1 Summary and Features

Model	Remarks
GPCN09A2NK3EA GPCN09A2NK3EB GPCN12A2NK3EA	1Ph 220-240V～ 50Hz R410A
GPEN09ABNK3A1A GPEN12ABNK3A1A	1PH 230V ～ 50Hz R410A

Model	Remarks
GPCN09A4NK3AA	1Ph 220-240V～ 50Hz R410A

2 Specifications and Technical Parameters

Model		GPCN09A2NK3EA	GPCN09A2NK3EB	GPCN12A2NK3EA
Function		COOLING	COOLING	COOLING
Rated Voltage		220-240V～	220-240V～	220-240V～
Rated Frequency		50Hz	50Hz	50Hz
Total Capacity (W/Btu/h)		8000 (Btu/h)	9000 (Btu/h)	10000
Power Input (W)		950	950	1400
Rated Input (W)		1200	1200	1600
Rated Current (A)		6	6	7.8
Air Flow Volume (m^3/h) (H/M/L)		440/ 400 / 350	440/ 400 / 350	440/ 400 / 350
Dehumidifying Volume (l/h)		1.6	1.6	1.6
EER / C.O.P (W/W)		2.41	2.41	2.13
Energy Class		A	A	C
Indoor Side	Fan Type-Piece	Centrifugal fan / 1an – 1	Centrifugal fan / 1an – 1	Centrifugal fan / 1an – 1
	Diameter-Length (mm)	Ø174X 85	Ø174X 85	Ø174X 85
	Evaporator	Aluminum fin-copper tube	Aluminum fin-copper tube	Aluminum fin-copper tube
	Pipe Diameter (mm)	Ø7	Ø7	Ø7
	Row-Fin Gap	2-1.6	3-1.6	3-1.6
	Coil length (l) x height (H) x coil width (L)	299X286X25.4	299X286X38.1	299X286X38.1
	Swing Motor Model	/	/	/
	Output of Swing Motor (W)	/	/	/
	Fuse (A)	PCB 3.15A	PCB 3.15A	PCB 3.15A
	Sound Pressure Level dB (A) (H/M/L)	58.5/56.5/54.5	58.5/56.5/54.5	58.5/56.5/54.5

Outdoor Side	Compressor Manufacturer/trademark		HIGHLY	HIGHLY	SANYO
	Compressor Model		ASG096CV-C6DT	ASG102CV-C6DT	C-RV133H1B
	Compressor Type		rotary compressor	rotary compressor	rotary compressor
	L.R.A. (A)		15	18	24
	Compressor RLA(A)		3.7	4.05	5.1
	Compressor Power Input(W)		875	875	1125
	Overload Protector		KA-172-LYGN914	KA-172-LYGN914	B210-145-241E
	Throttling Method		Capillary	Capillary	Capillary
	Starting Method		Capacitor	Capacitor	Capacitor
	Working Temp Range (℃)		16℃～43℃	16℃～43℃	16℃～43℃
	Condenser		Aluminum-copper	Aluminum-copper	Aluminum-copper
	Pipe Diameter (mm)		Ø7	Ø7	Ø7
	Rows-Fin Gap(mm)		2 – 1.6	2 – 1.6	2 – 1.6
	Coil length (l) x height (H) x coil width (L)		686X257X25.4	686X257X25.4	686X257X25.4
	Fan Type-Piece		Centrifygal-fan-1	Centrifygal-fan-1	Centrifygal-fan-1
	Fan Diameter (mm)		Ø210x80	Ø210x80	Ø210x80
	Sound Pressure Level dB (A) (H/M/L)		62/60/58	62/60/58	62/60/58
	Defrosting Method		/	/	/
Fan Motor Speed (rpm) (H/M/L)			1400/1300/1200	1400/1300/1200	1400/1300/1200
Output of Fan Motor (W)			40	40	40
Fan Motor RLA(A)			0.17	0.17	0.17
Fan Motor Capacitor (uF)			2.5	2.5	2.5
Climate Type			T1	T1	T1
Isolation			B	B	B
Moisture Protection			IP44	IP44	IP44
Permissible Excessive Operating Pressure for the Discharge Side(MPa)			3.8	3.8	3.8
Permissible Excessive Operating Pressure for the Suction Side(MPa)			1.2	1.2	1.2
Dimension (L/W/H)(mm)			455 x 370 x 856	455 x 370 x 856	455 x 370 x 856
Dimension of Package (L/W/H)(mm)			543/487/1120	543/487/1120	543/487/1120
Net Weight /Gross Weight (kg)			36/45	36/45	36/45
Refrigerant Charge (kg)			R410A/0.45	R410A/0.5	R410A/0.53
Loading quantity	20' Container	Interior Dimensions L*W*H：5898*2352*2393，Door Opening W*H：2343*2280	96	96	96
	40' Container	Interior Dimensions L*W*H：12032*2350*2390，Door Opening W*H：2343*2280	192	192	192
	40' High Cube Container	Interior Dimensions L*W*H：12032*2350*2697，Door Opening W*H：2338*2585	192	192	192

The above data are subject to change without notice, please refer to the nameplate.

Model		GPEN09ABNK3A1A		GPEN12ABNK3A1A	
Function		COOLING	HEATING	COOLING	HEATING
Rated Voltage		230V		220-240V~	
Rated Frequency		50Hz		50Hz	
Total Capacity (W/Btu/h)		8000 (Btu/h)	6800	10000	6800
Power Input (W)		950	2000	1400	2000
Rated Input (W)		1200	2050	1600	2050
Rated Current (A)		6	13.5	7.8	13.5
Air Flow Volume (m^3/h) (H/M/L)		440/ 400 / 350		440/ 400 / 350	
Dehumidifying Volume (l/h)		1.6		1.6	
EER / C.O.P (W/W)		2.41/0.95		2.13/0.95	
Energy Class		A		C	
Indoor Side	Fan Type-Piece	Centrifugal fan / 1an – 1		Centrifugal fan / 1an – 1	
	Diameter-Length (mm)	Ø174X 85		Ø174X 85	
	Evaporator	Aluminum fin-copper tube		Aluminum fin-copper tube	
	Pipe Diameter (mm)	Ø7		Ø7	
	Row-Fin Gap	2-1.6		3-1.6	
	Coil length (l) x height (H) x coil width (L)	299X286X25.4		299X286X38.1	
	Swing Motor Model	/		/	
	Output of Swing Motor (W)	/		/	
	Fuse (A)	PCB 3.15A		PCB 3.15A	
	Sound Pressure Level dB (A) (H/M/L)	58.5/56.5/54.5		58.5/56.5/54.5	

Outdoor Side	Compressor Manufacturer/trademark		HIGHLY	SANYO
	Compressor Model		ASG096CV-C6DT	C-RV133H1B
	Compressor Type		rotary compressor	rotary compressor
	L.R.A. (A)		15	24
	Compressor RLA(A)		3.7	5.1
	Compressor Power Input(W)		875	1125
	Overload Protector		KA-172-LYGN914	B210-145-241E
	Throttling Method		Capillary	Capillary
	Starting Method		Capacitor	Capacitor
	Working Temp Range (℃)		16℃～43℃	16℃～43℃
	Condenser		Aluminum-copper	Aluminum-copper
	Pipe Diameter (mm)		Ø7	Ø7
	Rows-Fin Gap(mm)		2 – 1.6	2 – 1.6
	Coil length (l) x height (H) x coil width (L)		686X257X25.4	686X257X25.4
	Fan Type-Piece		Centrifygal-fan-1	Centrifygal-fan-1
	Fan Diameter (mm)		Ø210x80	Ø210x80
	Sound Pressure Level dB (A) (H/M/L)		62/60/58	62/60/58
	Defrosting Method		/	/
Fan Motor Speed (rpm) (H/M/L)			1400/1300/1200	1400/1300/1200
Output of Fan Motor (W)			40	40
Fan Motor RLA(A)			0.17	0.17
Fan Motor Capacitor (uF)			2.5	2.5
Climate Type			T1	T1
Isolation			B	B
Moisture Protection			IP44	IP44
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
Dimension (L/W/H)(mm)			455 x 370 x 856	455 x 370 x 856
Dimension of Package (L/W/H)(mm)			543/487/1120	543/487/1120
Net Weight /Gross Weight (kg)			36/45	36/45
Refrigerant Charge (kg)			R410A/0.45	R410A/0.53
Loading quantity	20' Container	Interior Dimensions L*W*H：5898*2352*2393，Door Opening W*H：2343*2280	96	96
	40' Container	Interior Dimensions L*W*H：12032*2350*2390，Door Opening W*H：2343*2280	192	192
	40' High Cube Container	Interior Dimensions L*W*H：12032*2350*2697，Door Opening W*H：2338*2585	192	192

The above data are subject to change without notice, please refer to the nameplate.

Model		GPCN09A4NK3AA
Function		COOLING
Rated Voltage		220-240V
Rated Frequency		50Hz
Total Capacity (W/Btu/h)		2600 (W)/9000 (Btu/h)
Power Input (W)		1100
Rated Input (W)		1400
Rated Current (A)		6.5
Air Flow Volume (m^3/h) (H/M/L)		430/360/280
Dehumidifying Volume (l/h)		1.8
EER / C.O.P (W/W)		2.5
Energy Class		C
Indoor Side	Fan Type-Piece	Centrifugal fan / 1an - 1
	Diameter-Length (mm)	Ø174x85
	Evaporator	Aluminum fin-copper tube
	Pipe Diameter (mm)	Ø7
	Row-Fin Gap	3-1.6
	Coil length (l) x height (H) x coil width (L)	310X305X38.1
	Swing Motor Model	/
	Output of Swing Motor (W)	/
	Fuse (A)	PCB 3.15A Transformer 0.2A
	Sound Pressure Level dB (A) (H/M/L)	55/51/49
	Sound Power Level dB (A) (H/M/L)	65/61/55

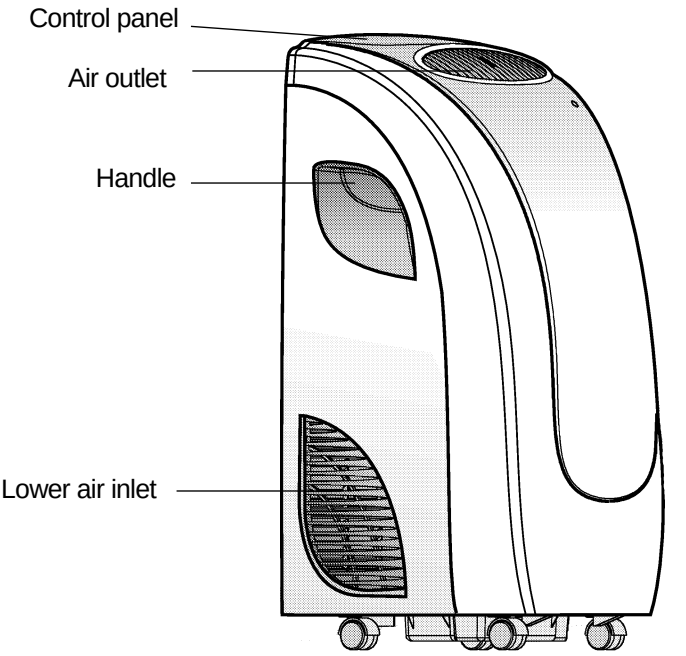
Outdoor Side	Compressor Manufacturer/trademark		MITSUBISHI
	Compressor Model		KN104VGMMC
	Compressor Type		ROTARY
	L.R.A. (A)		20
	Compressor RLA(A)		4
	Compressor Power Input(W)		900
	Overload Protector		/
	Throttling Method		Capillary
	Starting Method		Capacitor
	Working Temp Range (℃)		10~35℃
	Condenser		Aluminum fin-copper tube
	Pipe Diameter (mm)		Ø7
	Rows-Fin Gap(mm)		2-1.6
	Coil length (l) x height (H) x coil width (L)		650X285X25.4
	Fan Type-Piece		Centrifygal-fan-1
	Fan Diameter (mm)		Ø210x80
	Sound Pressure Level dB (A) (H/M/L)		62
	Sound Power Level dB (A) (H/M/L)		72
	Defrosting Method		/
Fan Motor Speed (rpm) (H/M/L)			760
Output of Fan Motor (W)			23
Fan Motor RLA(A)			0.4
Fan Motor Capacitor (uF)			3
Climate Type			T1
Isolation			I
Moisture Protection			/
Permissible Excessive Operating Pressure for the Discharge Side(MPa)			3
Permissible Excessive Operating Pressure for the Suction Side(MPa)			2
Dimension (W/H/D) (mm)			450×840×370
Dimension of Package (L/W/H) (mm)			690×425×870
Net Weight /Gross Weight (kg)			33/43
Refrigerant Charge (kg)			R410A 0.53Kg
Loading quantity	20' Container	Interior Dimensions L*W*H: 5898*2352*2393, Door Opening W*H: 2343*2280	84
	40' Container	Interior Dimensions L*W*H: 12032*2350*2390, Door Opening W*H: 2343*2280	176
	40' High Cube Container	Interior Dimensions L*W*H: 12032*2350*2697, Door Opening W*H: 2338*2585	264

The above data are subject to change without notice, please refer to the nameplate.

3 Parts Name

GPCN09A2NK3EA GPCN09A2NK3EB GPCN12A2NK3EA GPEN09ABNK3A1A GPEN12ABNK3A1A

FRONT



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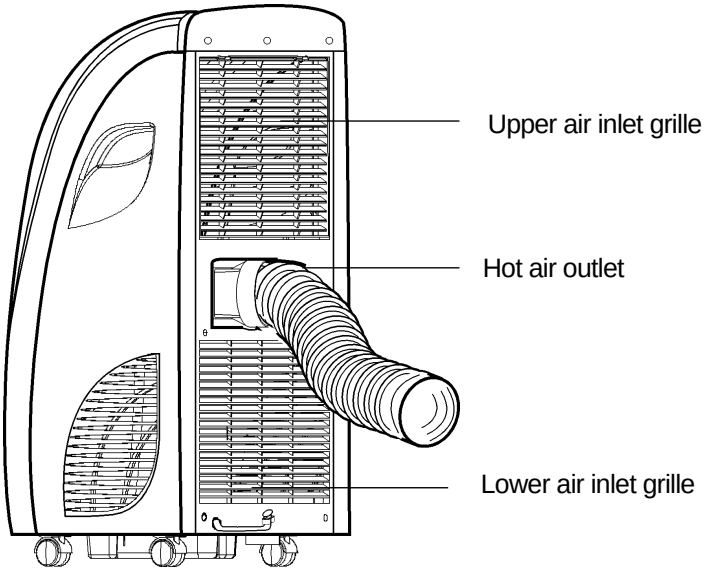
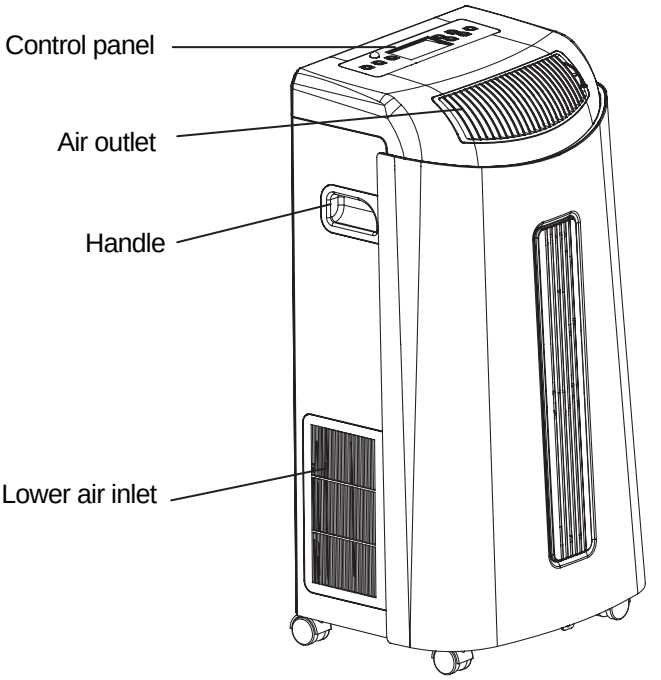


GPCN09A4NK3AA

FRONT



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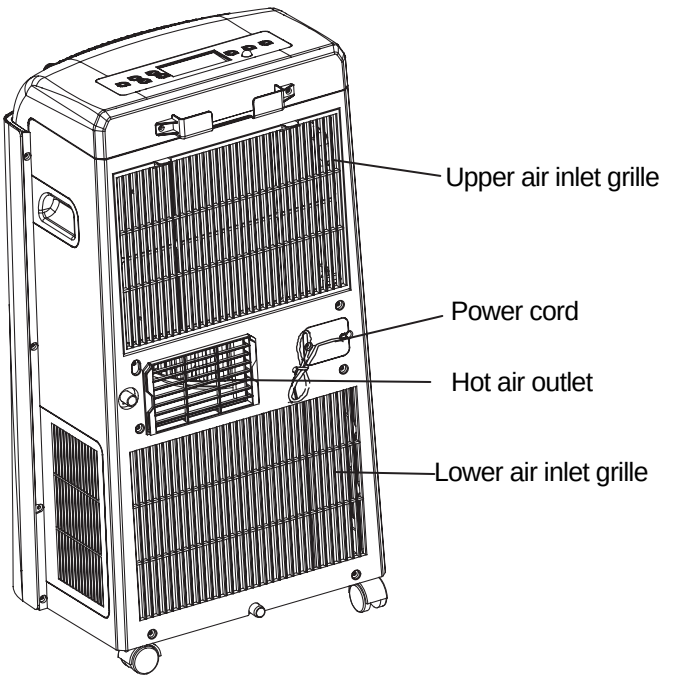
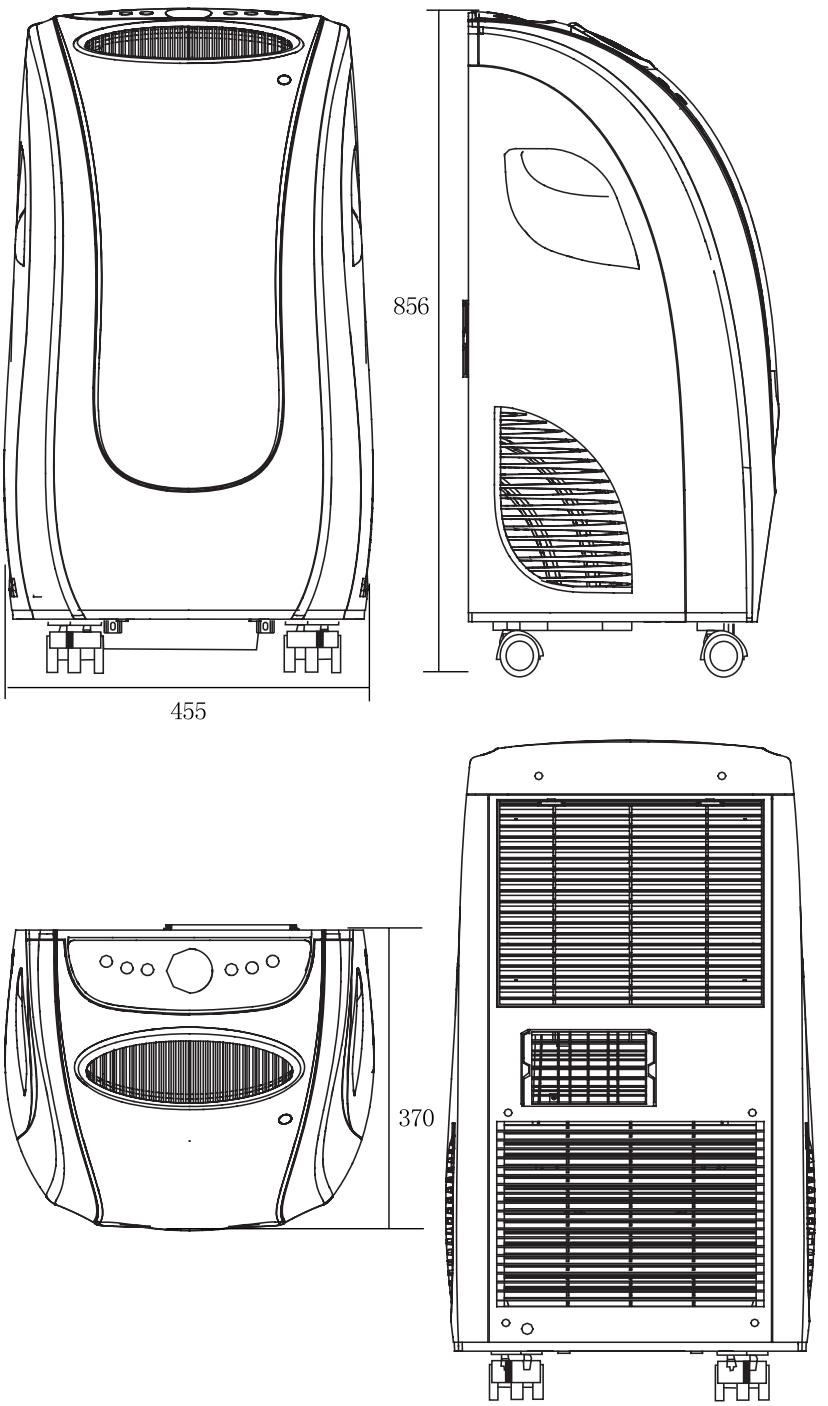
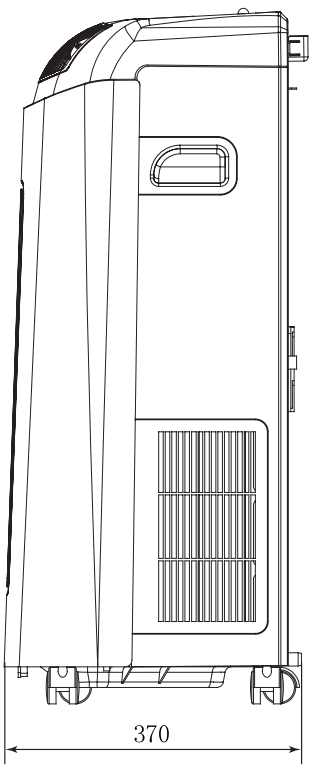
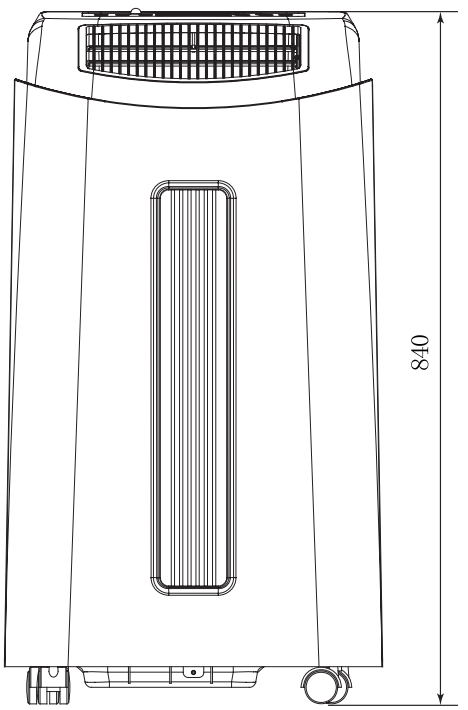


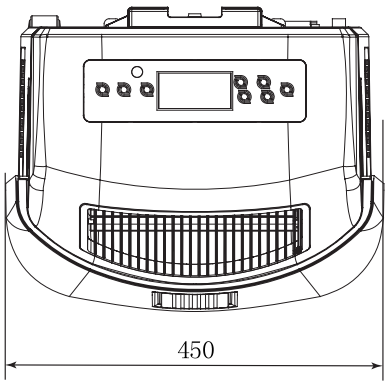
4 Outline and Installation Dimensions

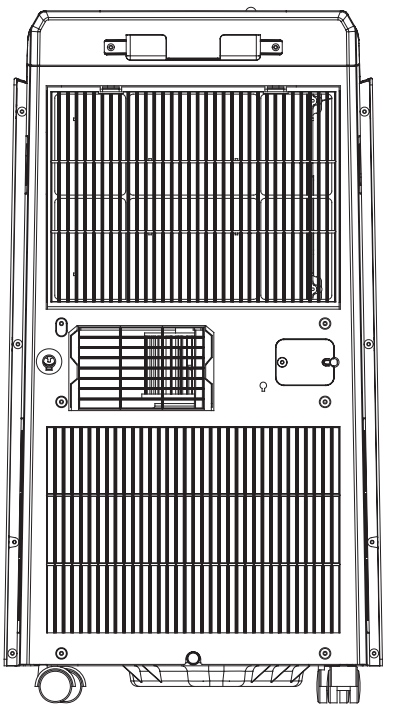


Unit:mm





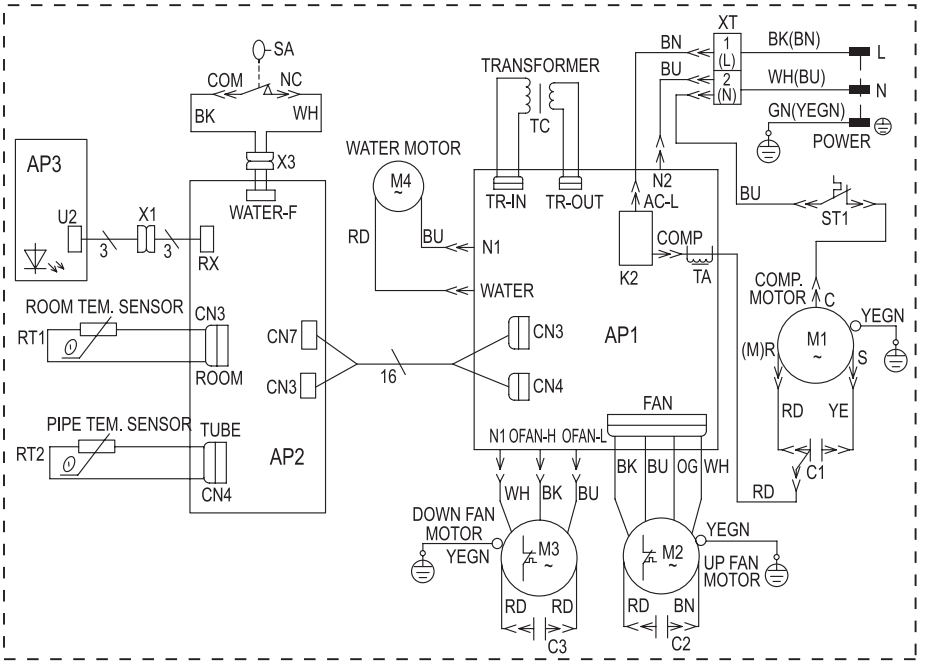




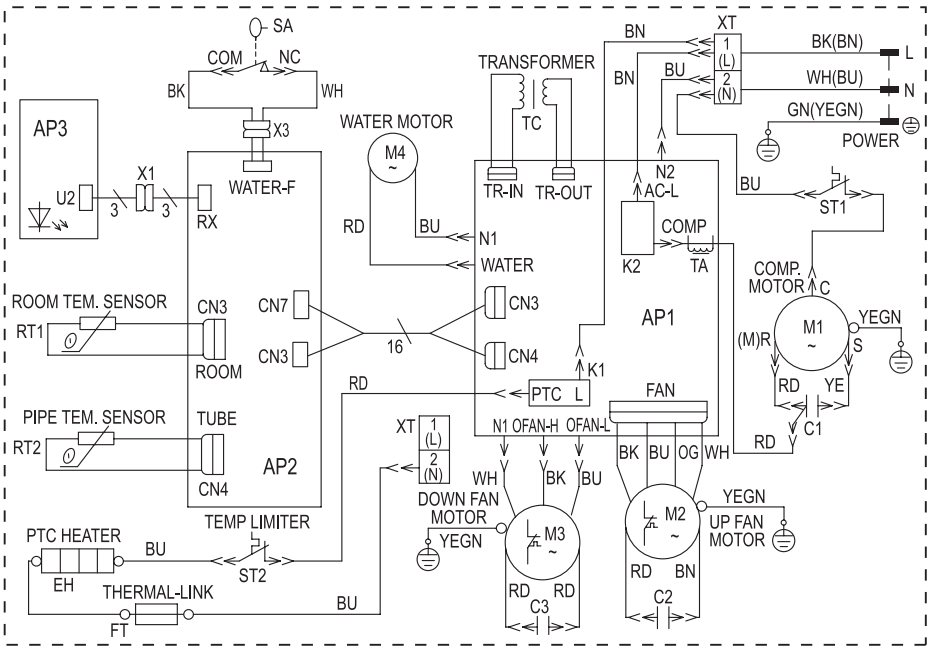
Unit:mm

5 Circuit Diagram

GPCN09A2NK3EA GPCN09A2NK3EB GPCN12A2NK3EA



GPEN09ABNK3A1A GPEN12ABNK3A1A



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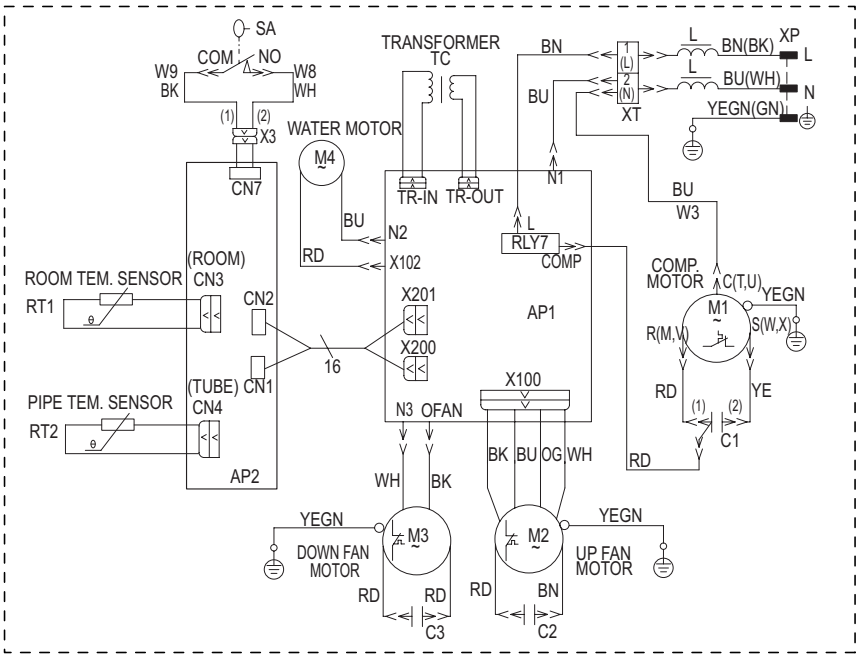


In case of any change in the Circuit Diagram shown above, please follow the drawing on cabinet.

6 Controller Function Manual and Operating Instructions

6.1 Controller Function Manual

This function manual is applicable to mobile series air conditioner.The temperature used in this manual is Centigrade .

1 Temperature Parameters

- Indoor preset temperature (T_{preset})
- Indoor ambient temperature ($T_{amb.}$)
- Tube temperature of evaporator (T_{tube})

2 Basic Functions

After energization, the interval between two times of startup of compressor should not be less than 3min under any condition. Once the compressor is started, it will not stop in 6min with the change of the indoor temperature.

2.1 Cooling Mode

2.1.1 Cooling Conditions and Process

When $T_{amb.} \geqslant T_{preset}$, the unit will run under cooling mode, in which case the compressor and lower fan will start and the upper fan will run at preset speed.If high or middle upper fan speed is set,the lower fan will run at high speed. If low speed is set,it will run at low speed.

When $T_{amb.} \leq T_{preset}$ -1℃,the compressor and the lower fan will stop running and the upper fan will run at preset speed.

When T_{preset} -1℃$< T_{amb.} \leq T_{preset,}$ the unit will maintain its original operating status.

- Under this mode, the range of temperature setting is 16~30℃ .

2.2 Dehumidifying Mode

2.2.1 Dehumidifying Conditions and Process

Under dehumidifying mode,upper fan runs at low speed and compressor and lower fan at low speed runs continuously.

2.3 Heating Mode

Heating Conditions and Process

During operation of electric heater,compresor and lower fan stop running.Electric heater will delay 3s after restart of it.

When $T_{amb.} \leq T_{preset}$ +3℃,the unit runs under heating mode , electric heater starts and upper fan runs at preset speed.

When T_{preset}+3℃$< T_{amb.} < T_{preset}$ +5℃, the unit will maintain its original operating status.

When $T_{amb.} \geqslant T_{preset}$+5℃, electric heater stops and upper fan runs with blowing residual heat.

- Under this mode, the range of temperature setting is 16~30℃ .

- **Blowing Residual Heat**

When electric heater stops, upper fan will stop after it runs for 15s at preset speed.If the unit is switched to another mode during 15s of blowing residual heat and then returns to heating mode,the fan will immediately stop once requirement for startup of electric heater doesn't meet .

2.4 Fan Mode

Under fan mode,the upper fan runs at preset speed and other loads do not run.

2.5 Auto Mode

Under this mode, the system will automatically select its running mode (cool, dehumidify, auxiliary heat or fan) with the change of ambient temperature.

3. System Protection Function

3.1 Antifreeze Protection

If it is detected that the system is under antifreeze protection under dehumidifying or cooling mode,compressor and lower fan stops running, upper fan runs at preset speed (at low speed under dehumidifying mode). When antifreeze protection is solved and the compressor has stopped for 3 minutes,the unit will resume its original operating status.Within the 3 min when the compressor stops if T tube increases to 8 ℃above and then resumes to 0 ℃below, the compressor will resume running in 3 min completely.Antifreeze protection will be re-detected.

3.2 Overcurrent Protection (E5)

When it has detected the system current exceeds specified value in 3s continuously,only upper fan of the complete unit runs (all loads stops except uppper fan) .3mins later,if overcurrent is solved, the complete unit will resume original running state.

If overcurrent protection is detected in 6 times continuously (If compressor has continuously worked more than 5mins, the protection times will clear).LCD displays error code E5.In this case, operation of all buttons will be shielded except ON/OFF button.The unit won't resume running until you stop and restart the unit by remote controller or cut off the power.

3.3 Water Full Protection (H8)

When water is full, water-level switch opens (detected in 3s continuously).The buzzer makes 8 times of beeps and H8 at the position displaying setting temp on LCD is displayed.The complete unit stops and resumes after solution of water full.After water full protection,the unit stops with beep of buzzer.If water full protection is not solved,the buzzer won't beep after start of unit,in which case H8 is displayed on LCD.The unit won't resume running until this problem is solved. Water full protection will be re-detected after resumption of power upon failure.

3.4 Detection of Temp Sensor

If quick test function is selected and the complete unit is off,temp sensor will be detected for malfunction at any time.

If it is detected that indoor ambient temp sensor is open or short-circuit in 30s continuously,F1 at the position displaying setting temp on LCD will be displayed and the complete unit will stop when temp point reaches.

If it is detected that indoor tube temp sensor is open or short-circuit in 30s continuously,F2 at the position displaying setting temp on LCD will be displayed and the complete unit will stop when temp point reaches.

If malfunction of ambient or tube temp sensor under auto mode occurs,the cooling only unit will be forced to run at auto fan mode; cooling and heating unit will run under auto cooling(short circuit) or auto heating (open circuit).

4 Other Control

4.1 Timer Function on Remote Controller

TIMER ON function can be set when the unit is off . Upon the time as set , the controller will run under preset mode. The interval of setting is 0.5hr during 0.5-8hr and 1hr during 8hr-18hr.The setting range is 0.5-18hr.

When the unit is on ,TIMER OFF function can be set by pressing SLEEP mode. Upon the time as set , the system will be stopped. The interval is 1h and setting range is 1-7hr.

Press ON/OFF to clear setting timer.Press TIMER button to clear Timer On upon setting.

4.2 Control of Sleep State

Setting SLEEP function under cooling mode, the preset temperature will automatically rise by 1℃ after1 hr and by another 1℃ after 2 hours. Preset temperature will rise by 2℃ in total within 2 hours. After that, unit will run at this preset temperature.

Setting SLEEP function under heating mode, the preset temperature will automatically decrease by 1℃after1 hr and by another 1℃ after 2 hours. Preset temperature will decrease by 2 ℃in total within 2 hours. After that, unit will run at this preset temperature.

SLEEP function can be set under fan or suto mode without change of setting temp.

Under sleeping mode T_{preset} after rise or decrease will be displayed on LCD.

Under sleeping mode, switchover of modes won't clear sleeping and its time will be accumulated.If power is resumed after failure, sleeping time will be recalculated and accumulation of rise or decrease of setting temp will as far as go to 30℃ or 16℃ .

4.3 Buzzer

When the controller is powered on or receives signal from remote controller or buttons, the buzzer will beep.

4.4 Power-off Memory

Memorized content:MODE, FAN SPEED, SETTING TEMP,TIMER,SLEEP

In the final remote control order(or button's order),if there isn't timer function setting, the system will memorize the last order and run under the setting mode of the last order.

If there is timer function setting in the last remote control order(or button's order) and the power is off before time of timer reaches,the system will memorize the timer setting of last order and the time will be recalculated after power is resumed.

If there is timer function setting in the last remote control order (or button's order) and the time has reached, timer fucntion won't act but running states will be memorized after power is resumed.

If there is sleep function setting at the last remote control order (or button's order),the system will re-memorize sleep when the power is resumed after failure, but sleep time will be recalculated.

The parameters of mode,fan speed, setting temp,timer and sleeping after change are memorized after 1.5s.The parameter of ON/OFF is immediately memorized.

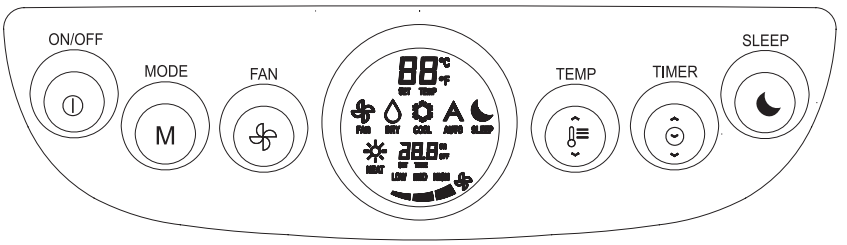
4.5 Recognition of Remote-control Signal

If Timer is operated by remote controller and heating mode is displayed on displayer but the unit is cooling only type, the unit won't accept any singnal except ON/OFF.

4.6 Control of Back Light

After energization of controller or it receives valid signals or buttons,back light will show for 5s.

Buttons and Display on Front I Panel :



4.7 Buttons of Front Panel (on display panel)

ON/OFF button:Press it to start the unit, and repress it to stop the unit.

Mode button:The unit can be set among FAN-COOL-DEHUMIDIFY--AUTO (cooling only),

FAN-COOL-DEHUMIDIFY--HEAT--AUTO(cooling and heating)

FAN button:The fan speed can be set among LOW-MID-HI.

TEMP button:The setting range is from 16-30℃(61-86℉) .

TIMER button:TIMER OFF function can be set when the unit is in on mode,and TIMER ON function can be set when the unit is in off mode.The setting range is from 0.5-24h .One press of ▼,the setting time will decrease by 0.5h, and one press of ▲ the setting time will increase by 0.5h.Press ▲and ▼ buttons at the same time to cancel timer function.Timing is counted in cycle.

4.8 Display of LCD under Each Mode

Under cooling mode,cooling icon,setting temp and fan speed is displayed.

Under dehumidifying mode,dehumidifying and low fan speed icons are displayed.Setting temp isn't displayed and is unadjustable.Fan speed is forced to low speed.

Under fan mode,fan icon and setting fan speed is displayed.Setting temp isn't displayed and is unadjustable.

Under heating mode,heating icon,setting temp and fan speed is displayed.

Under auto mode,corresponding running mode and auto icon is displayed at the same time.

6.2 Controller Function Manual

The are two kinds of temp display for mobile series air conditioner ,that is Centigrade and Fahrenheit. In this manual, the temp is in Centigrade.(Tc.=TF.*1.8+32)

1 Temperature Parameters

- Indoor preset temperature (T_{preset})
- Indoor ambient temperature ($T_{amb.}$)
- Tube temperature of evaporator (T_{tube})

2 Basic Functions

After the power is turned on, the interval between two times of startup of the compressor should not be less than 3min under any condition.Once the compressor is started, it will not stop in 6min as the variation of the indoor temperature.

2.1 Cooling Mode

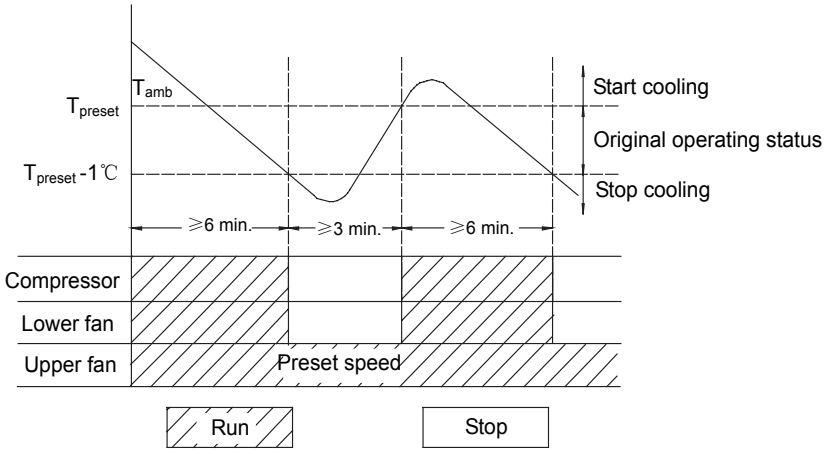
2.1.1 Cooling Conditions and Process

When $T_{amb.} \geqslant T_{preset}$, the unit will run under cooling mode, in which case, the compresso, lower fan and water motor will start and upper fan will run at preset speed.

When $T_{amb.} \leq T_{preset}$ -1℃, compressor lower fan and water motor will be stopped, the upper fan will run at preset speed.

When T_{preset} -1℃<$T_{amb.}$< T_{preset} +1℃, the unit will maintain its original operating status.

➢ Under this mode, reversal valve is de-energized and temperature can be set within a range from 16 to 30 ℃(61-86℉).



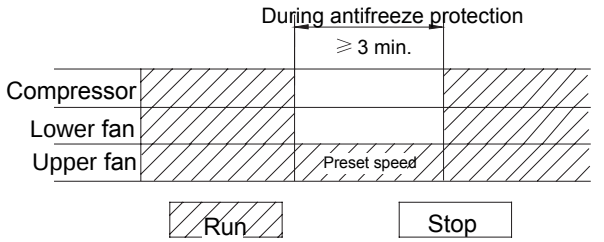
2.1.2 Display Method

Snow falling is displayed in dynamic, fan blades rotate and setting fan speed and temp is displayed at the same time.

2.1.3 Protection

- **Antifreeze Protection**

If it is detected that the system is under antifreeze protection, compressor , lower fan amd water moto stop running and upper fan runs at preset speed. When antifreeze protection is solved and the compressor has stopped for 3 minutes, antifreeze protection will quit.



2.2 Dehumidifying Mode

2.2.1 Dehumidifying Conditions and Process

Under dehumidifying mode,setting temp can neither be set nor displayed.Upper fan runs at preset speed and compressor lower fan and water motor continue running.

2.2.2 Display Method

Water drop is displayed in dynamic and fan blades rotate.

2.2.3 Protection Function

The same as that in cooling mode.LCD will display water outflowing in dynamic during water full protection.

2.3 Heating Mode

2.3.1 Working Conditions and Process of Heating

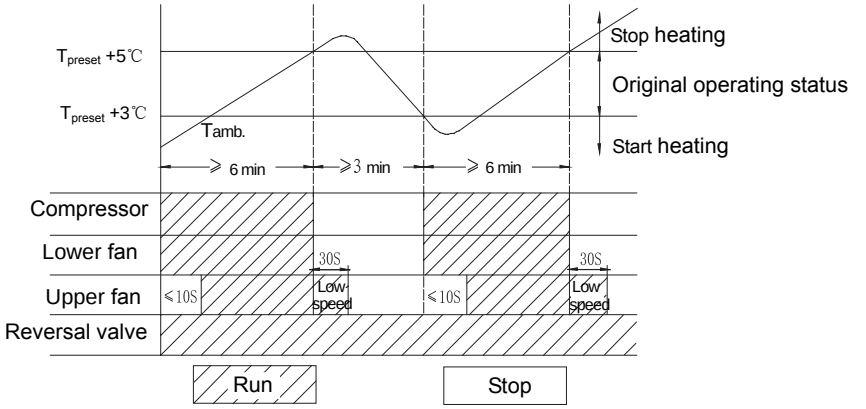
When $T_{amb.} \leq T_{preset}$ +3℃, the unit will run under heating mode, in which case the reversal valve, compressor and lower fan will be simultaneously started, and upper fan will run in 10s at most.

If $T_{amb.} \geq T_{preset}$ +5℃, the compressor and lower fan will be stopped, the reversal valve is still energized and the upper fan will stop after running at low fan speed for 30s.

When T_{preset} +3℃<$T_{amb.}$< T_{preset} +5℃, the unit will maintain its original operating status. 2

Upon stop of unit under heating mode, reversal valve will close in 2 min.

- Under this mode,the temperature can be set within a range from 16 to 30℃ (61-86℉).



2.3.2 Display Method

Sunlight is displayed in dynamic ,fan blades rotate and setting temp is displayed at the same time.

2.3.3 Defrosting

Intelligent defrosting.

2.3.4 Protection Function

◆ **High Temp. Protection**

If it is detected that T_{tube} is too high under heating mode,lower fan will be stopped. When T_{tube} resumes, lower fan will resumes running and upper fan will run at preset speed.

◆**Noise Silencing Protection**

If unit is stopped by pressing ON/OFF or upon mode switchover, the reversal valve will be stopped after 2-minute lag.

2.4 Fan Mode

Upper fan runs at hi,mid or low speed, and setting temp can not be displayed and adjusted.

Hi, mid or low speed icon of upper fan is diaplayer with rotation of fan blade.

2.5 Auto Mode

Under this mode, the system will automatically select its running mode (cool, dehumidify, fan or heat) with the change of ambient temperature.

LCD displays corresponding running mode under auto mode ,and the mark of AUTO will be displayed at the same time.

3 Other Control

3.1 Timer Function on Remote Controller

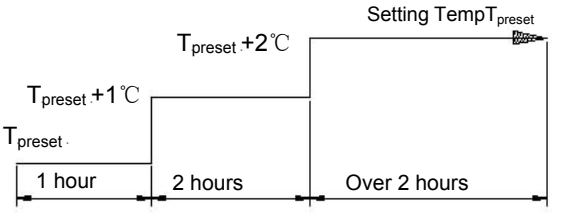
TIMER ON function can be set when the unit is at off mode. Upon the time as set , the controller will run under preset mode. The interval of setting is 0.5hr during 0.5-8hr and 1hr during 8hr-18hr.The setting range is 0.5-18hr.

When the unit is on ,TIMER OFF function can be set by pressing SLEEP mode. Upon the time as set , the system will be stopped. The interval is 1h and setting range is 1-7hr.

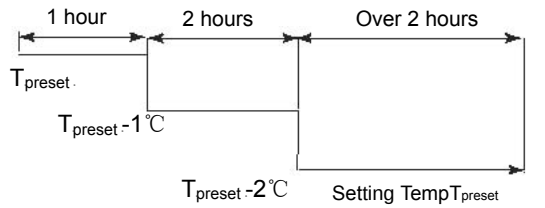
Press ON/OFF to clear setting timer.Press TIMER button to clear Timer On upon setting.

3.2 Sleep Function

Setting SLEEP function under cooling mode, the preset temperature will automatically rise by 1℃ (2℉) after1 hr and by another 1℃ (4℉)after 2 hours. After that, unit will run at this preset temperature.



Setting SLEEP function under heating mode, the preset temperature will automatically decrease by 1℃(2℉) after1 hr and by another 1℃ (4 ℉)after 2 hours. After that, unit will run at this preset temperature.



Sleep can be set under FAN or AUTO FAN mode and setting temp doesn't change.

- LCD displays sleeping icon with blinking of stars.

3.3 Water Full Protection (H8)

When water is full, the water switch will open, the buzzer will beep for 8 times, the position displaying setting temp on LCD will display error code H8.The whole unit will stop till the water full protection is solved.

3.4 Detection and Display of Malfunction

If it is detected that indoor ambient or tube temp sensor is protected during open or short circuit, compressor and lower fan stops. Upper fan runs under preset condition during cooling and stops after blowing for 30s at low speed during heating.

Corresponding error code is displayed.If AD sampling value detected to be normal by indoor ambient or tube temp sensor, the unit will quit protection state and run under preset condition.

If it is detected that indoor ambient temp sensor is open or short circuit, F1 will be displayed.

If it is detected that indoor tube temp sensor is open or short circuit, F2 will be displayed.

If it is detected that outdoor tube temp sensor is open or short circuit, F4 will be displayed.

If two or more errors occur, error codes will be display in cycle.

3.5 Overcurrent Protection(E5)

When it has detected the system current exceeds the specified value by 13A , the main unit will only control water pump and upper fan.3mins later,if the overcurrent has been solved, the complete unit will resume original running state. If it is 6 times continuously detected overcurrent protection (If compressor has continuously worked more than 5mins, the protection time will clear).LCD displays error code E5.The unit won't resume running until you stop and restart the unit by remote controller or cut off the power.

3.6 Control of Swing Motor

At the beginning of startup of AC,swing motor runs anticlockwise to open air outlet.After stop of AC,swing motor runs clockwise to close air outlet.

3.7 Buzzer and Display

When the controller is powered on or receives signal from remote controller or buttons, the buzzer will beep musically.

If the unit is started by quick test after stop of unit, the comtroller will display in full screen for about 1s and then resumes normal display.

3.8 Power-off Memory

In the final remote control order(or button's order),if there isn't timer function setting, the system will memorize the last order and run under the setting mode of the last order.

If there is timer function setting in the last remote control order(or button's order) and the power is off before time of timer reaches,the system will memorize the timer setting of last order and the time will be recalculated after power is resumed.

If there is timer function setting in the last remote control order (or button's order) and the time has reached, timer fucntion won't act but running states will be memorized after power is resumed.

If there is sleep function setting at the last remote control order (or button's order),the system will re-memorize sleep when the power is resumed after failure.

3.9 Control of Water Motor

Water motor will start or stop in accordance with the compressor.

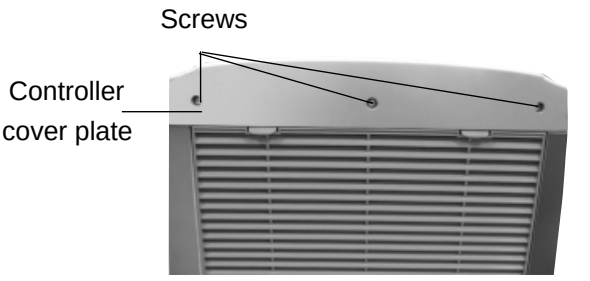
7 Disassembly Procedures

7.1 Disassembly Procedures 1

Operating Procedures / Photos

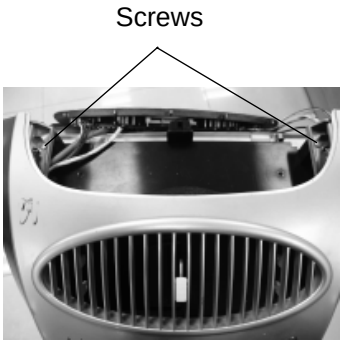
1.Disassemble Controller Cover Plate

Taking off screw cap, unscrew the screws fixing controller cover plate with H type screwdriver. Lift it to take it out. (Note:cover plate can not be removed for the controller is fixed on it.)



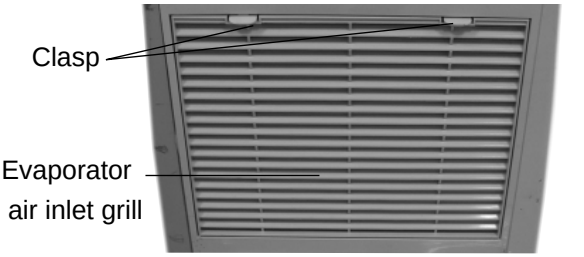
2.Disassemble Front Panel

Unscrew the screws fixing the front panel to take it out.



3.Disassemble Evaporator Air Inlet Grill

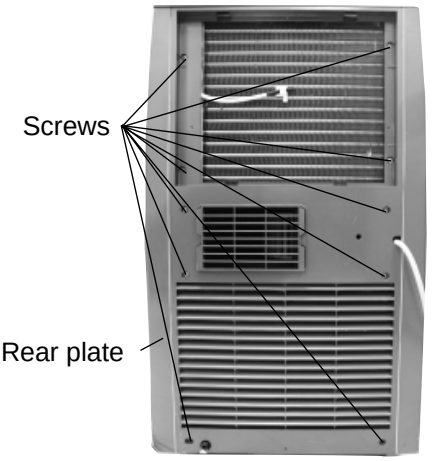
Press the clasp forcibly to loosen it,and then take the evaporator air inlet grill out.



Operating Procedures / Photos

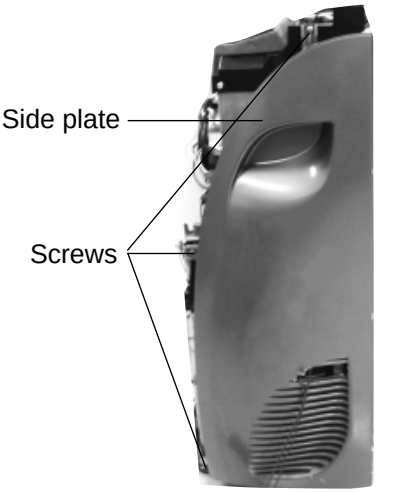
4.Disassemble Rear Plate

Unscrew the screws fixing the rear plate to take it out.



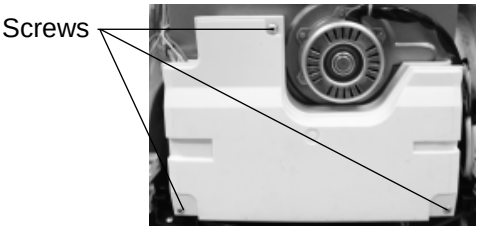
5.Disassemble Left and Right Side Plates

Unscrew the screws fixing left and right side plates to take them out.



6.Disassemble Electric Box Cover

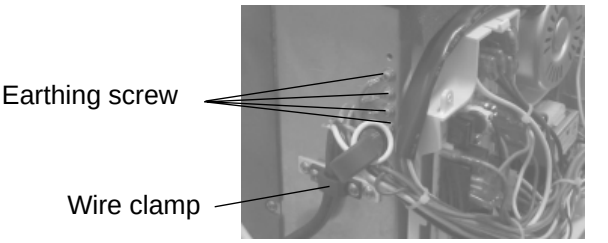
Unscrew the 3 screws fixing the electric box cover to take it out.

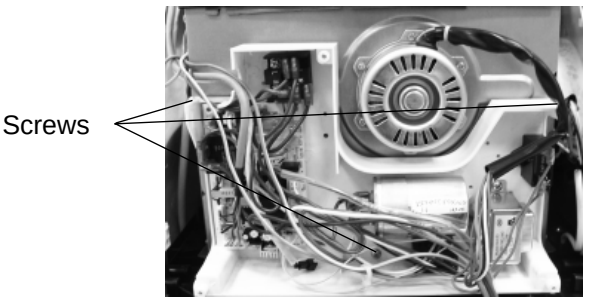


Operating Procedures / Photos

7.Disassemble Electric Box

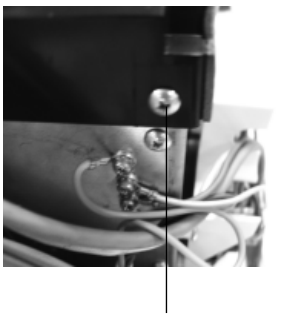
Disconnect the wire clamp,unscrew the earthing screw and pull each wiring terminal out.Unscrew the 3 screws fixing the electric box and push the electric box upwards to take it out.





8.Disassemble Bed Plate of Controller

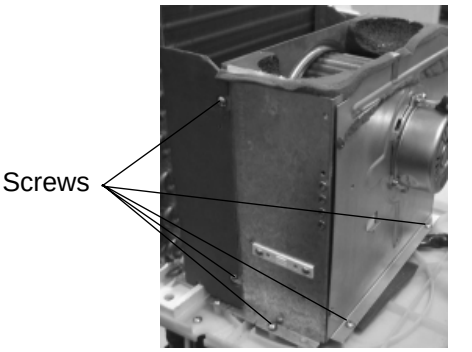
Unscrew the screws fixing the bed plate of controller to remove it completely.



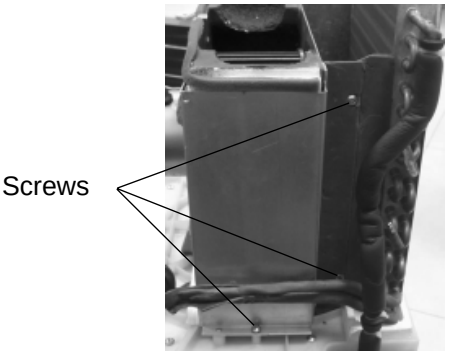
9.Disassemble Upper Centrifugal Fan Sub-assy

1.Unscrew the screws fixing upper duct and lift it to separate flow guide loop and propeller housing.

2.Unscrew the screws to remove upper centrifugal fan.

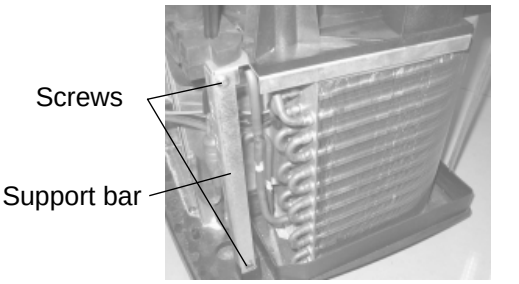


Operating Procedures / Photos



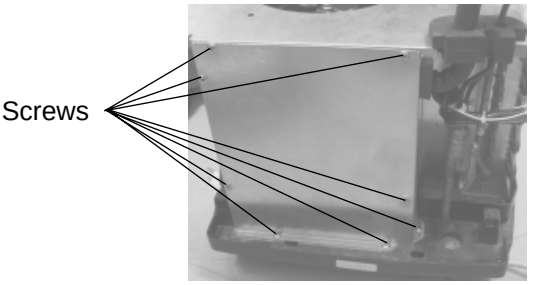
10.Disassemble Lower Centrifugal Fan Sub-assy

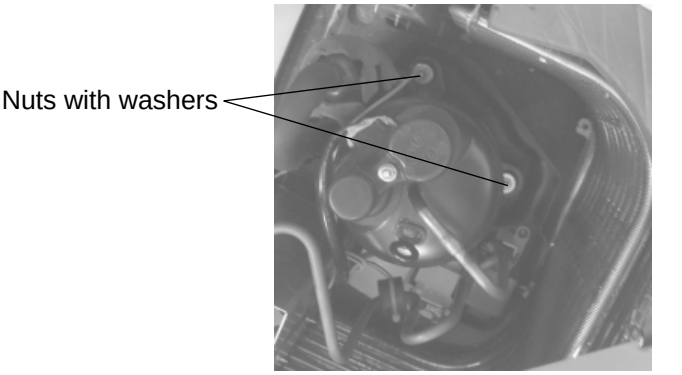
Lift slightly the evaporator to remove thewater tray. Unscrew the screws fixing middle clapboard and lift it (Pay attention to capillary).Unscrew the nuts to take the lower centrifugal fan.



11.Disassemble Compressor

Unscrew screws of lower clapboard to remove lower and bottom clapboard.Unsolder the soldering spots of the suction anddischarge pipes (caution: only after discharging all freon).Carefully remove the pipes and take out the earthing wire of compressor and loosen nuts with washers at the feet of compressor to take it out.



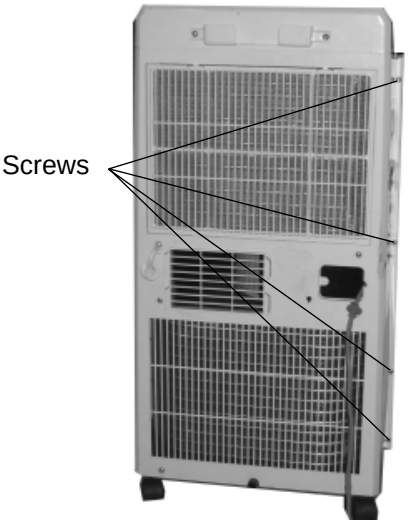


7. 2 Disassembly Procedures 2

Operating Procedures / Photos

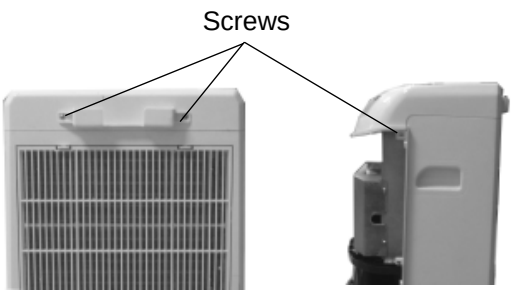
1.Disassemble Front Panel

Unscrew the screws fixing the front panel (3 pcs for both left and right sides) ,and then take front panel out.



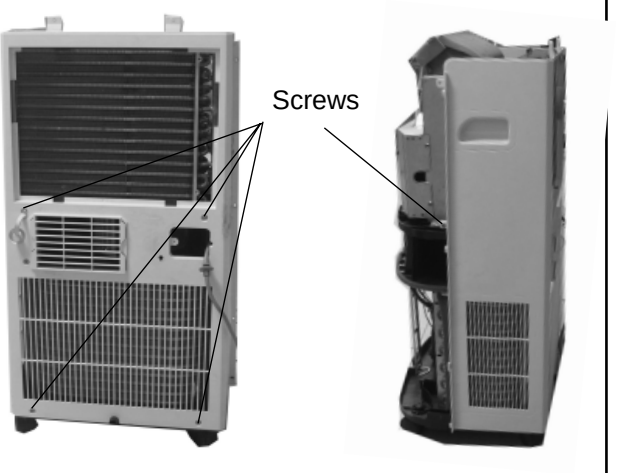
2.Disassemble Top Cover

Unscrew the 4 screws fixing top cover (2 pcs for rear and 1 ps for both left and right sides) ,and then lift it to take it out.(Note: cover plate can not be removed for the controller is fixed on it.)



3.Disassemble Rear Plate

Unscrew the screws fixing the rear plate (8 pcs for rear and 1 ps for both left and right sides) to take it out.



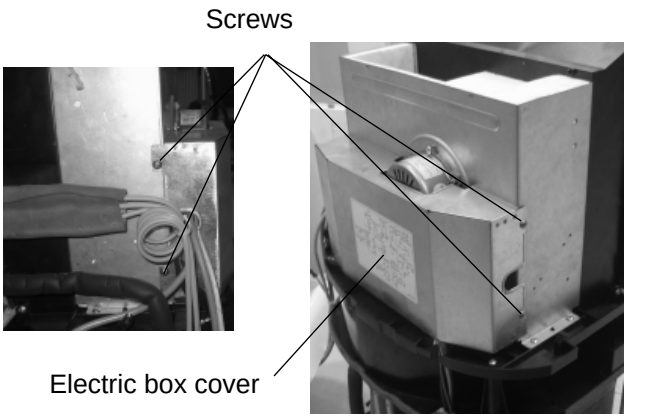
Operating Procedures / Photos

4.Disassemble Air Outlet Assy

Unscrew the 4 screws fixing air outlet assy to remove the side plate.

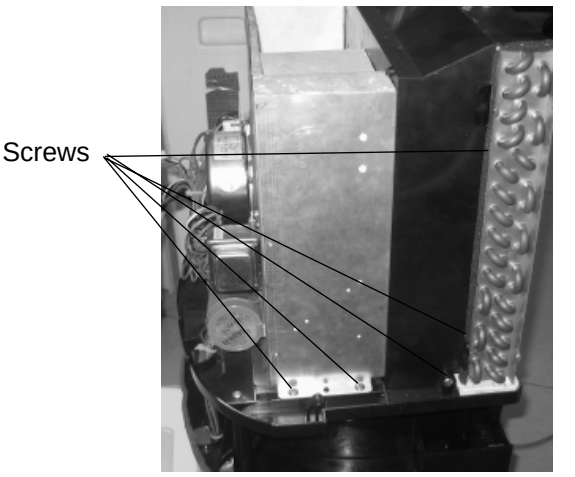
5.Disassemble Electric Box Cover

Unscrew the 5 screws fixing electric box cover to take it out.



6.Disassemble Upper Centrifugal Fan Sub-assy

Unscrew the fixing screws (5 ps for both left and right sides) and lift upper centrifugal fan to remove it.



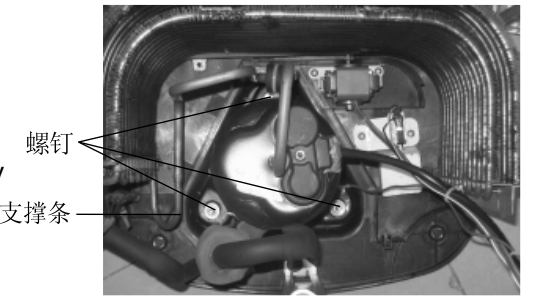
Operating Procedures / Photos

7.Disassemble Lower Centrifugal Fan Sub-assy

Unscrew the screws fixing support bars of clapboard.
Lift slightly the evaporator to remove the water tray.
Pull out the lower centrifugal fan.(Pay attention to capillary)

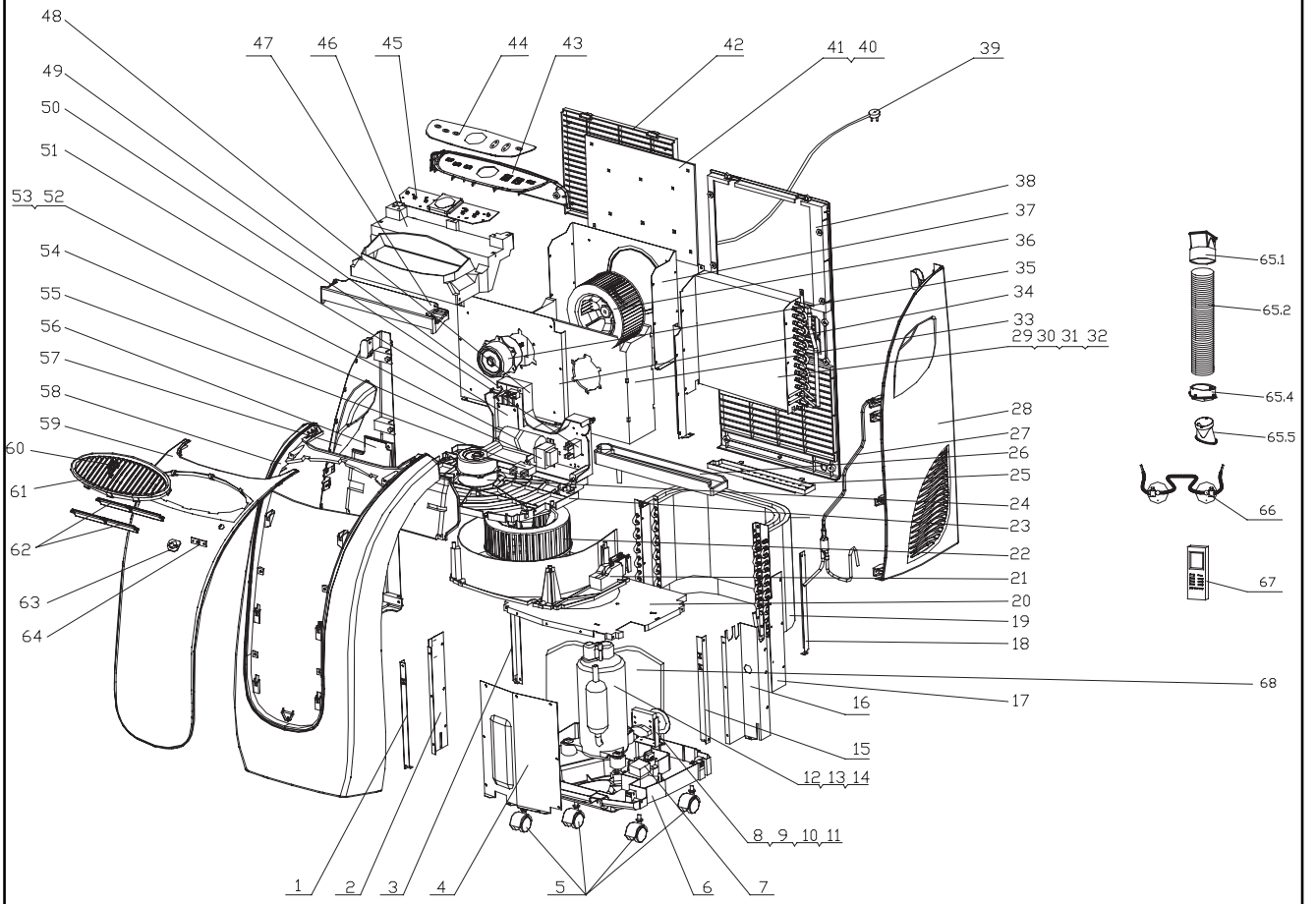
8.Disassemble Compressor

Loosen the 3 nuts with washers at the feet of compressor (caution: only after discharging all freon).Unsolder the soldering spots of the suction anddischarge pipe.Carefully remove the pipes and take out the compressor.



8 Exploded View and Parts list

8.1 Exploded View



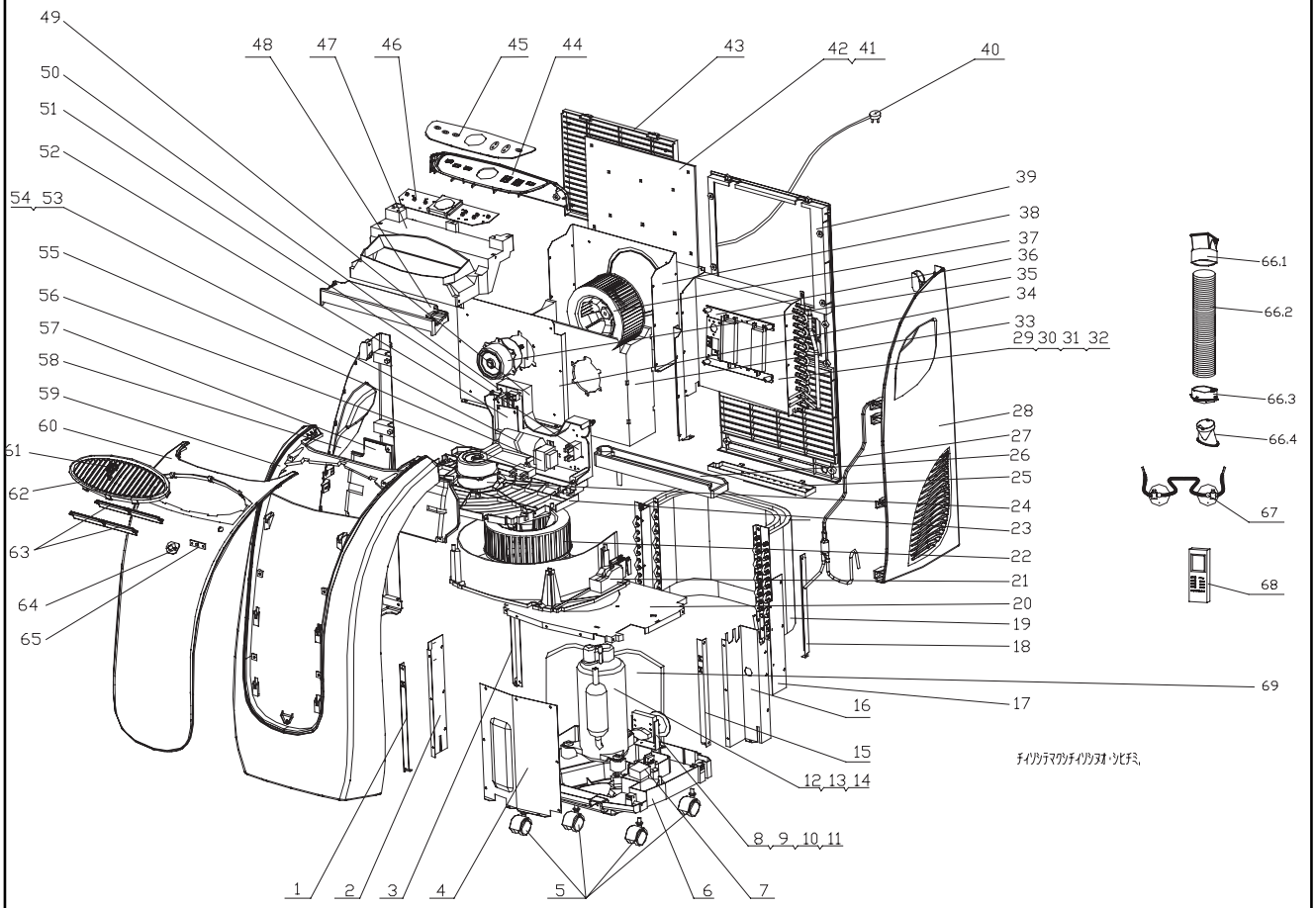
8.2 Parts list

No	Description	Part Code			Qty
		GPCN09A2NK3EA	GPCN09A2NK3EB	GPCN12A2NK3EA	
1	Support pole1 3	02116022	02116022	02116022	1
2	Bottom insulation plate 3	01236213	01236213	01236213	1
3	Support pole1 1	02116020	02116020	02116020	1
4	Bottom insulation plate 2	01236214	01236214	01236214	1
5	Castor	24236007	24236007	24236007	4
6	Base assy(black)	22226006	22226006	22226006	1
7	Level switch assy	615600203	2615600203	2615600203	1
8	Motor SN03A	15016027	15016027	15016027	1
9	Motor mount plate	01706211	01706211	01706211	1
10	Fan	10336003	10336003	10336003	1
11	Spring	73016001	73016001	73016001	1
12	Compressor	00106007	00106004	00100384	1
13	Overload protector	00186002	00180084	00180043	1
14	Rubber grommmet	76710205	76710205	76710226	3
15	Support pole1 4	02116023	02116023	02116023	1
16	Bottom insulation plate 1	01236215	01236215	01236215	1
17	Bottom insulation plate 4	01236218	01236218	01236218	1
18	Support pole1 5	01796212	01796212	01796212	1
19	Condenser assy	01106007	01106007	01106009	1
20	Lower insulation plate	01236216	01236216	01236216	1
21	Lower snail shell	12316030	12316030	12316030	1
22	Lower centrifugal fan	10316021	10316021	10316021	1
23	Middle insulation plate	20056054	20056054	20056054	1
24	Lower Motor YD23J	1501620804	1501620804	1501620804	1
25	Drainage box(black)	20186014	20186014	20186014	1
26	Water Tray Assy	12416006	12416006	12416006	1
27	Capillary assy	03006051	03006051	03006051	1
28	Right panel(white)	20056091	20056091	20056091	1
29	Evaporator assy	01036009	01036012	01036012	1
30	Room senor(15K)	39000191	39000191	39000191	1
31	Pipe senor(20K)	390000591	390000591	390000591	1
32	Sensor insert B	42020063	42020063	42020063	1
33	Snail shell	12106004	12106004	12106004	1
34	Motor Backseat Plate	01336020	01336020	01336020	1

No	Description	Part Code			Qty
		GPCN09A2NK3EA	GPCN09A2NK3EB	GPCN12A2NK3EA	
35	Upper Motor YD40G	15016209	15016209	15016209	1
36	Upper Centrifugal Fan	103160203	10316020	103160203	1
37	Flow-guideLoop	10376020	10376020	10376020	1
38	Rear case(white)	20056089	20056089	20056089	1
39	Power cord	40020314	40020314	40020314	1
40	Filter(black)	11126008	11126008	11126008	1
41	Filter fiexer	261160121	261160121	261160121	10
42	Filter grill(white)	224160323	224160323	224160323	1
43	LCD cover(white)	20126039	20126039	20126039	1
44	Membrane	63066019	63066019	63066019	1
45	Display board D78C12J	30567002	30567002	30567002	1
46	LCD support(black)	26156031	26156031	26156031	1
47	Foam(LCD support)	12316016	12316016	12316016	1
48	Electric Box	20106030	20106030	20106030	1
49	Terminal Board	42011106	42011106	42011106	1
50	Upper motor capacitor	33010025	33010025	33010025	1
51	PCB M7861	30037623	30037623	30037623	1
52	Compressor Capacitor	33000018	33010743	33000017	1
53	Capacitor Clamp	02141381	02141381	02141381	1
54	Transformer 48X26M	4311028301	4311028301	4311028301	1
55	Lower motor capacitor	33010010	33010010	33010010	1
56	Electric Box Cover	20106031	20106031	20106031	1
57	Left Case(white)	20056090	20056090	20056090	1
58	Panel(white)	20006046	20006046	20006046	1
59	decorate board(white)	20196002	20196002	20196002	1
60	Button(swing)(white)	45036011	45036011	45036011	1
61	Air Outlet Guider(white)	22416045	22416045	22416045	1
62	Swing lamina(black)	10516050	10516050	10516050	2
63	Receiver window	22436034	22436034	22436034	1
64	Receiver Board J	30044003	30044003	30044003	1
65	Exhaust hose assy	05236026	05236026	05236026	1
65.1	Front plastic pipe end(white)	06646013	06646013	06646013	1
65.2	Pipe	05236022	05236022	05236022	1
65.3					
65.4	Plastic pipe end(white)	06646017	`06646017	06646017	1
65.5	rear clip B	261160185	261160185	261160185	1
66	adsorb buckle assy	26256202	`26256202	26256202	1
67	Remote Controller (YB1C4)	30511004	30511004	30511004	1
68	Sound insulation	75016052	75016052	75016052	1

The above data are subject to change without prior notice.

8.3 Exploded View



8.4 Parts list

No	Description	Part Code		Qty
		GPEN09ABNK3A1A	GPEN12ABNK3A1A	
1	Support pole1 3	02116022	02116022	1
2	Bottom insulation plate 3	01236213	01236213	1
3	Support pole1 1	02116020	02116020	1
4	Bottom insulation plate 2	01236214	01236214	1
5	Castor	24236007	24236007	4
6	Base assy(black)	22226006	22226006	1
7	Level switch assy	2615600203	2615600203	1
8	Motor SN03A	15016027	15016027	1
9	Motor mount plate	01706211	01706211	1
10	Fan	10336003	10336003	1
11	Spring	73016001	73016001	1
12	Compressor	00106007	00100384	1
13	Overload protector	00186002	00180043	1
14	Rubber grommmet	76710205	76710226	3
15	Support pole1 4	02116023	02116023	1
16	Bottom insulation plate 1	01236215	01236215	1
17	Bottom insulation plate 4	01236218	01236218	1
18	Support pole1 5	01796212	01796212	1
19	Condenser assy	01106007	01106009	1
20	Lower insulation plate	01236216	01236216	1
21	Lower snail shell	12316030	12316030	1
22	Lower centrifugal fan	10316021	10316021	1
23	Middle insulation plate	20056054	20056054	1
24	Lower Motor YD23J	1501620804	1501620804	1
25	Drainage box(black)	20186014	20186014	1
26	Water Tray Assy	12416006	12416006	1
27	Capillary assy	03006051	03006051	1
28	Right panel(white)	20056091	20056091	1
29	Evaporator assy	01036009	01036012	1
30	Room senor(15K)	39000191	39000191	1
31	Pipe senor(20K)	390000591	390000591	1
32	Sensor insert B	42020063	42020063	1
33	Snail shell	12106004	12106004	1
34	Motor Backseat Plate	01336020	01336020	1

No	Description	Part Code		Qty
		GPEN09ABNK3A1A	GPEN12ABNK3A1A	
35	Upper Motor YD40G	15016209	15016209	1
36	PTC assy	32006020	32006020	1
37	Upper Centrifugal Fan	103160203	103160203	1
38	Flow-guideLoop	10376020	10376020	1
39	Rear case(white)	20056089	20056089	1
40	Power cord	40022008	400203144	1
41	Filter(black)	11126008	11126008	1
42	Filter fiexer	261160121	261160121	10
43	Filter grill(white)	224160323	224160323	1
44	LCD cover(white)	20126039	20126039	1
45	Membrane	63066019	63066019	1
46	Display board D78C42J	30567003	30567002	1
47	LCD support(black)	26156031	26156031	1
48	Foam(LCD support)	12316016	12316016	1
49	Electric Box	20106030	20106030	1
50	Terminal Board	42011106	42011103	1
51	Upper motor capacitor	33010025	33010025	1
52	PCB M7864	30037624	30037623	1
53	Compressor Capacitor	33000018	33000017	1
54	Capacitor Clamp	02141381	02141381	1
55	Transformer 48X26M	4311028301	4311028301	1
56	Lower motor capacitor	33010010	33010010	1
57	Electric Box Cover	20106031	20106031	1
58	Left Case(white)	20056090	20056090	1
59	Panel(white)	20006046	20006046	1
60	decorate board(white)	20196002	20196002	1
61	Button(swing)	45036011	45036011	1
62	Air Outlet Guider	22416045	22416045	1
63	Swing lamina(black)	10516050	10516050	2
64	Receiver window	22436034	22436034	1
65	Receiver Board J	30044003	30044003	1
66	Exhaust hose assy	05236026	05236026	1
66.1	Front plastic pipe end(white)	06646013	06646013	1
66.2	Pipe	05236022	05236022	1
66.3	Plastic pipe end(white)	06646017	06646017	1
66.4	rear clip B	261160185	261160185	1
67	adsorb buckle assy	26256202	26256202	1
68	Remote Controller (YB1C4)	30511004	30511004	1
69	Sound insulation	75016052	75013002	1

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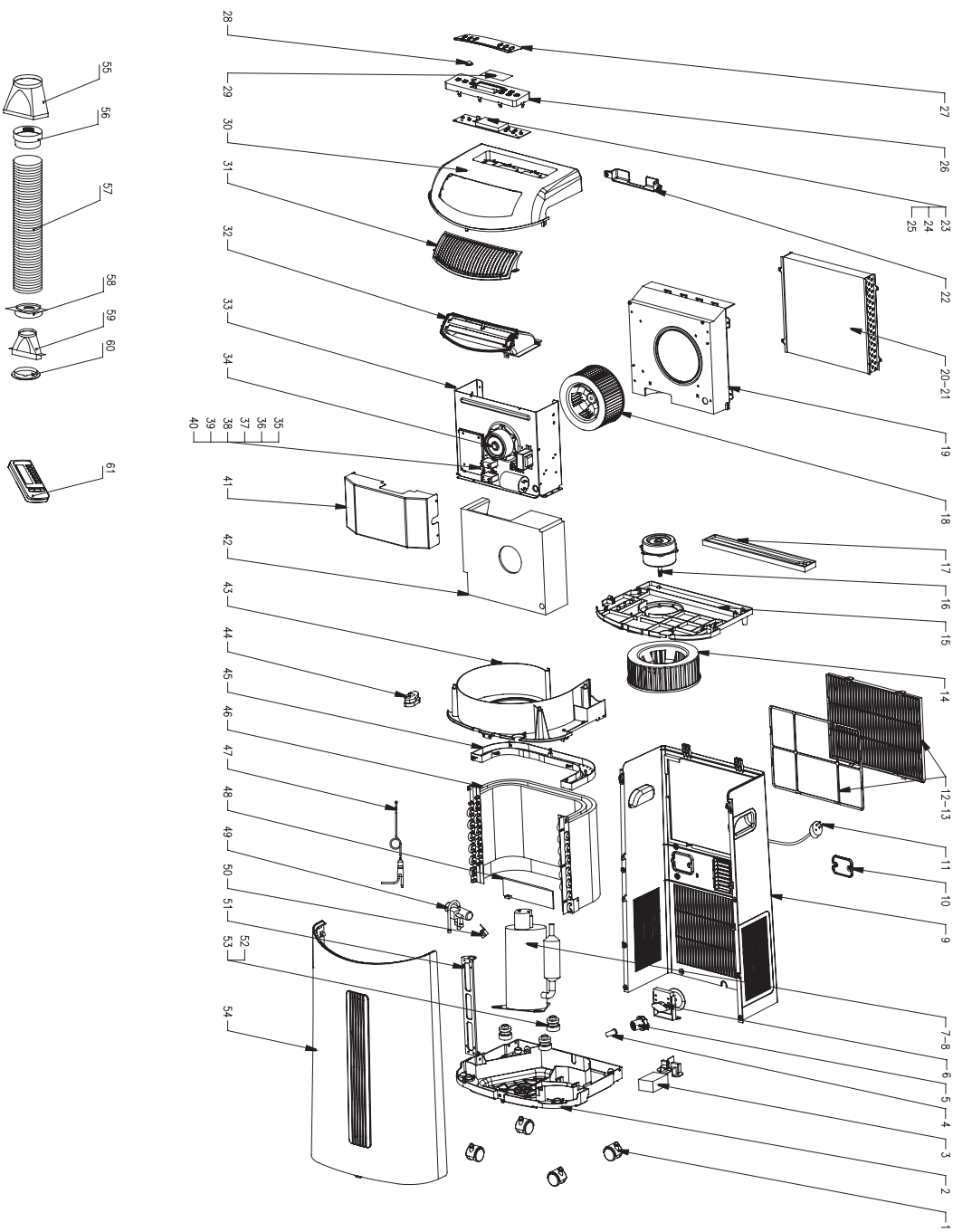
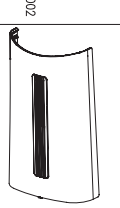
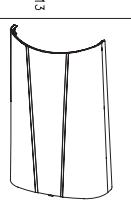
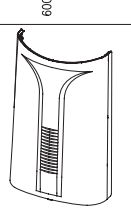
8.5 Exploded View



材料アリ	20006002	20006013	20006009
ｽｶｲﾌﾞﾙｰ:54			

8.6 Parts list

No	Description	Part Code	Qty
		GPCN09A4NK3AA	
1	castor	24236051	4
2	base assy	2222603301	1
3	level switch assy	26156002	1
4	Stopper	76716507	1
5	Tube Stopper	76716506	1
6	stir motor assy	15006001	1
7	compressor	00103084	1
8	overload protector		0
9	rear case	20056075	1
10	Cable Cross Plate	26116043	1
11	power cord	400220081	1
12	filter	11126052	1
13	filter grill	22416037	1
14	lower centrifugal fan	10316021	1
15	middle insulation plate	20056076	1
16	lower motorYD23G	1501620803	1
17	drainage pan assy	12316013	1
18	upper Centrifugal Fan	10316020	1
19	Flow-guide Loop	10376021	1
20	evaporator assy	01006026	1
21	sensor insert	42020063	1
22	Remote Controller Support	24216006	1
23	display Board J78612CJ	30547812	1
24	room senor	39000191	1
25	tube sensor	390001921	1
26	LCD cover	20126033	1
27	Membrane	63066020	1
28	Receiver window	22436032	1
29	Remote Control Widow	22436201	1
30	Top Cover	22246013	1
31	Air Outlet Grill	22416038	1
32	Air Outlet assy	20006001	1
33	Motor Backseat Plate	01226004	1

No	Description	Part Code	Qty
		GPCN09A4NK3AA	
34	Upper Motor YD40B	15016022	1
35	Transformer 48x23.5G	43110235	1
36	PCB 6861	30036804	1
37	Terminal Board	42011103	1
38	Compressor Capacitor	33000017	1
39	Upper motor capacitor	33010025	1
40	Lower motor capacitor	33010026	1
41	Electric Box Cover	01416002	1
42	Upper Propeller House	12106003	1
43	lower propeller house	22206008	1
44	Pipe-cross Loop	76516010	1
45	Water Tray	20186032	1
46	condenser assy	01106014	1
47	capillary assy	03006074	1
48	base foam	12316005	1
49	4-way valve	/	0
50	4-way valve coil	/	0
51	support pole	01796007	1
52	Bolt	70210056	3
53	Rubber grommmet	76713012	3
54	Front Panel	20006002	1
	Front Panel a (optional)	20006013	1
	Front Panel b (optional)	20006009	1
55	front plastic pipe end	06646001	1
56	plastic pipe end	06646002	1
57	pipe	05236006	1
58	rear clip	26116010	1
59	middle plastic pipe end	06646003	1
60	plastic cover	22246001	1
61	Remote Controller	30516002	1

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9 Malfunction Analysis

9.1 Troubleshooting

Phenomenon		Possible Causes	Troubleshooting
The complete unit can not be started	No any reaction after being energized	No power supply	Check the power circuit
		Not insert the plug well or poor contact	Check and insert the plug for good contact
		Fuse burn-out	Replace fuse
		Loose of indoor connecting wire	Connect them again according to circuit diagram
		Controller (power supply circuit,chip, slug lattice vibration,etc) is damaged	Replace controller
	The buzzer beeps after energization but the unit does not run by pressing ON/OFF button	Indoor temp sensor malfunction (poor contact,loose and break of leading-out wire, abnormal resistance value of temp sensor,etc.)	Connect the temp sensor once again; or replace it
	LCD displaysH8, and buzzer beeps for 8 times.)water-full protection)	Water tank is full	Pour the water
		Improperly put the water tank	Put the water tank properly
		Water-level switch line malfunction	Check the switch and line
The fan is running,but compressor doesn't run	Under cool or dehumidify mode compressor starts or stops frequently (abnormal antifreeze protection)	Dirty filter	Clean the filter
		Air intake or outtake is blocked	Remove the obstacles or the unit without them
		Slow or no rotation of fan motor	Check if power supply line of the fan motor of controller is normal,connetion of motor is loose or capacity and motor malfunction
		Leakage of refrigerant	Check the leakage and charge refrigerant
		Refrigerant system is blocked	Clean the pipeline and re-charge refrigerant
		Compressor (or another capacity) mal.	Replace compressor or capacity
		Pipe temp. sensor malfunction (poor contact,loose,break of leading out wire, abnormal resistance value).	Connect the temp sensor once again; or replace it.
		Controller malfunction	Replace controller
	E5 is displayed	Power supply is too low	Ensure the power supply for the unit is normal in the range and with manostat
		Overload(system or air duct is dirty or blocked,or fan ,compressor mal.)	Clear the malfunction or replace broken parts

Phenomenon	Possible Causes	Troubleshooting
Poor cooling effect	Dirty filter	Clean the filter
	Air intake or outtake is blocked	Remove the obstacles or the unit without it
	Leakage of refrigerant	Check the leakage and charge refrigerant
	Refrigerantion system is blocked	Clean the pipeline and recharge refrigerant
	Slow rotation of fan motor or no rotation	Check if power supply line of the fan motor in controller is normal,connetion of motor is loose or capacity and motor has malfunction
Under cool (dry) mode,no cooling air blows out	The room temp is lower than setting temp (cooling)	It's normal
	Frost of evaporator	The unit is defrosting and it will run after defrosting is finished
Noise	Parts are loose	Check out the loose parts and fix them up
	Fan blade decentres	Replace it
	Compressor malfunction	Replace the compressor
Water is full,but unit dosen't stop	Water switch is open circui	Check and repair the waterswitch circuit
Frequent water-full protection Water is full every 2-3hr	Malfunction of water motor	Replace water motor