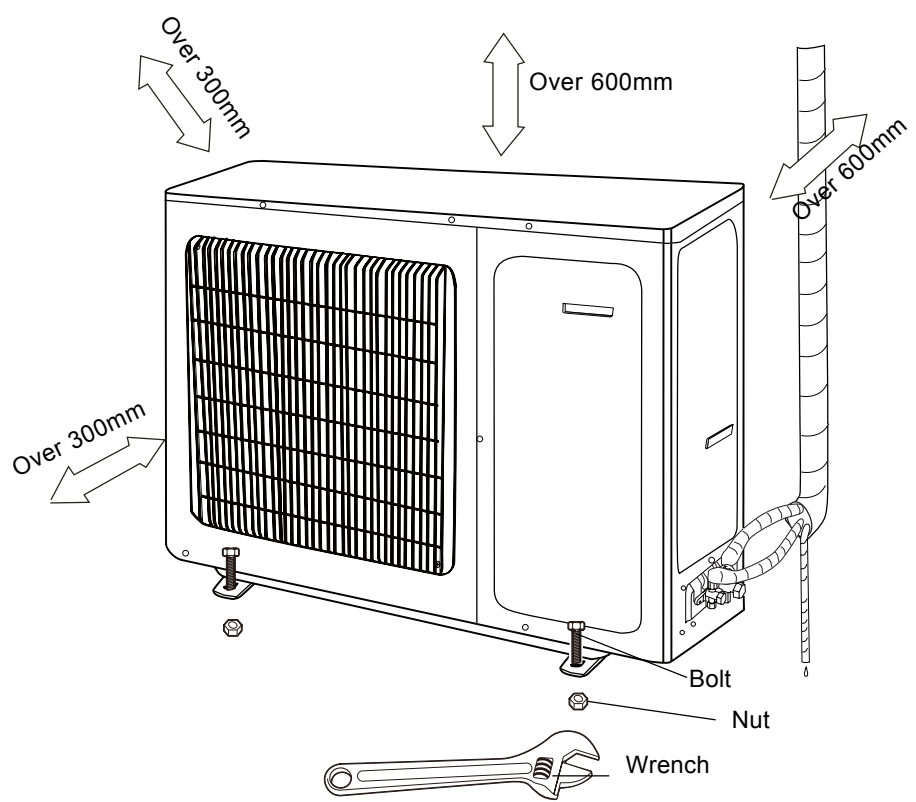
4.1　Outline and installation dimensions of indoor unit

W

D

H

air in grille

pipe outlet

back view

top view

distance with the ceiling

distance with the wall

distance with the wall

distance with obstacle
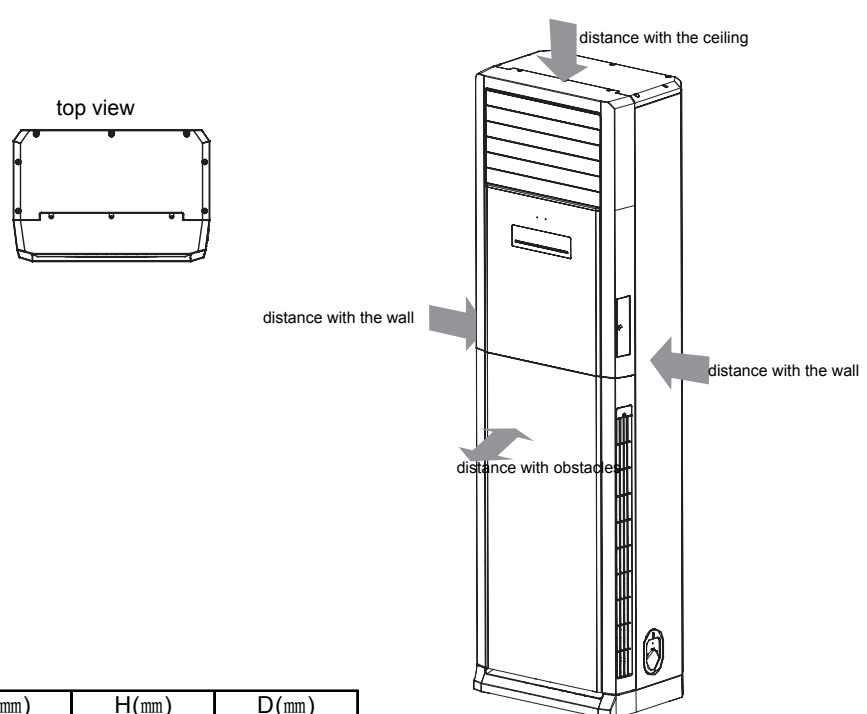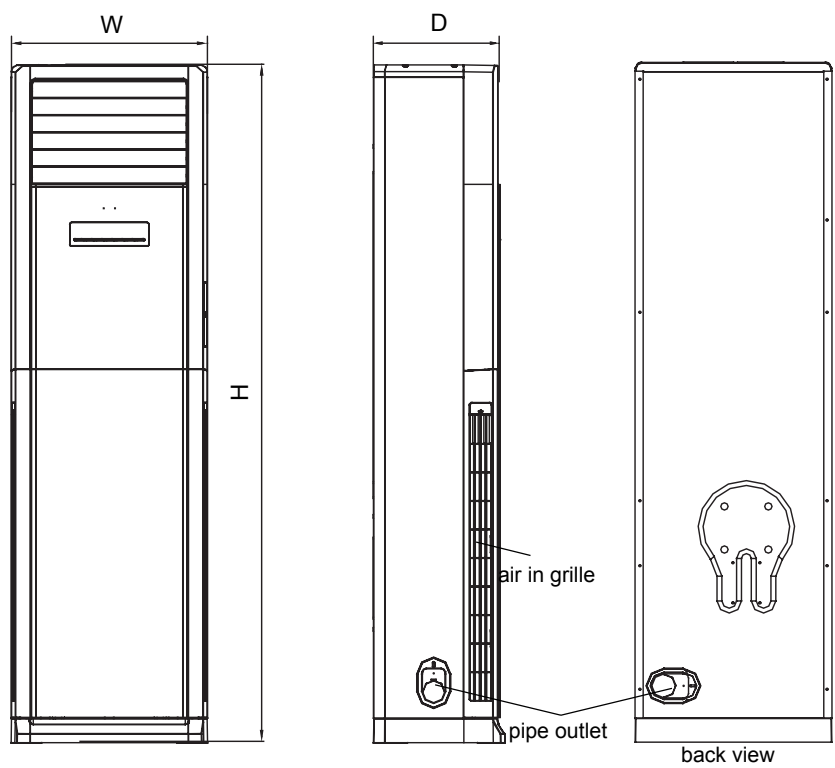
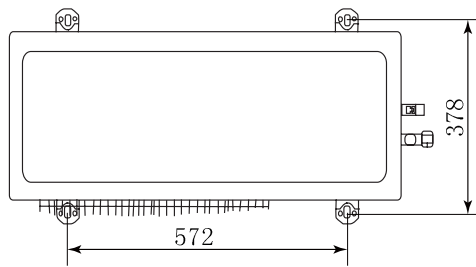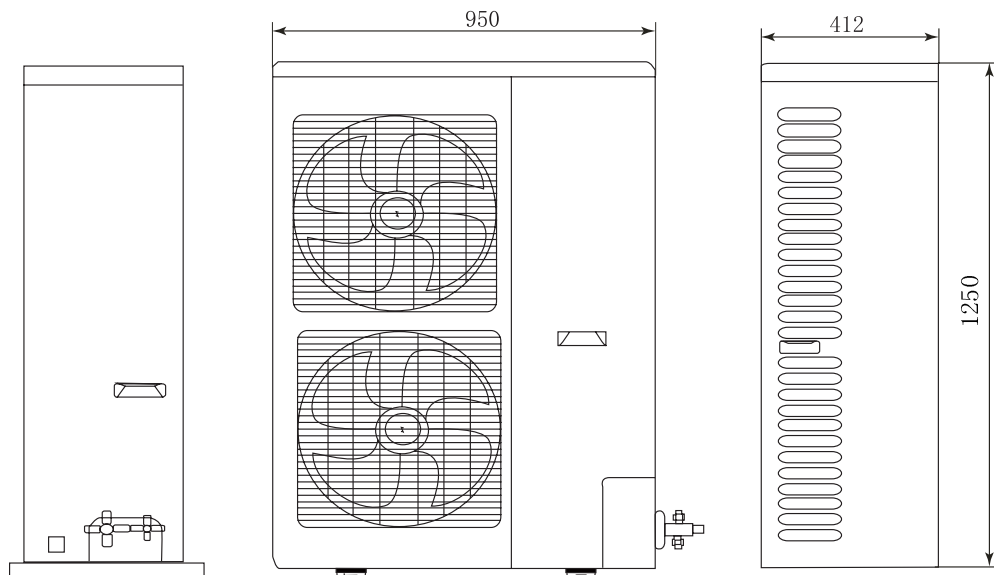| Model	W(mm)	H(mm)	D(mm)
24K	500	1757	300
36/48K	518	1870	395

4.2 Outline and installation dimensions of outdoor unit

1018

950

412
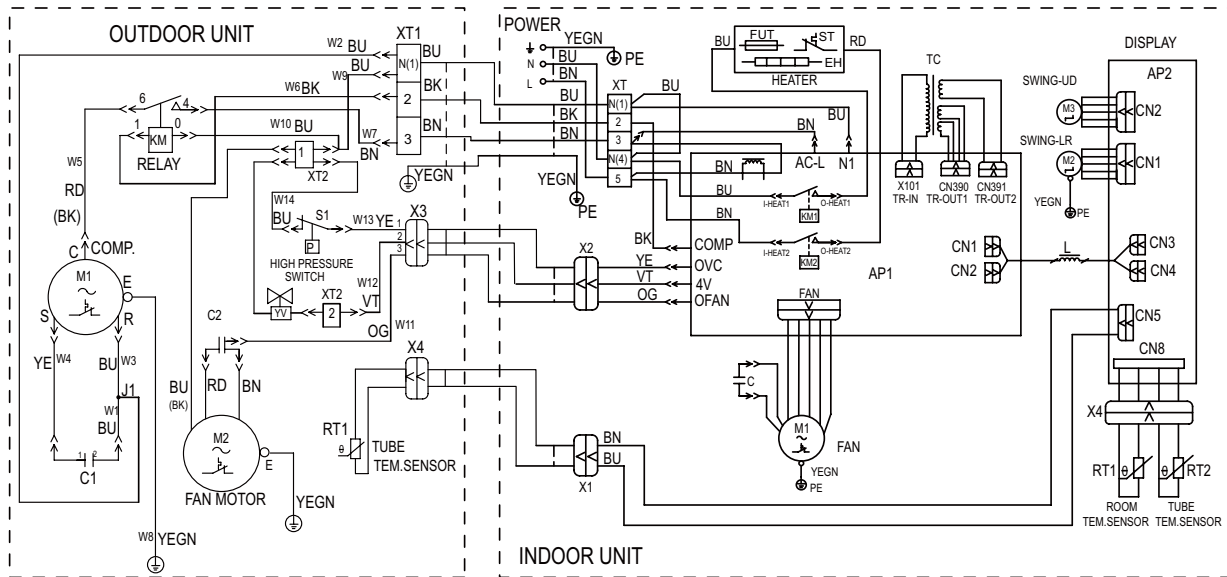
840

378

572

Unit:mm

Over 300mm

Over 600mm

Over 600mm

Over 300mm

Bolt

Nut

Wrench

950

412

1250

378

572

unit ： ㎜

Over 600mm

Over 300mm

Over 600mm

Over 300mm

Bolt

Nut

Wrench
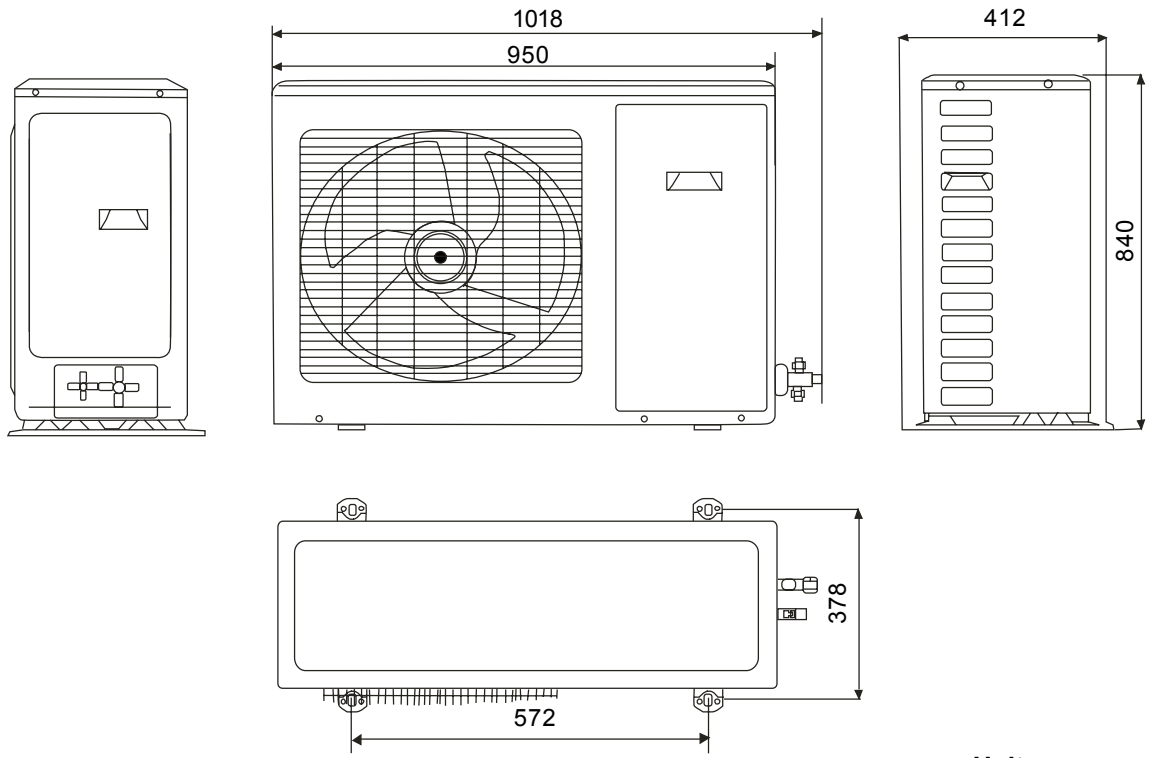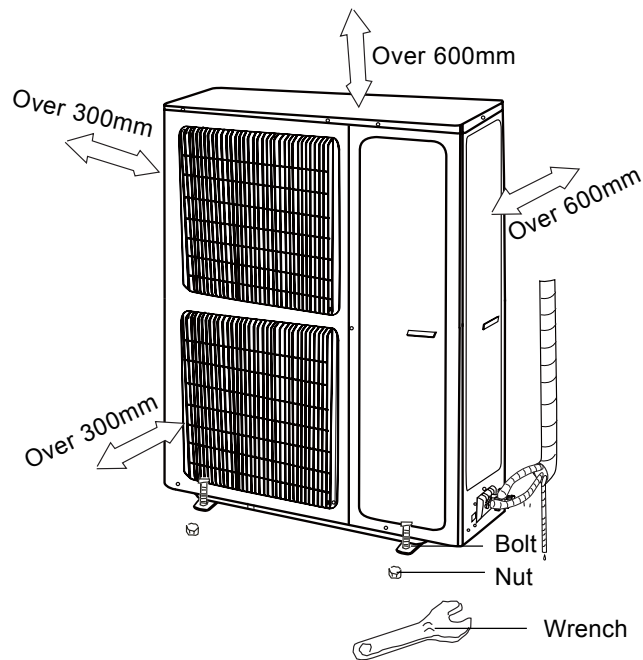
5 Electrical circuit diagram

GVA24AG-K3NNA5A

OUTDOOR UNIT

INDOOR UNIT

DISPLAY

POWER

HEATER

RELAY

COMP.

FAN MOTOR

HIGH PRESSURE SWITCH

TUBE TEM.SENSOR

FAN

SWING-UD

SWING-LR

ROOM TEM. SENSOR

TUBE TEM. SENSOR

GVA36AH-M3NNA5A GVA48AH-M3NNA5A

INDOOR UNIT

OUTDOOR UNIT

POWER

TERMINAL BOARD

HEARTER

CONNECTER

CONNECTOR

CONNECTER(RD)

CONNECTER

COMP. MOTOR

FAN MOTOR

TRANSFORMER

REVERSIAL DEFENABLE PROTECTOR

OVER CURRENT PROTECTOR

HI. PRES. PROTECTOR

LO. PRES. PROTECTOR

DISCHARGE GAS TEMP.SENSOR

ROOM TEMP.SENSOR

PIPE TEMP.SENSOR

SWING-UD

SWING-LR

FAN

ROOM TEMP. SENSOR

PIPE TEMP. SENSOR

These circuit diagrams are subject to change without notice, please refer to the one supplied on the unit.

⑥ PCB function manual and operation method

6.1　Controller Function Manual 1

一、Running Mode
1. cooling;　　2. dry;　　3. fan;　　4: heating;　　5. AUTO;　　6. others (Freon recovery mode).

二、Temperature Parameter
1. Indoor ambient temperature Tamb. (adopt 15K temperature sensor, external connect 15K partial resistance);

2. Outdoor ambient temperature $T_{outdoor\ amb.}$ (adopt 15K temperature sensor, external connect 15K partial resistance);

3. Discharge temperature (Tdischarge)

4. Indoor evaporator tube temperature Tevaporator (adopt 20K temperature sensor, external connect 20K partial resistance);

5. Outdoor condenser tube temperature Tcondenser (adopt 20K temperature sensor, external connect 20K partial resistance).

三、Basic Functions of System
In all modes, once the compressor is started up, it will run within 6mins all the time; once the compressor is stopped, it can only be started up after 3mins delayed.
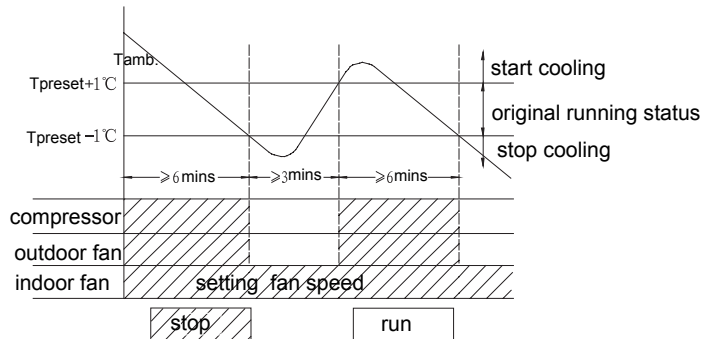
(一) Cooling Mode
1. Working conditions and process of cooling
When Tamb.≥Tpreset+1℃, the unit will run in cooling mode. Meanwhile, compressor, outdoor fan will start running, and indoor will run at setting fan speed;

When Tamb.≦Tpreset-1℃, the unit is at OFF status in cooling mode. Meanwhile, compressor, outdoor fan will all stop running, while indoor fan will run at setting fan speed;

When Tpreset-1℃<Tamb.<Tpreset+1℃, the unit will keep previous running status.

➢　　In this mode, the temperature setting range is 16℃~30℃ and the initial value is 25℃.

(二) Dry Mode
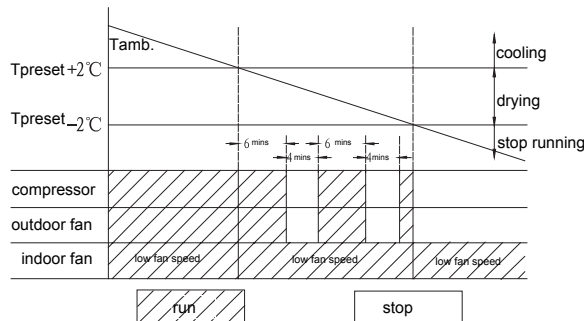#### 1. Working conditions and process of dry
When Tamb.>Tpreset+2℃, the unit will run in cooling mode. Meanwhile, compressor and outdoor fan will start running, and indoor fan will run at low fan speed;

When Tpreset-2≦Tamb.≦Tpreset+2℃, compressor and outdoor fan will run for 6mins and then stop for 4 mins, and they will run like that circularly. Indoor fan will run at low fan speed;

When Tamb.<Tpreset-2℃, compressor and outdoor fan will stop running, while indoor fan will run at low fan speed.

➢　　In this mode, the temperature setting range is 16℃~30℃ and the initial value is 25℃.

(三) Heating Mode (this mode is not available for cooling only unit)

1. Working condition and process for heating

When Tamb.≦Tpreset-1℃, the unit will run in heating mode. Meanwhile, compressor and outdoor fan will start running. Indoor fan may be start running after delayed for a period of time to prevent blowing out cold air. If the unit turns to heating mode for the first time or switches to heating mode from other modes, the four-way valve will be energized after compressor was started up for the first time for20s.

When Tamb.≥Tpreset+1℃, compressor and outdoor fan will stop running. The four-way valve is energized all the same and indoor fan will stop running after running at low fan speed for 10s;

When Tpreset-1℃<Tamb.<Tpreset+1℃, the unit will keep original running status;

➢ In this mode, the temperature setting range is 16℃~30℃ and the initial value is 25℃. When tuning off the unit in heating mode or switching to other modes from heating mode, the four-way valve will be de-energized after 2mins delayed.

➢ When turning off the unit, if the complete unit is at running status in heating mode, the unit will stop runnin when reaching the setting temperature and the unit will be turned off after lowing residual heat for 10s. if the unit is at the status of blowing residual heat when the unit is stopped after reaching the temperature point, the unit will continue to blow residual heat and then it will be turned off; if the unit is stopped after reaching the temperature and indoor fan is stopped, the unit will be turned off directly without blowing residual heat.
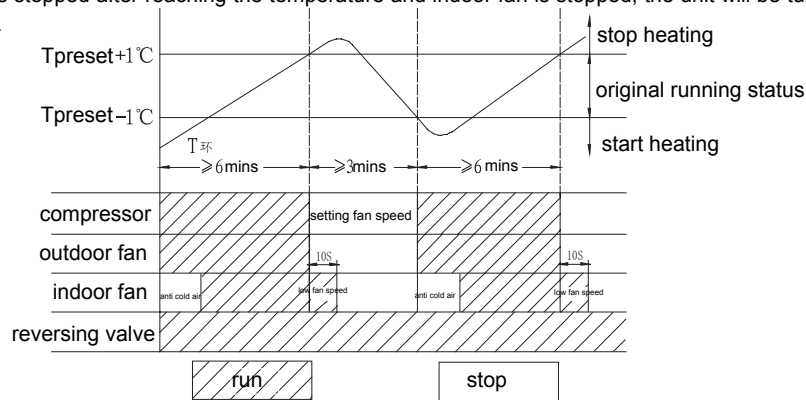
2. Defrosting condition and process

System will defrost intelligently and automatically. When it's detected that the system is reached the defrosting condition, the system will turn to defrosting status;

After defrosting is started up, H1 will be displayed. If there's auxiliary heating, auxiliary heating will be stopped and then compressor, indoor fan and outdoor fan will stop running after 1min delayed. 3mins later, the four-way valve will be closed. After four-way valve has closed for 30s, compressor will be started up.

After defrosting is finished, compressor will stop running, while the four-way valve will be start up. 30s later, compressor and outdoor fan will be restarted up and turn to the next periods. Indoor fan is running at anti cold air status.

Defrosting time can't exceeds 12mins at the most.

3. Working condition for auxiliary heating

Auxiliary heating can be turned on/off by buttons.

If auxiliary heating is at ON status, when indoor fan is running, and indoor ambient temperature and air discharge temperature are low, auxiliary heater will start running;

When indoor fan isn't running, or indoor ambient temperature is high, or air discharge temperature is high, auxiliary heater will stop running. Once the auxiliary heater is stopped, it can only be restarted up after 2mins delayed.

If auxiliary heating is set OFF, the auxiliary heating will be turned off directly.

（四）Fan Mode

Indoor fan is running at setting fan speed: auto fan speed ⟶ low fan speed ⟶ medium fan speed ⟶ high fan speed

➢ The temperature setting range is 16℃~30℃ and the initial value is 25℃.

(五) Auto Mode

In this mode, the system will select the running mode (cooling, dry, heating, fan) automatically according to the change of ambient temperature.

➢ Once the mode is started up, the unit will only switch to the running status under auto mode according to Tamb after it has run for 30s at least.

（六）**Freon Recovery Mode**

That's the recovery operation method for refrigerant:

1. After the A/C is energized for the first time, set the A/C at FAN mode, low fan speed by remote controller and the indoor temperature is set as 20℃; Meanwhile, indoor fan will start running.
2. Press the light button on remote controller for twice successively within 5s; meanwhile, indoor fan and compressor will start running automatically.
3. After compressor has run for 3mins, close the cut-off valve completely.
4. When the protector for low-voltage switch has an action, compressor and outdoor unit will stop running automatically. Please close the cut-off valve immediately.
5. After stopping blowing wind by remote controller, the refrigerant recovery operation is finished completely.

Notice: 1. After refrigerant is recovered, if the recovery operation should be operated again, please cut off the power at first and then put through the power again.

2. Above methods are applicable for the movement or reinstallation of indoor unit or outdoor unit; during this process, the low voltage switch can't be short circuited.

四、**Other Controls**

1. Sleep Function

Sleep in cooling mode:

When initial temperature is set as 16~23℃, after sleep function is started up, the temperature will increase by 1℃ every 1hr. After the temperature has increased by 3℃, the unit will keep this temperature. After the unit has run for 7hrs, the temperature will decrease 1℃ and then the unit will run at this temperature all the time.

When initial temperature is set as 24~27℃, after sleep function is started up, the temperature will increase by 1℃ every 1hr. After the temperature has increased by 2℃, the unit will keep this temperature. After the unit has run for 7hrs, the temperature will decrease 1℃ and then the unit will run at this temperature all the time.

When initial temperature is set as 28~29℃, after sleep function is started up, the temperature will increase by 1℃ every 1hr. After the temperature has increased by 1℃, the unit will keep this temperature. After the unit has run for 7hrs, the temperature will decrease 1℃ and then the unit will run at this temperature all the time.

When initial temperature is set as 30 ℃, the unit will run at this temperature. After the unit has run for 7hrs, the temperature will decrease by 1℃ and then the unit will run at this temperature all the time.

Sleep in heating mode:

When initial temperature is set as 16℃, the unit will run at this temperature all the time;

When initial temperature is set as 17~20℃, after sleep function is started up, the temperature will decrease by 1℃ every 1hr. After the temperature has decreased for 1℃, the unit will keep this temperature.

When initial temperature is set as 21~27℃, after sleep function is started up, the temperature will decrease by 1℃ every 1hr. After the temperature has decreased for 2℃, the unit will keep this temperature.

When initial temperature is set as 28~30℃, after sleep function is started up, the temperature will decrease by 1℃ every 1hr. After the temperature has decreased for 3℃, the unit will keep this temperature.

Sleep in dry mode:

When setting sleep function in dry mode, after the sleep function has run for 1hr, Tpreset will increase by 1℃ and it will increase by another 1℃ after 2hrs. Tpreset will increase by 2℃ at all within 2hrs and then the unit will run at this temperature.

Sleep in fan mode and auto mode:

Sleep function is nor available in fan mode and auto mode.

2. Timer Function

Timer ON: Timer ON can be set at the OFF status of the unit. After timer ON is reached, controller will run according to the setting mode. The time setting range is 0.5~25hrs and the interval is 0.5hr. If the time on display screen is less than 10hrs, the display interval is 0.5hr; if the time is more than 10hrs, the display interval is 1hr.

Timer OFF: Timer OFF can be set at the ON status of the unit. After timer OFF is reached, the unit will be turned off. The time setting range is 0.5~25hrs and the setting interval is 0.5hr. If the time on display screen is less than 10hrs, the display interval is 0.5hr; if the time is more than 10hrs, the display interval is 1hr.

3. Swing Control

Swing motor can be turned on/off by pressing the swing button on remote controller. Swing is valid only when the indoor fan is running.

Right & left swing: swing blade has 7 kinds of status: ① angle 1, ② angle 2, ③ angle 3, ④angle 4, ⑤ angle 5, ⑥ swing, ⑦ stop. After the unit is turned on by the ON/OFF button on control panel every time, the default status of swing is OFF and the position is ③ angle 3. After the unit is turned on by remote controller, the status of swing motor is basing on the display status on remote controller．After the unit is energized every time, right & left swing motor will be reset.

UP & down swing: when turning off the unit, the swing blade will stop at the starting point (zero position). When turning on the unit, there are 7 kinds of status: ① angle 1 (max position), ② angle 2, ③angle 3, ④angle 4, ⑤angle 5 (min position), ⑥swing, ⑦stop. If turn on the unit by the ON/OFF button on control panel, the setting swing status is basing on the status before turning off the unit; while if turn on the unit by remote controller, the setting swing status is basing on the status on remote controller (if the receiving remote controller is 35, 25, 24, 14 or 13, it's ⑥ swing). When turning on the unit each time (including turn on the unit by remote controller or control panel), if the setting swing status is not ⑦stop, then it will at the actual swing status; if the setting swing status is ⑦stop, after turning the unit, it will be defaulted at angle 3 in cooling, angle 4 in heating and angle 3 in dry. As for mode switchover, it will also switch like that until the setting swing status is not ⑦stop, then the above compulsory default status will be cancelled.
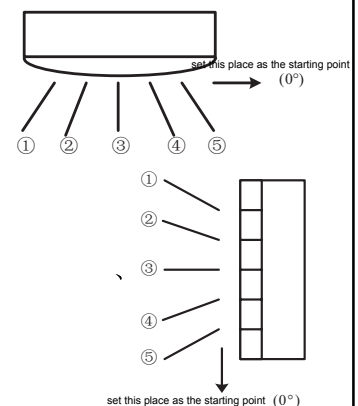
When turning on the unit each time, the swing blade must be open to angle 5 (mini position), and then compressor, fan etc. can run. When switching on controller or turning off the unit each time, the swing blade must be at OFF status.

4. Buzzer

Upon energization or operation, the buzzer will give out pleasant sound (digital chord).

5. Auto Fan Speed Control of Indoor fan

In auto fan speed, indoor fan will select high, medium or low fan speed automatically according to the change of ambient temperature. For the switchover between any two kinds of fan speed, the unit must be make sure that it has run at each fan speed for 3mins and 30s at least.

6. AIR Function （it's reserved for some models）

AIR function is invalid when the unit is turned off. Upon receiving the order for starting up AIR function from remote controller or control panel, indoor fan will be turned on and the AIR function will be started up; once receiving the order for turning off AIR function n, AIR function will be turned off. After the unit is turned off, AIR function will be cleared automatically.

7. BLOW function

Blow function can be turned on/off by the FUNCTION button on control panel or BLOW·E-HEATER button on remote controller.

If start up BLOW function in cooling or dry mode, after the unit is turned off, indoor unit will still run for a few minutes to dry the water inside the unit, and then the indoor unit will be turned off automatically.

8. Turbo Function

In cooling and heating mode, turbo function can be turned on/off (there's no turbo function in auto, dry and fan mode) by the turbo button After pressing turbo button for once, remote controller will display the characters of "turbo" and fan speed won't change, Meanwhile, indoor fan will run at super-high fan speed and display panel will display the super-high fan speed; After repressing turbo button, th turbo function will be quitted and the characters of "turbo" on remote controller will be disappeared. Meanwhile, indoor fan will turn back to setting fan speed. Super-high fan speed will also be quitted after operating the fan speed button and the fan speed will also be changed correspondingly. Display panel will display the setting fan speed.

Turbo function is default to be turned off when remote controller is energized.

When restarting up the unit or switching the mode, turbo function will be memorized.

When restarting up the unit by remote controller and controller or switch to cooling or heating mode, turbo function will be memorized. While when switching to auto, dry or fan mode, the turbo function is unavailable.

9. Power-off Memory Function

When re-energizating the unit after power failure, the unit will run at the memory content. Memory content : mode, up&down swin (7kinds of status), right and left swing (7 kinds of status), setting temperature, setting fan speed, light, timer, turbo, AIR, health and environment mode.

If the unit is at ON status after power failure, compressor will be started up 3mins delayed after energization; if the unit is at OFF status, compressor will be started up without 3mins delayed.

If the timer hasn't been reached before power failure, the unit will time again according to the setting timer before power failure.

五、 Protective Measures

1. Indoor antifreezing protection

When cooling in cooling mode or dry mode (that's Tamb>Tpreset+2℃), if it's detected that the evaporator tube temperature is too low the system will turn to antifreezing protection status. Meanwhile, compressor and outdoor fan will stop running, while indoor fan and swing motor will keep original status. When evaporator tube temperature resumes to normal range and compressor has stopped for 6mins, controller will run at the setting mode.

Buttons won't be shielded during the antifreezing protection.

2. High-pressure protection of system

When the high-pressure protection is detected for 3s successively, all loads will be turned off. Meanwhile, all buttons and signal will be shielded and E1 will be displayed. When it's detected that the high-pressure protection of compressor has been released for 6s successively, the shield for button and signal will be released and E1 will still be displayed. E1 can be cleared after pressing ON/OF button to turn off the unit. The unit will resume running after repressing ON/OFF button.

3. Low-voltage protection of system

This function is unavailable for some modes. But if the controller is the general controller and the shielded wire of low-pressur protection is loosened or not connected well, it will take it as low-pressure protection by mistake. The details are as below:

1. After compressor is started up for 2mins, it will begin to detect the signal of low pressure switch. If it's detected that the low pressure switch is broken for 1mins successively, the complete unit will stop running. 3mins later, if the low pressure switch is resumed, the unit will resume running automatically. If low pressure switch protection occurs for 2 times successively, E3 will be displayed and the u can't resume running automatically to warn users that it's leaking. After restarting up the unit and low pressure switch is resumed, the unit will resume running.

2. When compressor is stopped, if it's detected that the low pressure switch is broken for 30s successively, the complete unit will stop running. Meanwhile, E3 will be displayed and the unit can't resume running automatically. Only after restarting up the unit and the low pressure switch is resumed, the unit can resume sunning.

3. When compressor hasn't been start up after energization each time, if it's detected that the low pressure switch is broken for 1s successively, all loads won't be turned on after turning on the unit, and E3 will be displayed on the display screen. E3 will still be displayed after restarting up the unit. Only when the low pressure switch is resumed, E3 will be cleared and then all loads will run normally.

4. In compulsory cooling or heating mode, it will begin to detect the signal of low pressure switch after compressor has started up for 2mins. When it's detected that the low pressure switch is broken for 1s successively, the complete unit will stop running and E3 will be displayed. During compulsory heating, if outdoor ambient temperature $\leqq0℃$, the detection for low pressure switch will be shielded.

Correct disposal method: after cutting off the power, insert the shielded wire again to make sure that the shielded wire is connected firmly and then restart up the unit.

4. High temperature protection for discharge pipe

After the compressor is started up, if it's detected that the discharge temperature is too high for 30s successively, the unit will stop running when indoor ambient temperature is reached to setting temperature. When compressor has stopped for 3mins and discharge temperature resumes to normal range Tdischarge <90℃, the complete unit will resume running.

If above protection is occurred for twice successively, the complete unit can't resume running and E4 will be displayed. When restarting up the unit and Tdischarge <90℃, the unit will run at setting mode.

If turning on the unit to turn to heating mode or switching to heating mode from other modes, discharge protection will be shielded for 1min when compressor is started up for the first time.

5. Indoor high temperature resistance protection

In heating mode, when it's detected that the evaporator tube temperature is too high, outdoor fan will stop running; when evaporator tube temperature resumes to normal range, outdoor fan will be started up.

6. Overcurrent protection

After compressor is started up, if it's detected that the current exceeds I_0 (I_0=25A) for 3s successively, the unit will stop running when Indoor ambient temperature is reached to setting temperature. After compressor has stopped for 3mins, the unit will resume original running status. If protection times exceeds 6 times, indicator will blink and display E5 and the unit can't resume original running status. The unit can only resume running after restarting up the unit.

7. Malfunction of temperature sensor

Under ON status, it will detect the malfunction of indoor tube temperature (exclude defrosting period and the period when defrosting is finished for 5mins) and outdoor discharge temperature sensor (in heating mode, it starts detecting the malfunction after compressor has started up for 1min; the malfunction won't be detected when compressor is stopped). It's the malfunction when they are short circuit or broken circuit for 30s successively. When there's malfunction of temperature sensor, the complete unit will stop running. Meanwhile the indicator will blink and display the corresponding error code. Malfunction of temperature sensor won't shield the button and remote controller.

8. Malfunction and protection code

E1: high-pressure protection of system;
E3: low-pressure protection of system;
E4: high temperature protection for discharge pipe;
E5: overcurrent protection;
F1: malfunction of indoor ambient temperature sensor;
F2: malfunction of indoor tube temperature sensor;
F3: malfunction of outdoor ambient temperature sensor
F4: malfunction of outdoor tube temperature sensor
F5: malfunction of discharge temperature sensor

When multiple malfunctions are occurred simultaneously, each malfunction error will be displayed for 3s and they be will displayed in cycle.

六、 Button

When remote controlling by remote controller:
1. If the display mode for remote controller is the heating mode and A/C is the cooling only type, A/c won't receive other signal except the signal for turning off the unit.
2. If pressing the invalid button on remote controller, the buzzer will still give out a sound but the function won't be carried out.

There are those buttons on the panel: ON/FF button, mode button, ambient setting button, ▲ button, ▼button, function button, fan speed button.

Display screen:

Speed   Function   ▼   ▲   AMB.   Mode   ON/OFF
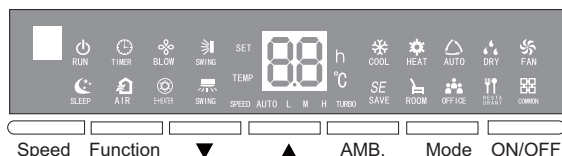
1. ON/OFF button

Controller is turned on/off by pressing this button. After each pressing of this button, the on/off status will be switched for once.

2. Mode button

After pressing this button, it will be selected and displayed as below:

Auto ⟶ cooling ⟶ dry ⟶ fan ⟶ heating   (heat pump type)

3. Ambient setting button

After pressing AMB. button, it will be selected as below:

SAVE mode ⟶ room mode ⟶ office mode ⟶ restaurant mode ⟶ common mode

① In each mode, after pressing AMB. mode on control panel, the ambient mode can be selected and cycled as : SAVE mode---room mode---office mode---restaurant mode---common mode; when the unit is turned on for the first time, ambient mode is default as common mode; when restarting up the unit, ambient mode will keep the setting status before turning off the unit.

② When using the remote controller, the unit can only turn to SAVE mode or common mode after receiving the order from remote controller, and the unit will run according to the order transmitted by remote controller all the time.
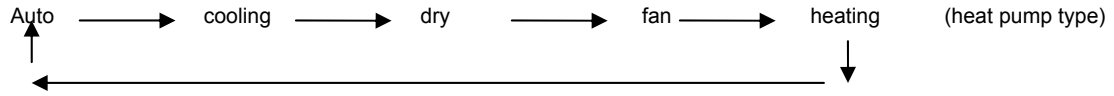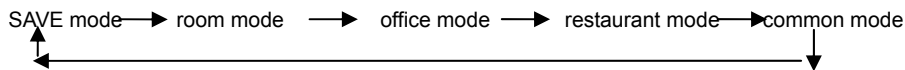
③ In SAVE mode, room mode, office mode or restaurant mode, sleep will be cancelled automatically and sleep can't be adjusted; Sleep is only valid in cooling, dry and heating mode under the common mode.

④ Room, restaurant and office modes

Cooling and heating mode: setting temperature, fan speed and swing will run at the default status. If users have adjusted the parameters, they will run according to adjusting status. 30mins later, it will turn back to auto adjusting status; when restating the unit, swing will keep the status before turning off the unit.

Fan, dry and auto mode: running status is the same as that in common mode.

⑤ SAVE mode

In cooling mode: setting temperature and fan speed can be adjusted automatically; if users have adjusted the setting temperature and setting fan speed, it will run according to the adjusting status. 30mins later, it will turn back to auto adjusting status.

Heating, fan, dry and auto mode: the running status is the same as that in common mode.

Notice: room, restaurant and office mode can only be adjusted by buttons on control panel. If controller is receiving the order from remote controller when it's running in room, restaurant or office mode, those modes will be quitted and it will run according to the mode on remote controller.

4. Selection button for setting temperature (▲and▼)

(1) During the status when don't set the function, after pressing ▲ button or ▼button for once, the setting temperature will increase or decrease for 1℃ and the temperature setting range is 16℃~30℃.

(2) During the status when setting the function, the function can be selected circularly.（the circulatory direction for ▲and▼ is opposite）

① up & down （swing）： swing, stop swinging.

② right & left (swing): swing, stop swinging.

③ blow: start up blow, turn off blow.

④ E-HEATER: start up E-HEATER, turn off E-HEATER.

⑤ TIMER: set timer and it can be adjusted among 0~24hrs. If the time is less than 10hrs, the interval is 0.5hr; if the time is more than 10hrs, the interval is 1hr.

⑥ AIR: start up AIR, turn off AIR.

⑦ Sleep: start up sleep, turn off sleep.

⑧ Health: start up the electrostatic dedusting, turn off the electrostatic dedusting.

⑨ Turbo: start up turbo, turn off turbo.

⑩Setting: default to display the setting temperature at ON status, default to display the setting temperature at off status

⑾ Room temperature: default to display room temperature at on status, default to display to room temperature at off status.

(3) After pressing ▲ button and ▼button simultaneously, all buttons on the display panel will be shielded. When pressing any buttons, the buzzer will give out a sound and dual 8 will display "LC". The display will resume normal after the dual 8 blinks 3 times to warn users that the buttons are locked. When repressing those two buttons simultaneously, shield will be released and the display will resume normal status.

(4) After the unit is energized for the first time, if there isn't any input:

① If pressing ▲ buttons within 20s successively, the unit will turn to compulsory heating immediately and up & down swing blade will open to angle I （minimum position）. Meanwhile, all loads will be started up and indoor fan and outdoor fan will run at high fan speed. When there's no malfunction of temperature sensor, all characters will be displayed. When there's malfunction of temperature sensor, dual 8 will display error codes circularly and the buzzer will give out sound. When the unit is stopped 5 mins later or the unit is stopped after receiving the signal for turning off the unit within 5mins, the unit will turn to normal standby status.

② If pressing ▼button within 20s successively, the unit will turn to compulsory cooling immediately and up & down swing blade will open to angle I (minimum position). Meanwhile, all loads will be turned on except the four-way valve and the indoor fan and outdoor fan will run at high fan speed. When there's no malfunction of temperature sensor, all characters will be displayed. When there's malfunction of temperature sensor, dual 8 will display error codes circularly and the buzzer will give out sound. When the unit is stopped 5 mins later or the unit is stopped after receiving the signal for turning off the unit within 5mins, the unit will turn to normal standby status.

After above tests are all displayed for 2s, it will begin to detect the malfunction of indoor ambient, indoor tube temperature, outdoor ambient, outdoor ambient, outdoor tube temperature and discharge temperature sensor. When it's detected that there are multiple malfunctions, each error code will be displayed for 3s and they will be displayed circularly.

Item ① and ② are only used for testing. During this period, high pressure, overcurrent and discharge protection won't be detected.

5. Function button

In the ON state of the unit, after each pressing of the function button, you can switch among up&down swing, right&left swing, blow, E-HEATER, timer, AIR, sleep, health (this is unavailable for L-shape floor standing A/C), turbo, setting and room temperature setting in sequence. When a certain character is blinking, it means that you can set this function and you can press "▲" button or "▼"button to set it. The setting will be confirmed after the setting has been set for 5 mins and there's no change for the operation.

In blow running status, the unit will be turned off after pressing the function button. If repressing the function button, you can set the timer or health function.

After a function is selected by function button, if the unit hasn't been turned off and it hasn't received the signal from remote controller within 2 mins, the unit will circulate starting from the original setting function after repressing the function button. 2mins later or the unit is turned off or the unit has received the signal from remote controller, the unit will circulate from the first icon after repressing function button.

6. Fan Speed Button

After pressing speed button, it will be selected and displayed as: auto ➔ low ➔ medium ➔ high
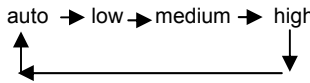
七、 **Display Method**

1.Middle Number Part

(1) When there's malfunction protection (E1, E3, E4, E5, F2, F5), the unit only displays the error code and others won't be displayed. When there's multiple malfunctions, those malfunctions will be displayed circularly.

(2)In the normal running status, when setting temperature or timer is set, the unit will display the corresponding setting for 5s. After that, the unit will display the setting temperature and it will default to display H1 during the time of defrosting. When setting the setting temperature, timer and temperature display, they will be displayed in sequence as below: setting temperature, timer, temperature display and defrosting H1 and each status will be displayed for 5s. If one status (setting temperature, timer, temperature display, defrosting H1) isn't exist, that status will be omitted and the display will stop at the defaulted or setting temperature display. After the unit is energized, it defaults to display the ambient temperature.

The corresponding character and icon will be displayed simultaneously.

2. Fan Speed

When setting auto, low, medium and low fan speed, the corresponding character for the selected fan speed will be bright, and others won't be bright.

When setting auto, cooling, dry, fan and heating mode, the corresponding character for the selected mode will be bright and others won't be bright. The character and icon for the selected mode will be bright simultaneously. In auto mode, the auto and actual running mode will be displayed at the same time.

3. Ambient Mode

Ambient mode is including 5 kinds of mode: SAVE mode, room mode, office mode, restaurant mode and common mode. The selected ambient mode will be bright, others won't be bright.

① Up&down swing: when setting up&down swing, the icon and character will blink; when selecting the up&down swing, the icon and the character of (up&down) will be displayed. When there's no up&down swing or the swing the stopped, the icon and the character of "up&down" won't be displayed.

② Right&left swing: when setting right&left swing, the icon and character will blink; when selecting the right&left swing, the icon and the character of (right&left swing) will be displayed. When there's no right&left swing swing or the swing the stopped, the icon and the character of "right&left swing" won't be displayed.

③ Blow: when setting blow function, the icon and character will blink; when this function is selected, the icon and character will be displayed. If the blow function hasn't been selected, the icon and character won't be displayed. During the time of blow, only the icon and character are displayed, others won't be displayed.

④ E-HEATER: when setting E-HEATER function, the icon and character will blink; when this function is selected, the icon and character will be displayed. If the E-HEATER function hasn't been selected, the icon and character won't be displayed.

⑤ Timer: when setting timer function, the icon and character will blink; when this function is selected, the icon and character will be displayed. If the timer function hasn't been selected, the icon and character won't be displayed.

⑥ AIR: when setting AIR function, the icon and character will blink; when this function is selected, the icon and character will be displayed. If the AIR function hasn't been selected, the icon and character won't be displayed.

⑦ Sleep: when setting AIR function, the icon and character will blink; when this function is selected, the icon and character will be displayed. If the sleep function hasn't been selected, the icon and character won't be displayed.

⑧ Health: when setting AIR function, the icon and character will blink; when this function is selected, the icon and character will be displayed. If the health function hasn't been selected, the icon and character won't be displayed.

⑨ Turbo: when setting turbo function, the character will blink; when this function is selected, the character will be displayed. If the turbo function hasn't been selected, the character won't be displayed.

⑩ Setting: when setting function, the character of setting will blink; when this function is selected, the character will be displayed and the dual 8 will display the setting temperature. If the setting function hasn't been selected, the character and setting temperature won't be displayed.

⑪ Room temperature: when setting function, the character of room temperature will blink; when this function is selected, the character will be displayed and the dual 8 will display the indoor room temperature. If the room temperature function hasn't been selected, the character and indoor room temperature won't be displayed.

5. Indicator Control

When the unit is at standby status after energizing, the power LED will be bright. After the unit is turned on, the running LED will be bright. When any one of the circumstances as below are occurred, the running LED will blink: defrosting, overcurrent protection, high pressure protection of compressor, low pressure protection of compressor, high temperature protection of discharge pipe，malfunction of indoor tube temperature sensor, malfunction of discharge temperature sensor.
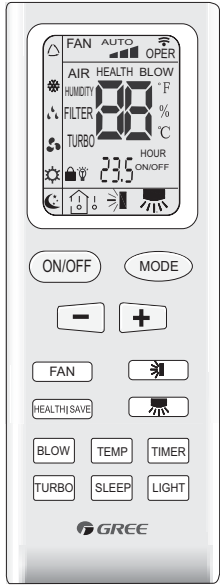
6. Light Control

LED display can be turned off by the light button on remote controller. When using remote controller to cancel "light", the complete LED displayer screen will go out, except the running LED. When turning off the light, if there's signal from button or remote controller, LED will go out after displaying for 5s.

Operation of remote controller

1. Names and functions of remote controller

Note: Be sure that there are no obstructions between receiver and remote controller; Don't drop or throw the remote controller; Don't let any liquid get into the remote controller and put the remote controller directly under the sunlight or any place where is very hot.

Signal transmitter

Remote controller

$(+/-)$
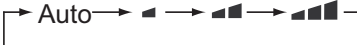
TEMP. $(+/-)$ button

• When pressing +button , the setting temp. will be increased by 1℃ ,When press -button,the setting temp. will be decreased by 1 ℃ The temp. will be changed quickly by pressing the button continuously and the setting temp. range is $16\sim30℃$。

FAN

FAN speed button

• After pressing this button , fan speed will change as below: Auto → Low speed → Middle speed → High speed

▰ Low speed   ▰▰ Middle speed

▰▰▰ High speed
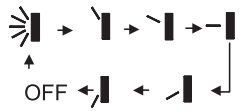
Note:Under the Dry mode, the fan speed can't be adjustable and low fan speed is imperative, but when operating this button, the remote controller will send this signal.

up & down swing button

• General swing mode is defaulted for remote controller. In this mode, after pressing this button, you could turn on or turn off the up & down swing function.
• When the unit is turned off and pressing "+" and up & down swing buttons simutanously, it could be switched between the general swing mode and stationary swing mode. Meanwhile, blinks 2 seconds.
• In Stationary swing mode, after pressing this button, the angle for up & down swing is show as below:

OFF

• When up & down swing louver is working, after turning off the unit, the swing louver will be stopped immediately at current position. shows that the up & down swing louver swings up and down as shown in the above figure.

ON/OFF
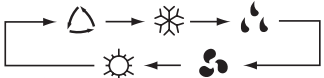
ON/OFF button

• After pressing this button, the unit will turned on/off, an it can clear the timer or sleeping function of last time.

MODE

Mode button

• After pressing this button, the running mode will change as below.

◁ AUTO

❄ COOL

♦ DRY

♣ FAN

☼ HEAT (Note:this is unavailable for coolling only unit)

Remote control

Timer button

• At the on status of the unit , press this button to set timer off. At the off status of the unit , press this button to set timer ON. Press this key once, character of Hour on(off) will appear and flicker. In which case, press +/- button to adjust time (press+/- button continuously to change timing value quickly). The setting time range is from 0.5 to 24 hrs; press this key once again to fix the time, then remote controller will send out the signal immediately and hour on/off will stop flickering. If the time of that no press timer button under flickering status is above 5s,the timer setting will quit. If the timer has been set, press this button once again to quit it.

TEMP

Temp. display button

• After powered on, presetting temperature is defaulted,(According to customer requirements to display,if there are no requirements,the presetting temp-erature displaying is defaulted, there is no signal display on the remote controller). Press this button, (display ⌂), display the presetting temperature; (display 🌡), display indoor ambient temperature, (display ⌂), display ambient temperature, If current display status is indoor ambient temp. when it received other remote control signal, then it will display presetting temp. 5s later, it will return to display ambient temp.. Other models are without this function. But after pressing this button, the main unit will click and keep the original status.

HEALTH | SAVE

HEALTH | SAVE button

• HEALTH function:there isn't health function for this unit. If press this key, the main unit will click, but it also runs under original status.

• Save energy function: this unit hasn't this function, press this button, the main unit will click, "SE" will be displayed on the LCD of remote controller, fan speed automatically rotates, when repress this button, the fan speed will run at previous setting fan speed.

TURBO

Turbo button

• Set turbo on or off(the characters of turbo will appear or disappear) by pressing this button under cooling or heating mode.Once energized, the unit will be defaulted to be turbo off. This function can not be set under auto, dehumidify or fan mode, and characters of turbo won't appear.

BLOW

Blow button

- Set Blow ON (the characters of Blow will appear)or OFF (the characters of Blow disappears) by pressing this button under cooling or dehumidify mode. Once energized, the unit will be defaulted to be Blow OFF. This function can not be set under auto, fan or heating mode, and the characters of Blow won't appear.

LIGHT

Light button

- Press this button to select LIGHT on or off on the displayer. When the LIGHT on is set,the icon will be displayed and the light LED on the displayer will be bright. When the LIGHT off is set, the icon will be displayed and the light LED on the displayer will go out.

Remote controller

Left&right swing button

- General swing mode is defaulted for remote controller. In this mode, after pressing this button, you could turn on or turn off the Left&right swing function.
- When the unit is turned off, synchronously pressing "+" and Left&right swing button, it could be switched between the general swing mode and stationary swing mode. At this time, blinks 2 seconds.
- In Stationary swing mode, after pressing this button, the angle for Left & right swing is showed as below:

OFF
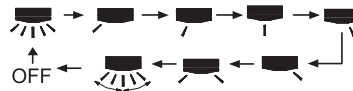
- When left & right swing louver is working, after turning off the unit, the swing louver will immediately stop at current position. shows that left &right swing louver swings right and left as shown in the above figure.

SLEEP

Sleep button

- After pressing this button, the unit will enter into SLEEP state. when repressing it, SLEEP will be quitted.The sleep function will be canceled with the stop of the unit.There is no SLEEP function under AUTO and FAN mode. is the icon for sleep function.

- At COOL mode: after SLEEP mode runs after 1hour, the setting temp. will be increased by 1℃ , 2 hour later, setting temp. will be increased by 2℃ and then the unit will run at this setting temperature.

- In HEAT mode: after SLEEP mode runs after 1hour, the setting temp will be decreased by 1℃, 2 hours later setting temp. will be decreased by 2℃ ,then the unit will run at this setting temperature.

2. Guide for operation- General operation

1. Press ON/OFF button to start the unit after powering the main unit on.
   (Note: Power the unit on every time, the big -guide louver and small-guide
   louver will be closed firstly.)

2. Press MODE button to select your desired running mode.

3. Press +/ - button to set the desired temperature (It is unnecessary to
   set the temperature at AUTO mode)

4. Press FAN button to set fan speed, the AUTO FAN, LOW, MID or
   HIGH could be selected.

5. Press ⇥ button and ⇥ button to set swing mode.
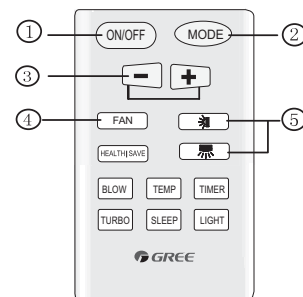
3. Guide for operation- Optional operation

1. Press SLEEP button to set the sleep mode.

2. Press TIMER button and then press +/- button to set the scheduled timer
   ONor timer   OFF.

3. Press LIGHT   button to control displayer light on or off.

4. Press BLOW   button to set Blow function on or off.

5. Press TURBO   button to set this function on or off.
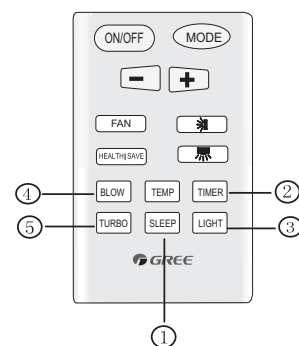
4. Changing batteries and notices

1. Slightly press the place with   ▼OPEN   and then push the back cover of
   remote controller along the arrowhead direction. (As show in figure)

2. Take out the old batteries. (As show in figure)

3. Insert two new AAA1.5V dry batteries, and pay attention to the polarity.
   (As show in figure)

4. Attach the back cover of remote controller. (As show in figure)

★ NOTE:

● When changing the batteries, do not use the old or different batteries,
   otherwise, it can cause the malfunction of remote controller.

● If the remote controller won't be used for a long time, please
   take them out and don't let the leakage liquid damage the
   remote controller.

● The operation should be in its receiving range.

● It should be put at the places where is 1m away from the TV set or stereo sound sets.

● If the remote controller can't be operated normally, please take the batteries out.
   30s later, reinsert the batteries. If the unit can't still run normally, please
   change the batteries.
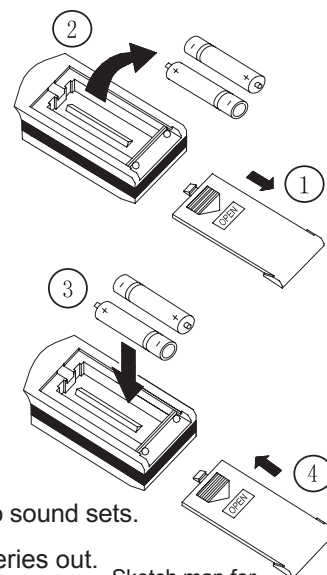
Sketch map for
changing batteries

8.1 Assembly drawing of Components and Parts of Indoor unit 1
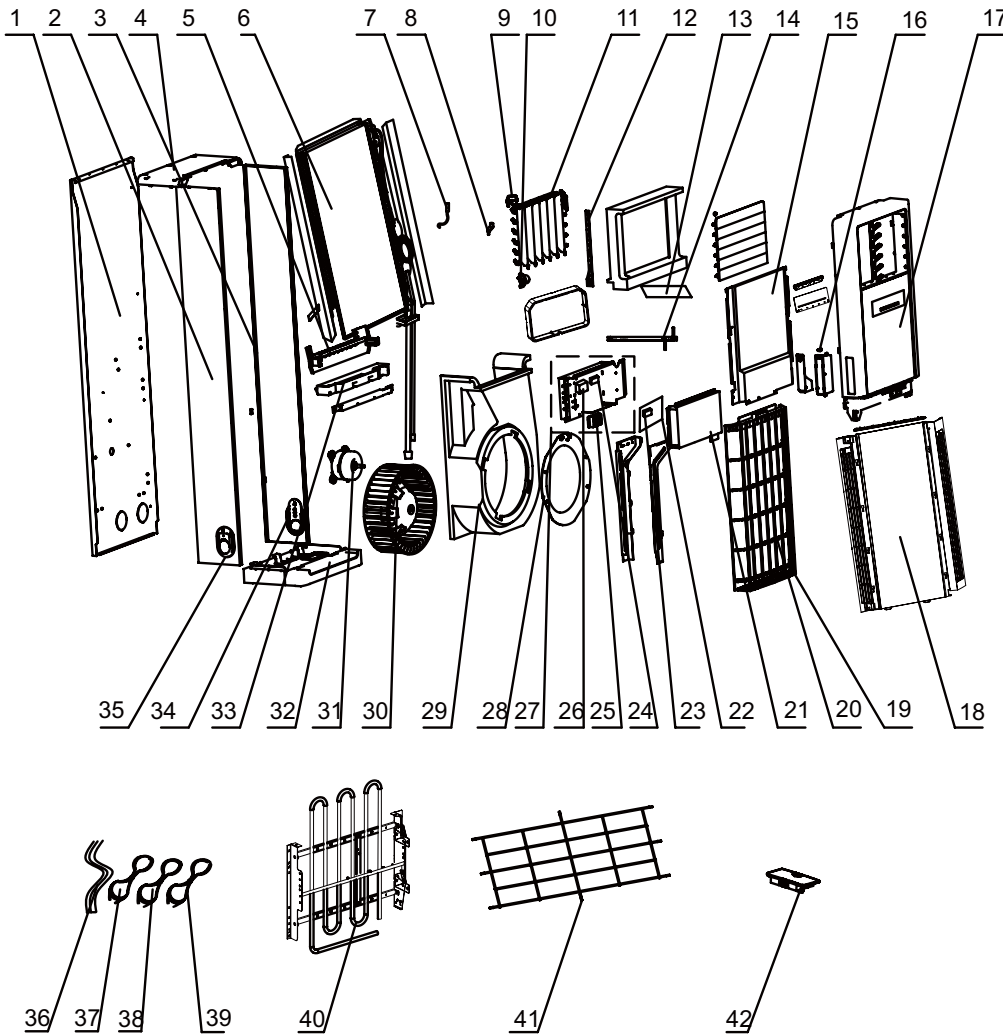
42	Screw Cover
41	Rear Grill
40	Electric Heater Tube
39	Connecting Cable
38	Connecting Cable
37	Connecting Cable
36	Power Cord
35	Rear Cover
34	Baffle Plate
33	Water Tray Sub-Assy
32	Chassis
31	Fan Motor
30	Centifugal Fan
29	Propeller Housing Sub-assy
28	Diversion Circle
27	Electric Box Assy
26	Transformer
25	Terminal Board
24	Capacitor CBB61
23	Relay
22	Main Board
21	Cover Plate assy of Electric Box
20	Filter sub-assy(upper)
19	Filter sub-assy(lower)
18	Air Intake panel Assy
17	Air Outlet Panel Assy
16	Latch
15	Air Guard Sub-Assy
14	Propeller housing press plate sub-assy
13	Display Board
12	Air Ducing Linkage
11	Swing Lever
10	Stepping Motor
9	Stepping Motor
8	Crank
7	Temperature Sensor
6	Evaporator Assy
5	Breakwater
4	Top Cover Sub-Assy
3	Right Side Plate Sub-Assy
2	Left Side Plate Sub-Assy
1	Rear Plate Sub-Assy

Description	Part Code GVA24AG-K3NNA5A/I	Qty
Left Side Plate Sub-Assy	0130412803	1
Right Side Plate Sub-Assy	0130412903	1
Rear Plate Sub-Assy	01304134	1
Rear Cover	2224422001	3
Baffle Plate	2611408801	3
Propeller Housing Sub-assy	1210420101	1
Propeller housing press plate sub-assy	01364216	1
Centrifugal fan	10314001	1
Diversion Circle	10374003	1
Fan Motor	15014217	1
Evaporator Assy	01004284	1
Rear Grill	01474042	1
Temperature Sensor	3900019003	1
Breakwater	26114118	1
Water Tray Sub-Assy	20184022	1
Drainage Pipe Sub-assy	05235434	1
Air Guard Sub-Assy	01364183	1
Electric Box Assy	0140451008	1
Main Board	30134133	1
Relay	44020331	2
Relay	44020345	8
Capacitor CBB61	33010012	1
Transformer	43110287	1
Terminal Board	42010258	1
Cover Plate assy of Electric Box	01404389	1
Chassis	22224021	1
Air Outlet Panel assy	20004691	1
Swing lever	10584218	1
Crank	10564201	1
Step Motor	1521421102	1
Guide blade lever	10584088	1
Step Motor	1521400801	1
Latch	70811002	1
Display Board	30563194	1
Air Intake panel Assy	20004524	1
Filter sub-assy(upper)	11124104	1
Filter sub-assy(lower)	11124105	1
Connecting Cable	400205404	1
Connecting Cable	4003213431	1
Connecting Cable	4003213447	1
Connecting Cable	400205382	1
Top Cover Sub-Assy	22244106	1
Screw Cover	24252450	2

The above datas are subject to change without norice.

39	Connecting Cable
38	Rear Cover
37	Baffle Plate
36	Water Tray Sub-Assy
35	Chassis
34	Fan Motor
33	Centifugal Fan
32	Propeller Housing Sub-assy
31	Diversion Circle
30	Protective covering
29	Electric Box Assy
28	Transformer
27	Terminal Board
26	Capacitor CBB61
25	Main Board
24	Electric Box Cover Sub-Assy
23	Filter sub-assy
22	Air Intake panel Assy
21	Air Outlet Panel Assy
20	Latch
19	Air Guard Assy
18	Propeller housing press plate sub-assy
17	Display Board
16	Guide blade lever
15	Swing lever
14	Step Motor
13	Step Motor
12	Electric Heater Tube
11	Rear Grill
10	
9	Crank
8	Ambient Temperature Sensor
7	Capillary Sub-Assy
6	Evaporator Assy
5	Breakwater Sub-Assy
4	Top Cover Sub-Assy
3	Right Side Plate Sub-Assy
2	Left Side Plate Sub-Assy
1	Rear Plate Assy

Description	Part Code		Qty
	GVA36AH-M3NNA5A/I	GVA48AH-M3NNA5A/I	
Rear Plate Assy	01304290	01304290	1
Fan Motor	1501442405	1501442404	1
Propeller Housing Sub-assy	12104058	12104058	1
Left Side Plate Sub-Assy	0130430401	0130430401	1
Right Side Plate Sub-Assy	0130430301	0130430301	1
Rear Cover	2224422001	2224422001	3
Baffle Plate	2611408801	2611408801	3
Propeller housing press plate sub-assy	01384063	01384063	1
Centrifugal fan	10314401	10314401	1
Diversion Circle	10374435	10374435	1
Protective covering	01474027	01474027	1
Chassis	22224020	22224020	1
Evaporator Assy	01004314	0100408101	1
Capillary sub-assy (heating)	03004029	0300401101	1
Electric heater	32004079	32004079	1
Rear Grill	1474034	1474034	1
Breakwater Sub-Assy	01364154D	01364154D	1
Water Tray Sub-Assy	12314811	12314811	1
Drainage Pipe Sub-assy	05235434	05235434	1
Ambient Temperature Sensor	39000190	39000190	1
Top Cover Sub-Assy	22244109	22244109	1
Air Guard Assy	01364174	01364174	1
Electric Box Assy	0140484201	0140484201	1
Main Board	30134135	30134135	1
Relay	44020331	44020331	3
Relay	44020345	44020345	8
Terminal Board	42010258	42010258	1
Transformer	43110287	43110287	1
Capacitor CBB61	33010037	33010037	1
Electric Box Cover Sub-Assy	01404388	01404388	1
Air Outlet Panel assy	2000453403	2000453403	1
Swing lever	10584218	10584218	1
Step Motor	1521421102	1521421102	1
Guide blade lever	10584089	10584089	1
Crank	10564201	10564201	1
Step Motor	1521400801	1521400801	1
Latch	70810302	70810302	1
Display Board	30563195	30563195	1
Air Intake panel Assy	20004536	20004536	1
Filter Sub-Assy	11124100	11124100	1
Screw Cover	24254018	24254018	2
Connecting Cable	40020539	400205391	1
Connecting Cable	400205391	400205392	1
Connecting Cable	40032117	40032117	1
Connecting Cable	40030328	40030328	1

The above datas are subject to change without norice.

31	Capillary Sub-Assy
30	4-way Valve Accessary
29	4-way Valve Assy
28	Discharge Tube
27	Drainage Plug
26	Drainage Connecter
25	Tube sensor
24	Pressure Protect Switch
23	Handle
22	Front Side Plate
21	Chassis Sub-assy
20	Clapboard Sub-Assy
19	Compressor and fittings
18	Valve Support Sub-Assy
17	Gas Valve Sub-Assy
16	Left Handle
15	Rear Side Plate Sub-Assy
14	Terminal Board
13	Electric Box Assy
12	Capacitor CBB61
11	AC Contactor
10	Capacitor CBB65
9	Electric Box Cover Plate
8	Rear Grill
7	Top Cover
6	Condenser Assy
5	Motor Support
4	Fan Motor
3	Axial Flow Fan
2	Cabinet
1	Front Grill

Description	Part Code	Qty
	GVA24AG-K3NNA5A/O	
Chassis Sub-assy	01203628P	1
Compressor and fittings	00103080	1
Condenser Assy	01105481	1
Capillary Sub-Assy	03005286	1
Cut-off Valve	07130209	1
Clapboard Sub-Assy	012352534	1
Clapboard Sub-Assy	01235254	1
Motor Support	01705253	1
Fan Motor	15015210	1
Cabinet	01435254	1
Axial Flow Fan	10335253	1
Magnet Coil	430004002	1
Discharge Tube	03615552	1
Valve Support Sub-Assy	01715001	1
Tube sensor	390001214	1
Electric Box Assy	01405281	1
Electric Box Cover Plate	01413047	1
Terminal Board	42010258	1
Terminal Board	42011103	1
AC Contactor	44010222	1
Capacitor CBB65	33000039	1
Capacitor CBB61	33010010	1
Top Cover	01255262	1
Front Grill	22265251	1
Rear Grill	01475252	1
Front Side Plate	01305247	1
Insulated board (cover of electric box)	20113003	1
Rear Side Plate Sub-Assy	01303709	1
Handle	26235253	2
left handle	26235401	1
Gas Valve Sub-Assy	07103030	1
4-way Valve Assy	03025065	1
Pressure Protect Switch	460200061	1
Drainage Connecter	06123401	1
Drainage Plug	06813401	3

The above datas are subject to change without norice.
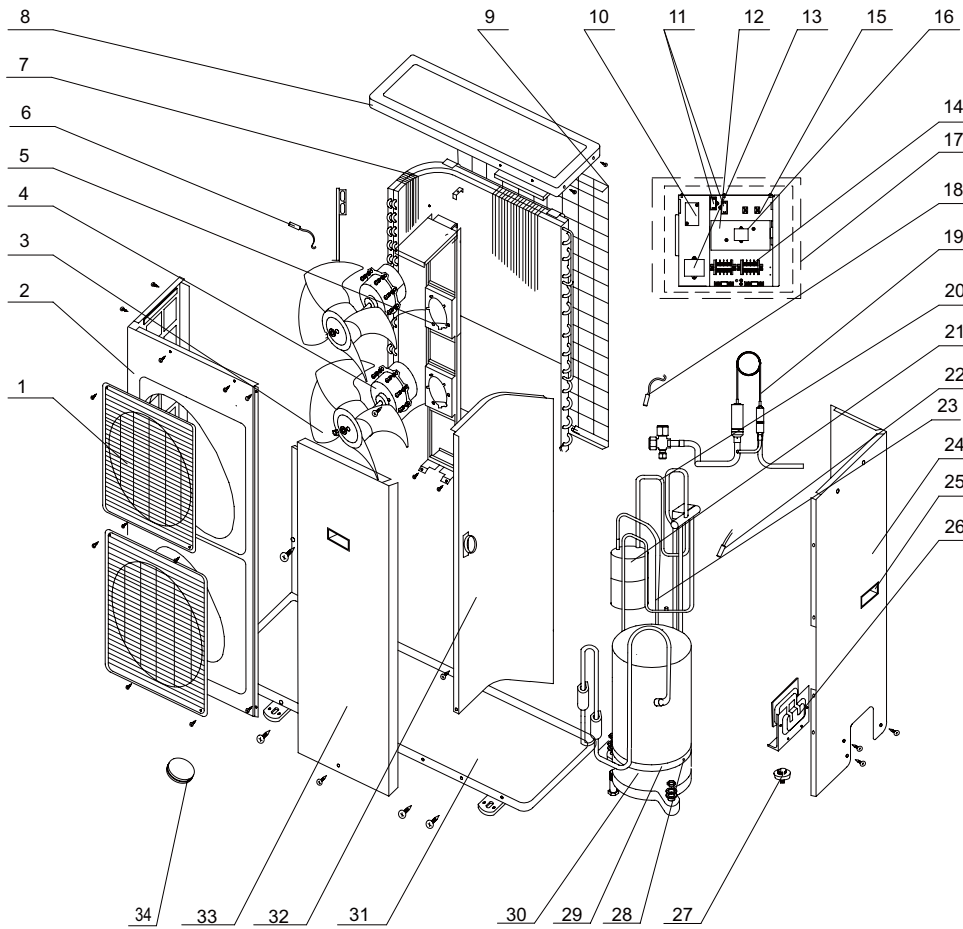
34	Drainage Plug
33	Front Side Plate
32	Clapboard Sub-Assy
31	Chassis Sub-assy
30	Compressor and fittings
29	Electric heater(compressor)
28	Terminal Board
27	Drainage Connecter
26	Valve Support Sub-Assy
25	Handle
24	Rear Side Plate Sub-Assy
23	Inhalation Tube Assy
22	Air-out Temp. Sensor
21	Gas-liquid Separator Sub-Assy
20	4-way Valve Assy
19	Capillary Sub-Assy
18	Outdoor Tube Sensor
17	Electric Box Assy
16	Transformer
15	Terminal Board
14	Terminal Board
13	Phase Reverse Protector
12	Over Current Protector
11	Capacitor CBB61
10	AC Contactor
9	Rear Grill
8	Top Cover
7	Condenser Assy
6	Ambient Temperature Sensor
5	Motor Support Sub-Assy
4	Fan Motor
3	Axial-flow Fan
2	Cabinet
1	Front grill

Description	Part Code		Qty
	GVA36AH-M3NNA5A/O	GVA48AH-M3NNA5A/O	
Chassis Sub-assy	012054332	012054335	1
Valve Support Sub-Assy	01715001	01715001	1
Compressor and fittings	00102701	00105021	1
Overload Protector	00180132	/	0
Compressor Gasket	76815209	/	0
Terminal Board	42010157	42010157	2
electrical heater	76515407	76515404	1
Condenser Assy	01105484	01105556	1
Capillary Sub-Assy	03005477	03005479	1
Clapboard Sub-Assy	01235440	01235440	1
Outdoor Tube Sensor	390001941	39000194	1
Ambient Temperature Sensor	39000199	39000199	1
Air-out Temp. Sensor	39000163	39000163	1
Gas-liquid Separator Sub-Assy	07225018	07225018	1
Motor Support Sub-Assy	01705433	01705433	1
Fan Motor	15015421	15015421	2
Cabinet	01435436	01435436	1
Axial Flow Fan	10338731	10338731	2
4-way Valve Assy	03025126	03025235	1
Cut-off Valve	07130212	07130212	1
Pressure Protect Switch	460200061	460200061	1
Magnet Coil	430004002	430004002	1
Inhalation Tube Sub-Assy	03633836	03635163	1
Pressure Protect Switch	46020007	46020007	1
Electric Box Assy	0140547039	01255262	1
Capacitor CBB61	33010010	22414102	2
AC Contactor	44010226	01305431	1
Over Current Protector	46020112	01475432	1
Transformer	43110242	01303712	1
Relay	44020332	26235253	1
Terminal Board	42010258	0140547039	2
Terminal Board	42011103	33010010	2
Phase Reverse Protector	46020052	44010226	1
Relay	44020369	46020112	1
Top Cover	01255262	43110242	1
Front grill	22414102	44020332	2
Front Side Plate	01305431	42010258	1
Rear Grill	01475005	42011103	1
Rear Side Plate Sub-Assy	01303712	46020052	1
Handle	26235253	44020369	3
Drainage Connecter	06123401	06123401	1
Drainage Plug	06813401	06813401	3

The above datas are subject to change without norice.

⑨ Trouble-Shooting

A/C can't be started up

- **Breaker is tripped over or the fuse is burnt out**
  - When setting the circuit breaker at "ON", it will be tripped off immediately → Ground and measure the insulation resistance, confirm whether the A/C is leaking or short circuit
  - When the A/C is turn to "ON", the circuit breaker will be tripped off in a few minutes → Check the breaker and measure the resistance for short cuircuit

- **Indoor unit and outdoor unit can't be started up**
  - No power supply → Check the power supply circuit
  - The power plug hasn't been inserted well or poor connection → Check and insert the plug well
  - Wrong wire connection between indoor unit and outdoor unit → Check wether the wires connection are wrong according to electric circuit, and connect the wires correctly
  - Transmitting malfunction of remote controller → Check the remote controller
  - Fuse of controller is burnt out → Replace the fure of controller
  - Check whether the wire connection between strong and electric plate and weak electric plate of controller is firm → Connect the wires firmly
  - Check whether the outlet line of transformer is connected firmly, whether there's voltage output → Connect the wires firmly and check the output voltage

Poor (heating) or cooling

- The setting temperature is improper → Adjust the setting temperature
- Check whether the cooling(heating) load is sufficient → Check the preset cooling(heating) load
- **Malfunction of refrigerant flowage**
  - Malfunction of the four-way valve → Replace the four-way valve
  - Refrigerant is insufficient → Complement the refrigerant
  - Malfunction of compressor → Replace the compressor
  - Flowage volume of valve is insufficient → Increase the flowage volume of valve
- **Air circulation is insufficient**
  - Filter is blocked → Clean the filter
  - Fan speed is set too low → Set the fan speed to high or medium
- Installtion position of outdoor unit is improper → Outdoor unit should be installed at the place with good ventilation and you can install the flashing plate and sun-proof plate

Poor (heating) or cooling	→	Filter of indoor unit is blocked	→	Clean the filter periodically
		Heat exchanger of outdoot unit is blocked	→	Get rid of the dust accumulated on heat exchanger
		There's leakage between high voltage and low voltage in compressor	→	Replace the compressor
		Part of the capillary is blocked	→	Replace capillary
		Refrigerant is leaking	→	Find out the leakage and complement the refrigerant
		One-way valve of outdoor unit is blocked	→	Replace the one-way valve

The fan can't run when setting fan	→	Oudoor fan's motor is burnt out	→	Repair or replace the fan's motor
		Wrong wire connection	→	Connect the wire correctly according to the electric circuit diagram
		Fan's capacitor is burnt out	→	Replace the fan's capacitor with same model and specification

In cooling or heating mode, the outdoor unit and the compressor don't run.	→	Coil of relay is broken	→	Replace the relay
		Poor connection for relay	→	Replace the relay
		The setting temperature is improper	→	Adjust the setting temperature

In cooling or heating mode, the compressor is running, while outdoor fan don't run	→	Outdoor fan's motor is broken	→	Replace the fan's motor
		Wrong wire connection	→	Connect the wire correctly according to the electric circuit diagram
		Outdoor fan's capacitor is damaged	→	Replace the fan's capacitor

In cooling or heating mode, the outdoor fan is running, while the compressor doesn't run	→	Malfunction of the compressor	→	Replace the compressor
		Capacitor of compressir is broken	→	Replace the capacitor
		Voltage is low or high	→	Suggest to eqquip with voltage regulator
		Wrong wire connection	→	Connect the wire correctly according to the electric circuit diagram

| Leakage | → | Drain pipe is blocked or broken | → | Replace the drain pipe |
| | | The junction of the refrigerant pipe hasn't wrapped well | → | Wrap it again and wrap it tightly |

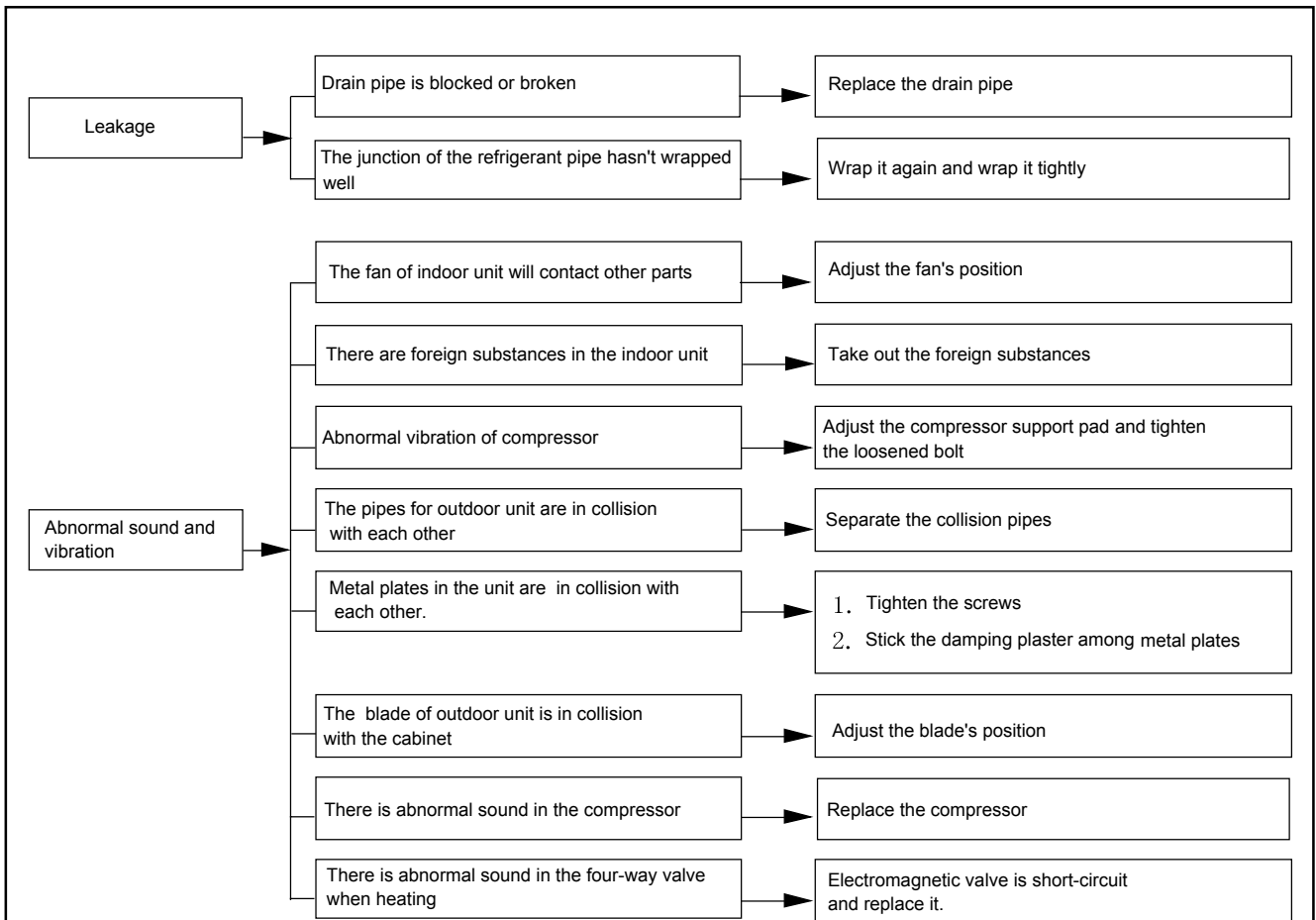| Abnormal sound and vibration | → | The fan of indoor unit will contact other parts | → | Adjust the fan's position |
		There are foreign substances in the indoor unit	→	Take out the foreign substances
		Abnormal vibration of compressor	→	Adjust the compressor support pad and tighten the loosened bolt
		The pipes for outdoor unit are in collision with each other	→	Separate the collision pipes
		Metal plates in the unit are in collision with each other.	→	1. Tighten the screws 2. Stick the damping plaster among metal plates
		The blade of outdoor unit is in collision with the cabinet	→	Adjust the blade's position
		There is abnormal sound in the compressor	→	Replace the compressor
		There is abnormal sound in the four-way valve when heating	→	Electromagnetic valve is short-circuit and replace it.

Notice: malfunction related to heating is not available for cooling only unit.

Malfunction 1: A/C has no action after energizing, and buzzer won't give out a beep.
please check the power or replace the controller
Malfunction 2: Display board displays "F1"
Indoor ambient temperature sensor hasn't been connected to the controller firmly, please insert it again or replace it.
Malfunction 3: Display board displays "F2"
Indoor tube temperature sensor hasn't been connected to the controller firmly, please insert it again or replace it.
Malfunction 4: Display board displays "F3"
Outdoor ambient temperature sensor hasn't been connected to the controller firmly, please insert it again or replace it.
Malfunction 5: Display board displays "F4"
Outdoor tube temperature sensor hasn't been connected to the controller firmly, please insert it again or replace it.
Malfunction 6: Display board displays "F5"
Outdoor discharge temperature sensor hasn't been connected to the controller firmly, please insert it again or replace it.