SERVICE MANUAL

PRINCE SERIE

ASH-09AP, ASH-12AP

sinclair
AIR CONDITIONING

Technical specifications

Model		ASH-09AP	
Function		COOLING	HEATING
Rated Voltage		220-240V	
Rated Frequency		50Hz	
Total Capacity (W)		2637W(9000Btu/h)	2785W(9500Btu/h)
Power Input (W)		930	865
Rated Input (W)		1300	1300
Rated Current (A)		6.6	6.6
Air Flow Volume (m^3/h)		420/-/-/-	
Dehumidifying Volume (l/h)		0.8	
C.O.P / EER (W/W)		2.84/3.22	
Indoor unit	Model of Indoor Unit	ASH-09AP	
	Fan Motor Speed (r/min) (H/M/L)	1060/960/860/760	
	Output of Fan Motor (w)	8	
	Input of Heater (w)	/	
	Fan Motor Capacitor (uF)	1	
	Fan Motor RLA(A)	0.2	
	Fan Type-Piece	Cross flow fan – 1	
	Diameter-Length (mm)	ϕ 97*538	
	Evaporator	Aluminum fin-copper tube	
	Pipe Diameter (mm)	7	
	Row-Fin Gap(mm)	2-1.5	
	Coil length (l) x height (H) x coil width (L)	559*25.4*228.6	
	Swing Motor Model	MP24BA	
	Output of Swing Motor (W)	1.5	
	Fuse (A)	PCB 3.15A	
	Sound Pressure Level dB (A) (H/M/L)	38/35/32/28	
	Sound Power Level dB (A) (H/M/L)***	48/45/42/38	
	Dimension (W/H/D)(mm)	710X250X180	
	Dimension of Package (L/W/H)(mm)	755X260X315	

Outdoor unit	Model of Outdoor Unit		ASH-09AP
	Compressor Model		QXA-B106uC130
	Compressor Type		Rotory
	L.R.A. (A)		20
	Compressor RLA(A)		4
	Compressor Power Input(W)		890
	Overload Protector		B165-150-241H
	Throttling Method		Capillary
	Starting Method		Capacitor
	Working Temp Range (℃)		-15~46
	Condenser		Aluminum fin-copper tube
	Pipe Diameter (mm)		9.52
	Rows-Fin Gap(mm)		1-1.4
	Coil length (l) x height (H) x coil width (L)		638*406*22
	Fan Motor Speed (rpm) (H/M/L)**		950
	Output of Fan Motor (W)		20
	Fan Motor RLA(A)		0.35
	Fan Motor Capacitor (uF)		1.5
	Air Flow Volume of Outdoor Unit		1200
	Fan Type-Piece		Axial fan –1
	Fan Diameter (mm)		324
	Defrosting Method		Auto defrost
	Climate Type		T1
	Isolation		I
	Moisture Protection		IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)		3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)		1.2
	Sound Pressure Level dB (A) (H/M/L)		50
	Sound Power Level dB (A) (H/M/L)		60
	Dimension (W/H/D)(mm)		720X430X260
	Dimension of Package (L/W/H)(mm)		765X350X490
	Net Weight /Gross Weight (kg)		25/29
	Refrigerant Charge (kg)		R410a/0.7
Connection Pipe	Length (m)		4
	Outer Diameter	Liquid Pipe (mm)	Φ6(1/4")
		Gas Pipe (mm)	Φ12(1/2")
	Max Distance	Height (m)	5
		Length (m)	10

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

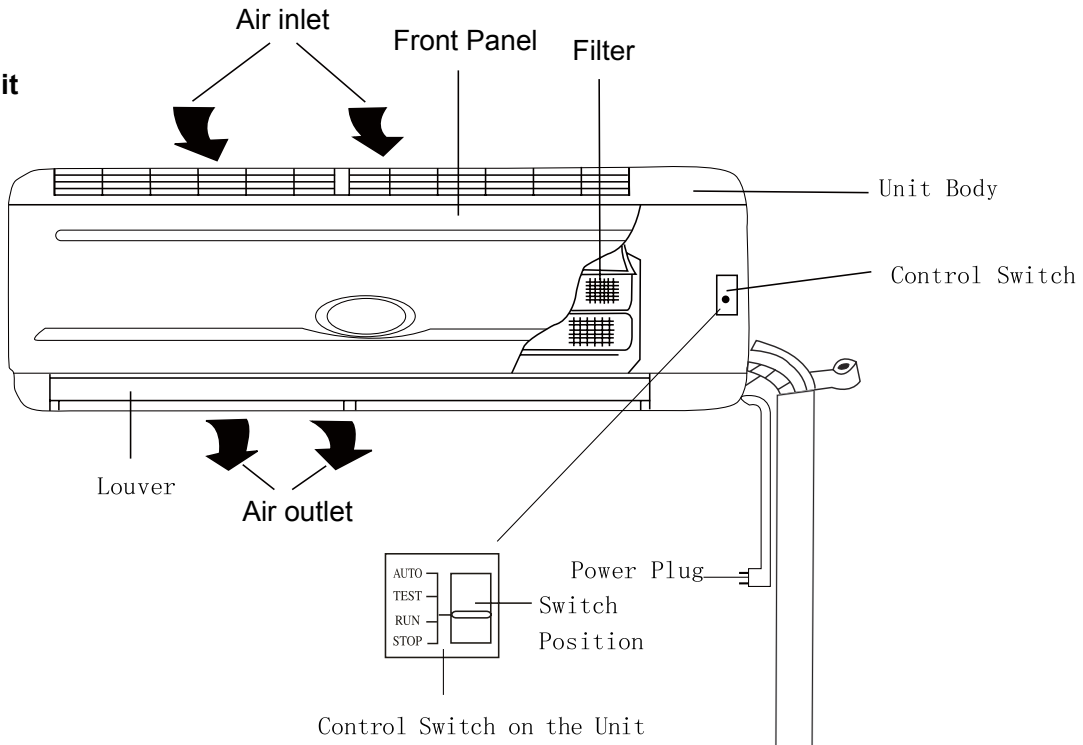
Model		ASH-12AP	
Function		COOLING	HEATING
Rated Voltage		220-240V	
Rated Frequency		50Hz	
Total Capacity (W)		3224W(11000Btu/h)	3575W(12200Btu/h)
Power Input (W)		1130	1110
Rated Input (W)		1500	1400
Rated Current (A)		7.6	7.1
Air Flow Volume (m^3/h)		520	
Dehumidifying Volume (l/h)		1	
C.O.P / EER (W/W)		2.85/3.22	
Indoor unit	Model of Indoor Unit	ASH-12AP	
	Fan Motor Speed (r/min) (H/M/L)	1200/1100/980/880	
	Output of Fan Motor (w)	20	
	Input of Heater (w)	/	
	Fan Motor Capacitor (uF)	1	
	Fan Motor RLA(A)	0.28	
	Fan Type-Piece	Cross flow fan – 1	
	Diameter-Length (mm)	ϕ97*583	
	Evaporator	Aluminum fin-copper tube	
	Pipe Diameter (mm)	7	
	Row-Fin Gap(mm)	2-1.4	
	Coil length (l) x height (H) x coil width (L)	606*25.4*228.6	
	Swing Motor Model	MP24BA	
	Output of Swing Motor (W)	1.5	
	Fuse (A)	PCB 3.15A	
	Sound Pressure Level dB (A) (H/M/L)	40/38/35/31	
	Sound Power Level dB (A) (H/M/L)***	50/48/45/41	
	Dimension (W/H/D)(mm)	770X250X180	
	Dimension of Package (L/W/H)(mm)	810X278X320	
	Net Weight /Gross Weight (kg)	8.5/12	

Outdoor unit	Model of Outdoor Unit		ASH-12AP
	Compressor Model		C-RV133H1C
	Compressor Type		Rotory
	L.R.A (A)		28
	Compressor RLA(A)		5.2
	Compressor Power Input(W)		1100
	Overload Protector		B230-150-241H
	Throttling Method		Capillary
	Starting Method		Capacitor
	Working Temp Range (℃)		-15~46
	Condenser		Aluminum fin-copper tube
	Pipe Diameter (mm)		8
	Rows-Fin Gap(mm)		1-1.4
	Coil length (l) x height (H) x coil width (L)		743*506*19.05
	Fan Motor Speed (rpm) (H/M/L)**		830
	Output of Fan Motor (W)		25
	Fan Motor RLA(A)		0.35
	Fan Motor Capacitor (uF)		2.5
	Air Flow Volume of Outdoor Unit		1700
	Fan Type-Piece		Axial fan –1
	Fan Diameter (mm)		400
	Defrosting Method		Auto defrost
	Climate Type		T1
	Isolation		I
	Moisture Protection		IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)		3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)		1.2
	Sound Pressure Level dB (A) (H/M/L)		52
	Sound Power Level dB (A) (H/M/L)		62
	Dimension (W/H/D)(mm)		848X540X320
	Dimension of Package (L/W/H)(mm)		878X590X360
	Net Weight /Gross Weight (kg)		35/40
	Refrigerant Charge (kg)		R410a/0.82
Connection Pipe	Length (m)		4
	Outer Diameter	Liquid Pipe (mm)	Φ6(1/4")
		Gas Pipe (mm)	Φ9.52(3/8")
	Max Distance	Height (m)	5
		Length (m)	10

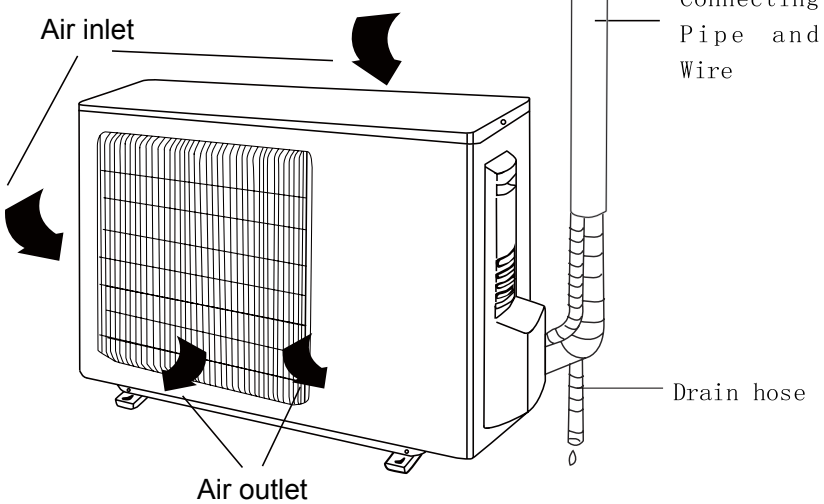
The above data is subject to change without notice. Please refer to the nameplate of the unit.

Part name

Indoor Unit

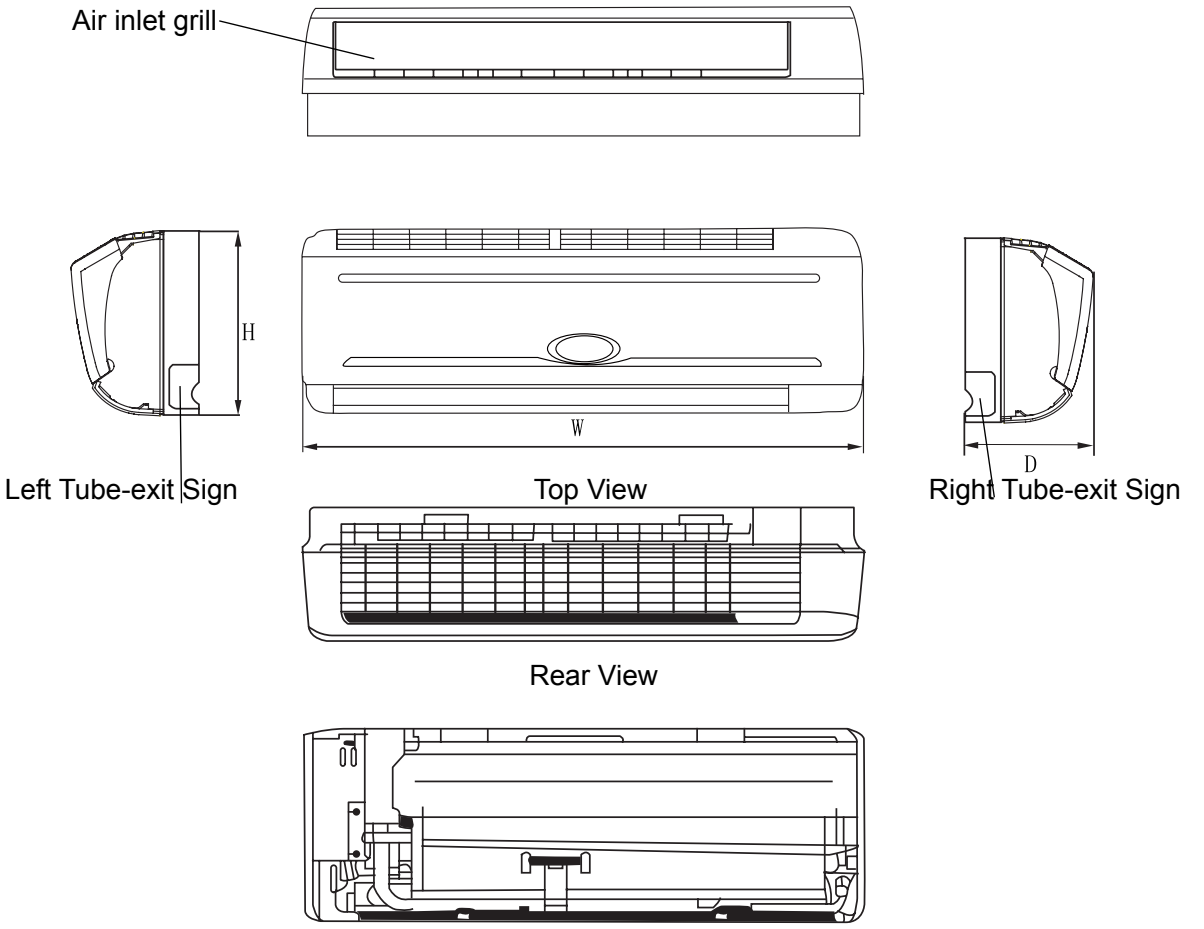


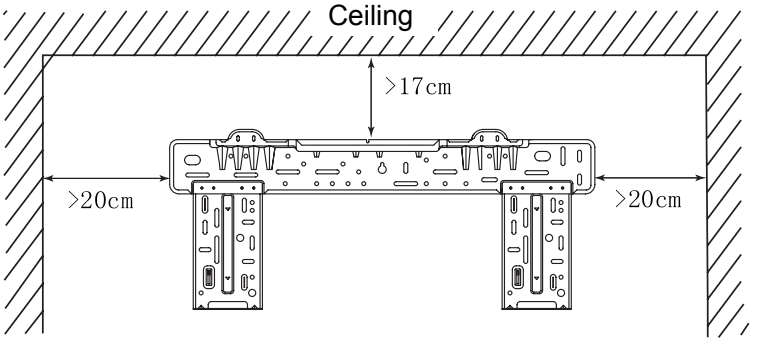
Outdoor Unit



Outline and installation dimension

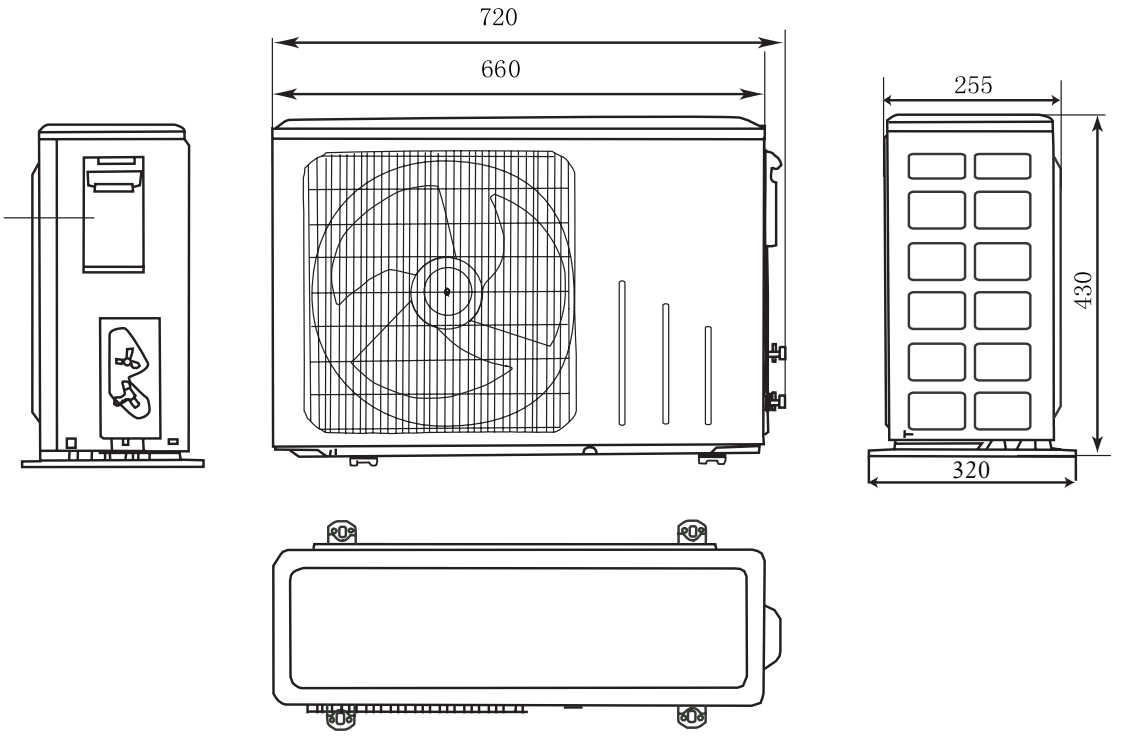
Overall and Installing Dimension of Indoor Unit

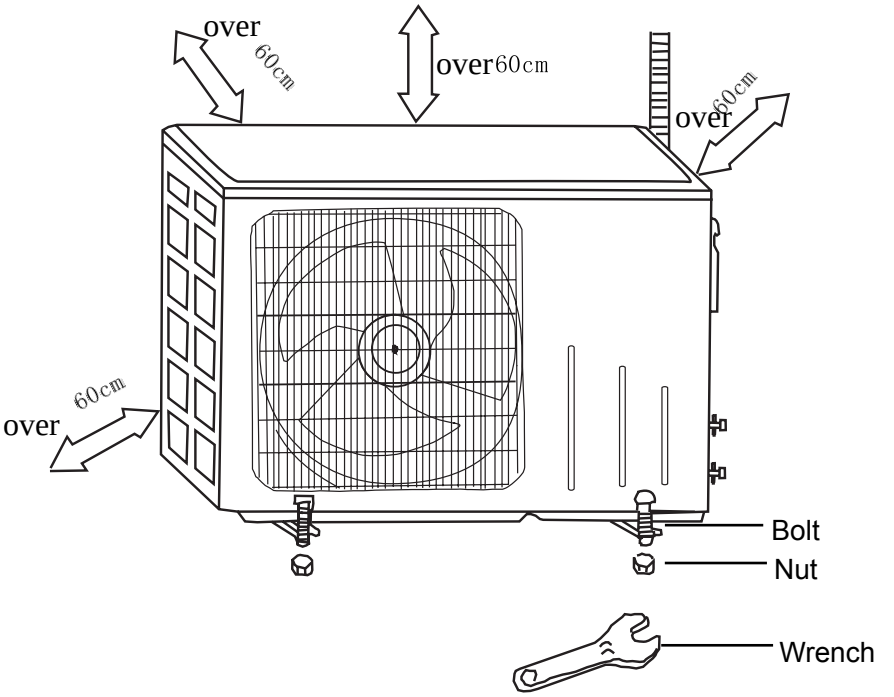


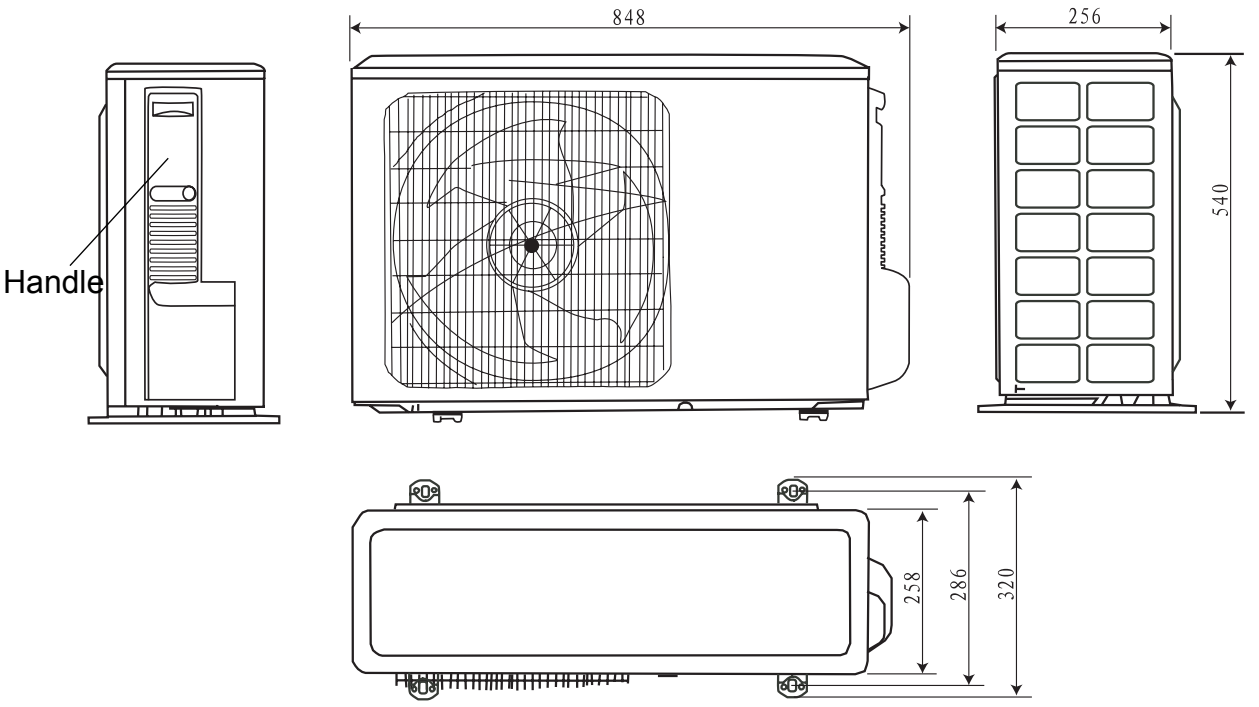


Model	W(mm)	H(mm)	D(mm)
ASH-09AP	710	250	180
ASH-12AP	770	250	180

Overall and Installing Dimension of Outdoor Unit






848
256
540
Handle
258
286
320

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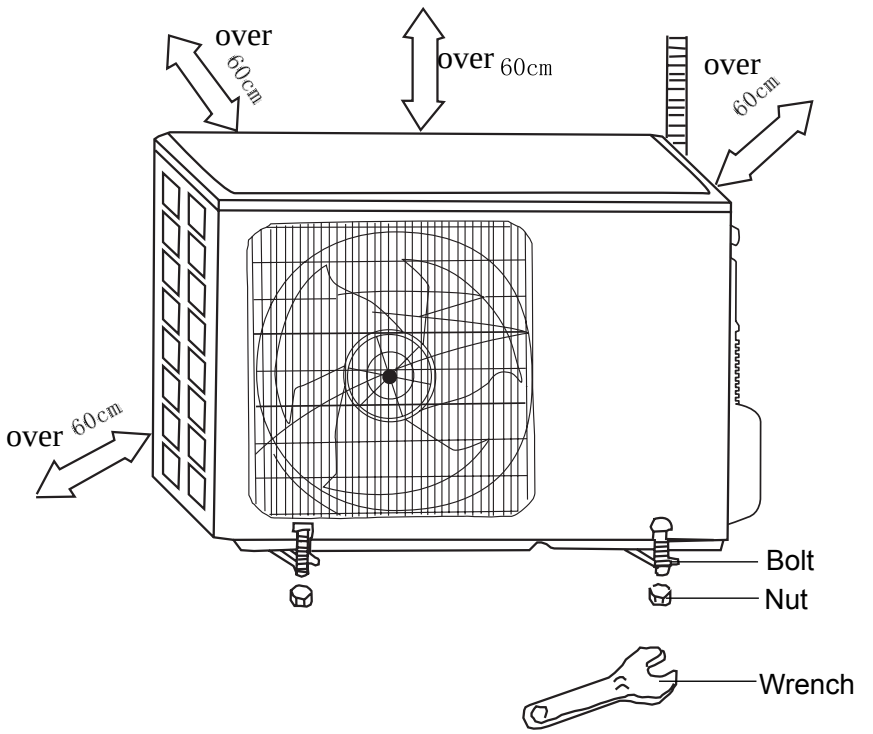
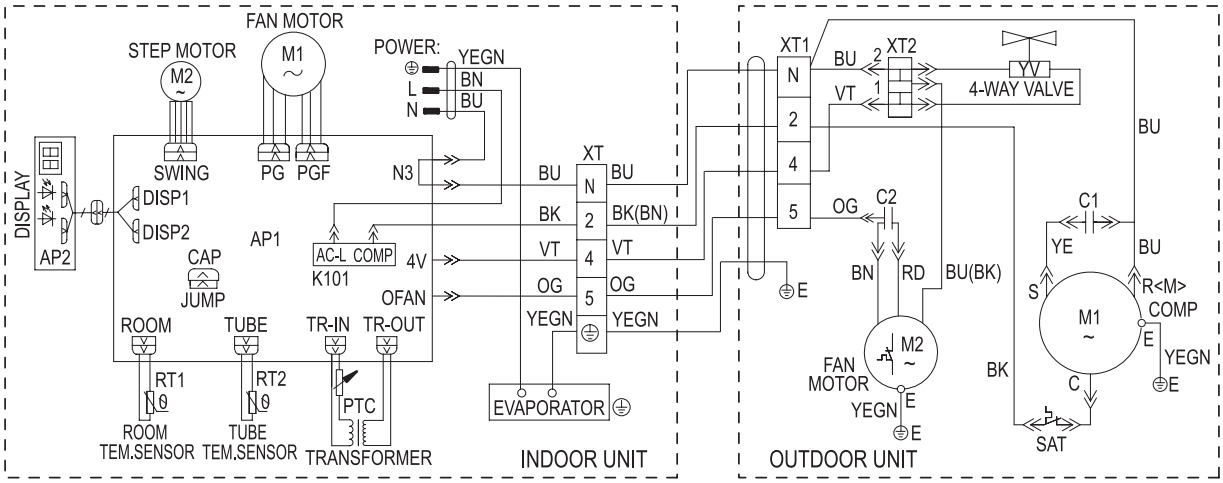

over 60cm
over 60cm
over 60cm
over 60cm
Bolt
Nut
Wrench

Electrical circuit diagram

ASH-09AP, ASH-12AP



Manual of functions of remote controller and operation method

Manual of functions of remote controller for ASH-09AP,ASH-12AP units

1.1 Temperature parameter

- ◆**The room setting temperature(Tpreset)**
- ◆**The room ambient temperature (Tamb)**

1.2Basic Functions

Once energized, the compressor should in no way be restarted unless after 3-minute time interval at least. For the first energization, the compressor will be started without 3-minute lag. The compressor, once started,will not be stopped within 6 minutes with the change of room temperature.

1．2．1 **Cooling Mode**

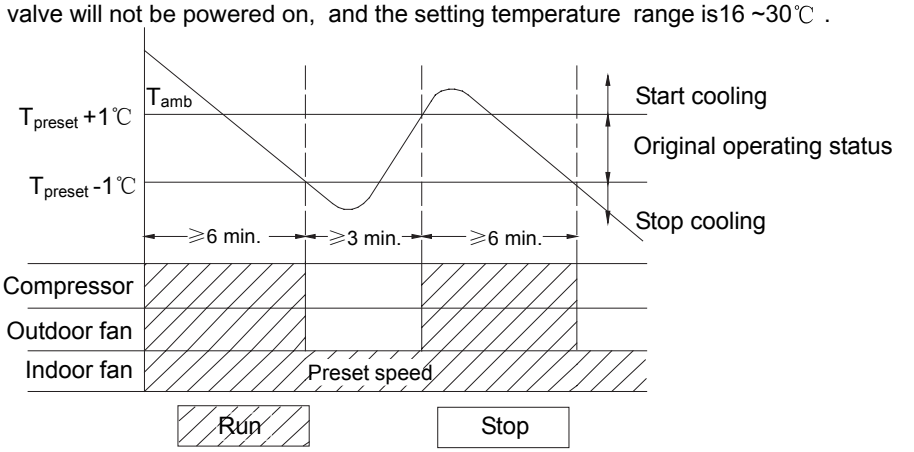
1．2．1．1 **Cooling Conditions and Process**

When $T_{amb.} \geqslant T_{preset}$ +1℃, the unit will run under cooling mode, in which case the compressor and outdoor fan will start and the indoor fan will run at setting speed.

When $T_{amb.} \leq T_{preset}$ -1℃, the compressor and the outdoor fan will stop, the indoor fan will run at setting speed.

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

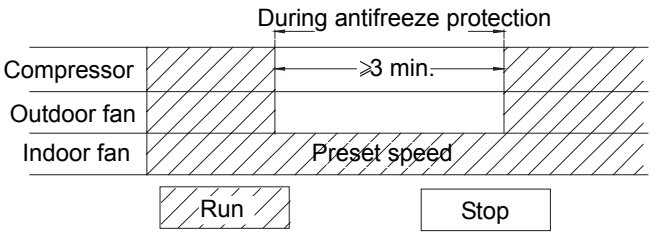
➢ Under this mode, the switch valve will not be powered on, and the setting temperature range is16 ~30℃ .



1.2.1.3 Protection

◆ **Antifreeze Protection**

If it is detected that the system is under antifreeze protection, the compressor and outdoor fan will be stopped, and the indoor fan will run at setting speed. When antifreeze protection is released and the compressor has stopped for 3 minutes, the unit will resume its original operating status.



1.2.2 DRY Modes

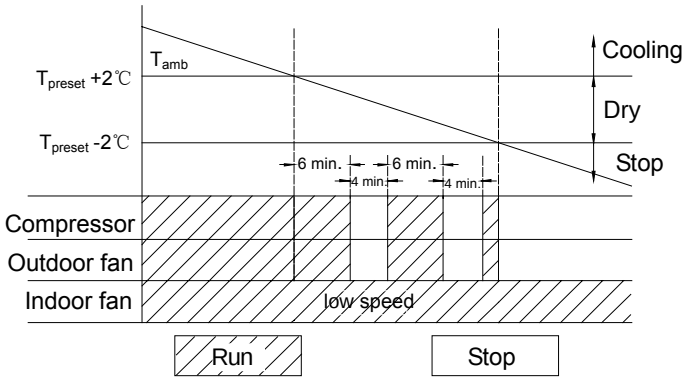
1.2.2 .1 The conditions and process of DRY

When $T_{amb.} > T_{preset}$+2℃, the unit will run under DRY cooling mode, in which case the compressor and outdoor fan will be started and the indoor fan will run at low speed.

When T_{preset} -2℃$\leqslant T_{amb.} \leqslant T_{preset}$ +2℃, the unit will run under DRY mode, in which case the indoor fan will keep run at low speed, the compressor and the outdoor fan will be stopped after 6 minutes . After 4 minutes,the compressor and the outdoor fan will be restarted. The dehumidifying process is so repeated in cycle.

When $T_{amb.} < T_{preset}$-2℃, the compressor and outdoor fan will be stopped, the indoor fan will run at low speed.

➢ Under this mode, the switchover valve will not be powered on, and the setting temperature range is16 ~30℃ .



1.2.2.3 Protection

◆ **Antifreeze Protection**

Upon meeting the cooling condition, if it is detected that the system is under antifreeze protection, the compressor and outdoor fan will be stopped,and the indoor fan will run at low speed. When antifreeze protection is released and the compressor has stopped for 3 minutes, the complete unit will resume its original operating status.

Upon meeting the dehumidify condition, if it is detected that the system is under antifreeze protection, the com -pressor and outdoor fan will be stopped,and the indoor fan will run at low speed. When antifreeze protection is released and the compressor has stopped for 4 minutes, the complete unit will resume its original operating status.

1.2.3 HEAT Mode (there is no this mode for cooling only unit)

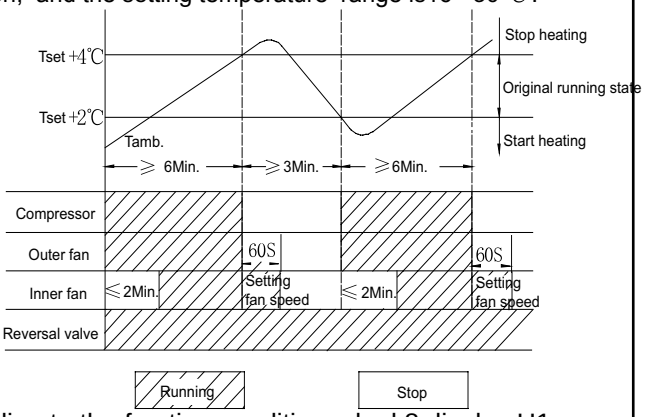
1.2.3 .1The conditions and process of heating

When Tamb ≤ Tset +2 ℃,the system enters heating running, in this case, the reversal valve, compressor, outer fan enter simultaneously running.The indoor fan will delay at most for 2min to run.

When Tamb ≥ Tset +4℃,the compressor and outdoor fan will stop, but the reversal valve is still with power on, the indoor unit will run at setting fan speed for 60s then will stop .

When Tset +2 ℃<Tamb < Tset +4 ℃,the unit will maintain its original operating status.

➢ Under this mode, the switchover valve will be powered on, and the setting temperature range is16 ~30 ℃.



1.2.3.3 Conditions and processes of defrost

This unit adopt intelligent defrosting,it can defrost according to the frosting conditions,dual 8 display H1

1.2.3.4 Protection

◆ **High Temp. Protection**

If it is detected that the evaporator tube temperature is too high, the outdoor fan will be stopped. When the tube temperature resumes to normal, the outdoor fan will be restarted.

◆ **Noise Silencing Protection:** If the unit is stopped by pressing ON/OFF, the reversal valve will be stopped after 2-minute lag; or 2 minutes will be delayed upon mode switching.

1.2.4 Fan mode

Under FAN mode, only the indoor fan runs at setting speed. Compressor and outdoor fan motor stop running.

1.2.5 Auto Mode

Under this mode, the system will automatically select its run mode (cool, dehumidify, heat or fan) with the change of ambient temperature. For protection function, same as under cooling and heating mode.

3.Other controls

1. Memory function

Memory contents: Mode, up and down swing, Light, Setting temp., Setting fan speed, Ordinary setting Fahrenheit/Centigrade, after powered off, and powered on, it will run at the memory contents.

If no timer setting function in last remote control order, the system will memorize the last remote control order, the system will memorize the last remote control order and work with last remote control setting.

In the last remote control order, there is ordinary timer function, if power off happen beffore the timer arrived, the system will memorize the last remote control timer function, and will recalculate.

If there is timer function in last remote control order, but timer has arrive, system will run at timer on or timer off and power off, after repowered on, the system will run at the mode before power off.

（2 ）Timer function

1.Ordinary Timer setting:

Timer on: Under unit off, the timer on function could be set up, if timer on has arrived, controller will run at setting mode, the timer interval is 0.5hr, setting range is 0.5-24hrs.

Timer off: Under unit off, the timer off function could be set up, if timer off has arrived, controller will run at setting mode, the timer interval is 0.5hr, setting range is 0.5-24hrs.

②Timer setting for hour:

Timer on: if system is running, to set timer on, the system will continue to run, if unit is off to set up timer on, when timer on has arrived, the system will run at pressetting mode.

Timer off: If system is off to set up the timer off, when to set up timer off, the unit will stand by, when unit is on, to set up timer off, when the timer off arrived, the system will stop to work.

Timer setting change:

When system is in Timer status, can set up timer on and timer off by wireless remote control, to reset up Timer also, the system will run at last setting status.

When system is running, at the same time to set up Timer on and Timer off, the system will keep the present setting status, when time arrived, system will stop to work.

When system stop, at the same time to set up Timer on and Timer off, the system will stop, untile the timer arrived, the system will start to work.

Hereafter, when timer of timer on in every day arrived, it will run the presetting modes, after timer off arrived, the system will stop.

(3) Auto button

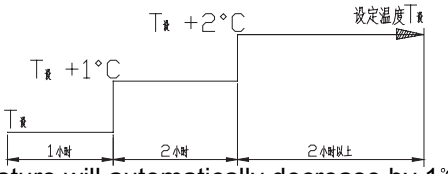
After powered on, press this button, it will run at Auto mode, when repressed, the unit will turns off.

(4) Buzzer

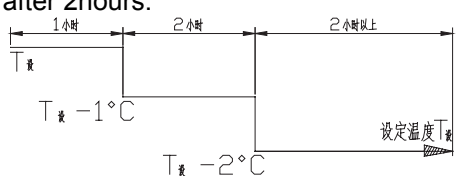
The controller is powered on and detect the signal received, the buzzer will beep.

(5) Sleep function

Under cooling or dehumidifying mode, the preset temperature will automatically rise by 1℃, ine hour after setting of sleep program and rise by 1℃after 2hours.



Under heating mode, the preset temperature will automatically decrease by 1℃ one hour after setting of sleep program and decrease by another 1℃after 2hours.



(6) Turbo function

The turbo function is available in Cool and Heat modes.

(7) Dry function

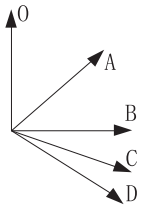
Dry function is available in Cool and Dehumidifying modes.

(8) Auto fan speed control

In this mode, indoor fan can run with Hig, Mid, Low speeds.

(9) Up and down swing control

After powered on, the lower swing motor will firstly rotate the guide louver to position 0, close up the air outlet vent; After unit turned on, if to set up swing function, when indoor fan stop running, the guide louver will stop at current position, inner fan motor is running, guide louver will resume to swing.From Cool, Dry, Fan modes to Heat mode, the guide louver will be opened at C position, when turn on swing will run at (A-D); from Heat mode to Cool, Dry, Fan mode, the fan louver will turn to B position, if turn on the swing, it will run at (A-D).



(10) Displayer

① Running figure and mode figure display

After powered on, the figure will be displayed, then only Power/running indicator turn on. When using remote conroller to open the unit, it will turn on, at the same time to display current setting running modes.

② Dual 8 display

When the unit is turned on, after powered on, the nixie tube will display the setting temp.(setting range is 16-30℃). Under Auto mode, cooling and fan will display 25℃, heating will display 20℃, cooling only control display 25℃.

③ LCD Display

When cooling and dehumidifying, the Cool and indicator will turn on, when heating, the Heat and Run indicator will turn on, when in fan mode, the indicator will turn on.

(11) PG motor lock protection

When turn on the fan motor, if motor continuously run for a while and the running speed is very slow, in order to prevent motor automatically self-protection, it will stop running and display lock; If currently turns unit on, that dual 8 will display lock error code H6; If current is unit off, will not display the block error information.

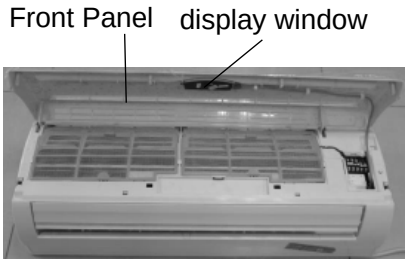
Dissassembly Procedures

Disassembly Procedures of Indoor Unit

Operating Procedures / Photos

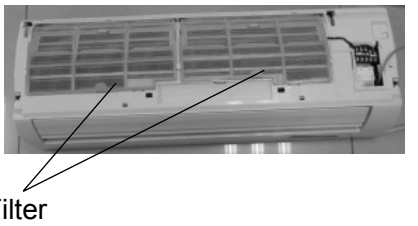
1.Disassemble Front Panel

Pull open the front panel, take out the display window, then pull out the front panel along the groove (at the front case) fixing the front panel.



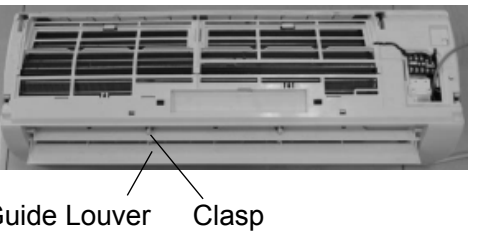
2.Disassemble Filter

Push the filter inward, and then pull it upward to remove it. Unscrew the screw fixing the top cover of electric box to remove the top cover.



3 . **Disassemble Guide Louver**

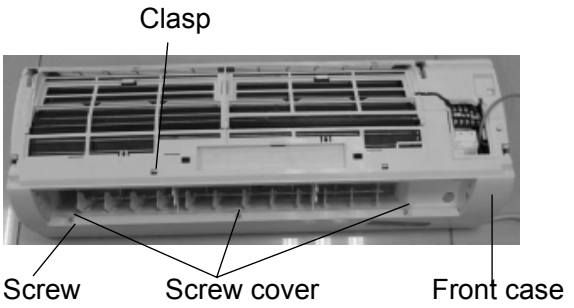
Manually bend the guide louver to loose the clasp at the guide louver. Remove the guide louver.



Operating Procedures / Photos

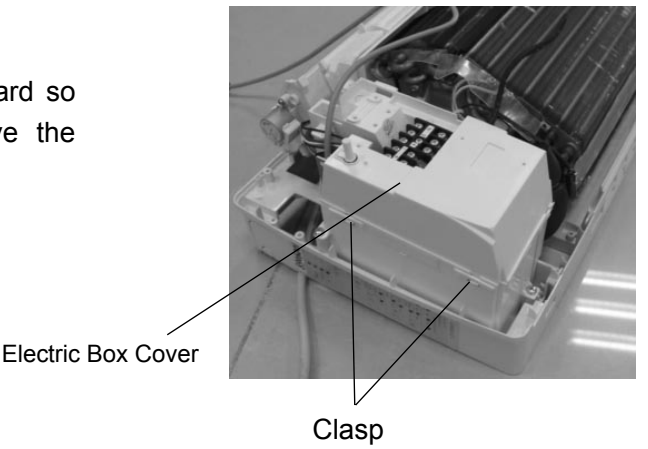
4 . Disassemble Front Case

Open the three screw covers at the front case, unscrew the three screws, pull open the clasp at the front case, and remove the front case.



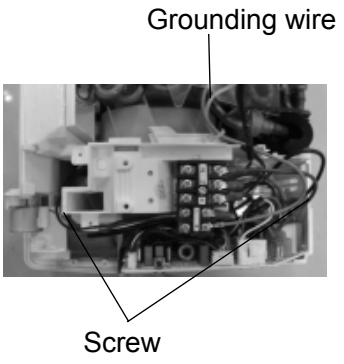
5 . Disassemble Electric Box Cover

Hold the electric box cover to press it inward so that the clasps on top loose and remove the electric box cover.



6.Disassemble Electric Box

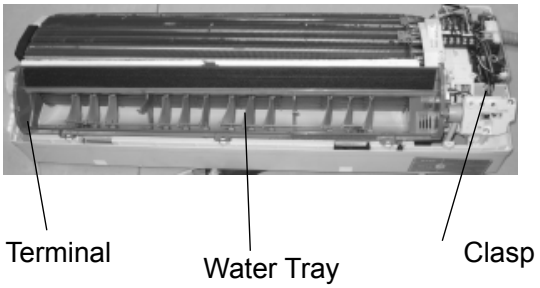
Remove the grounding wire of the evaporator. Remove the tube sensor. Disconnect the connecting cable of the indoor motor, use screwdriver to remove the screw fixing the electric box, and pull open the clasp at the side of the board of the indicator light. Take out the electric box.



Operating Procedures / Photos

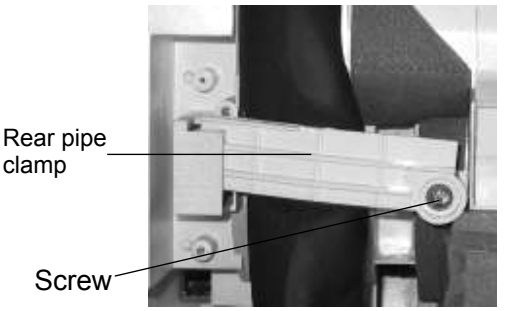
7. Disassemble Water Tray

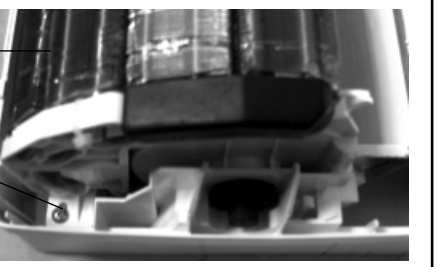
Pull open the holding clasp on the left side of the water tray, disconnect the terminal of the stepping motor, lift and pull out the drainage pipe, and remove the water tray.



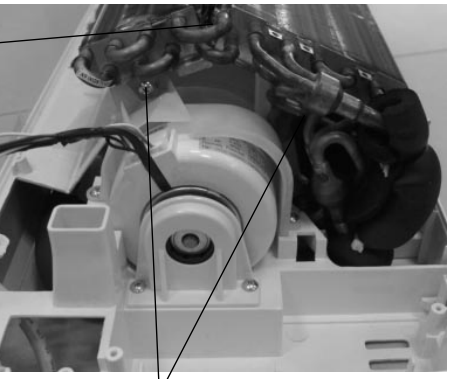
8 . Disassemble Evaporator

Unscrew the screw to remove the rear pipe clamp. Remove the left and right screws at the evaporator, manually move the evaporator to loosen the clasp of its side plate from the groove. Carefully take out the evaporator and pay attention to protect the connecting pipe.



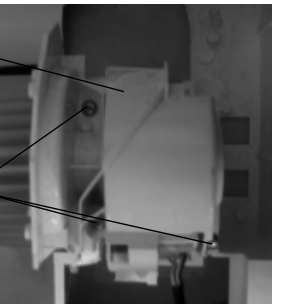


Operating Procedures / Photos

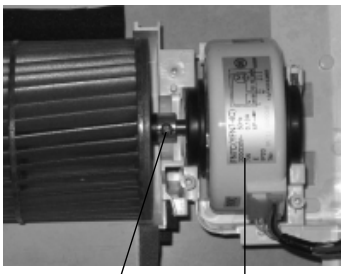


9.Disassemble Motor

Unscrew the three screws fixing the motor clamp, and remove the motor clamp.



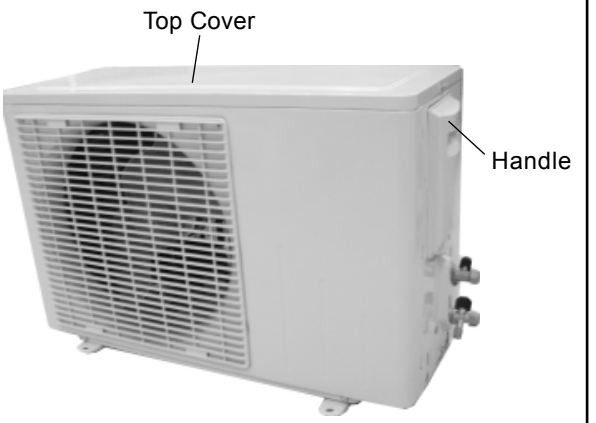
Loosen the holding nut at the shaft sleeve on the right side of the cross flow fan. Slightly lift and then pull out the motor.



Operating Procedures / Photos

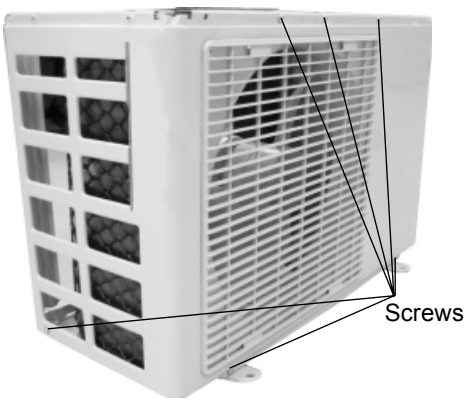
1. Disassemble Handle, Top Cover

Unscrew the screw fixing the handle,and then remove it upwards to take it out.
Unscrew the 2 screws fixing left side of top cover and the 1 screw fixing the right side to remove the top cover.



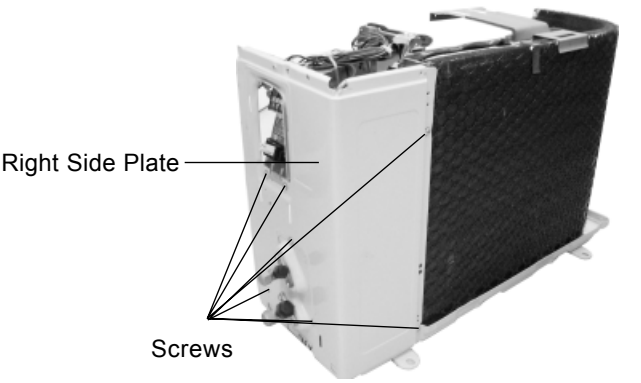
2. Disassemble Front Panel

Unscrew the screws fixing the panel and turn right the front panel to remove it.



3. Disassemble Right Side Plate

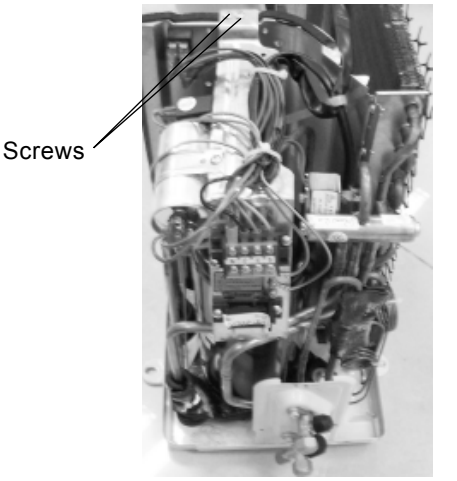
Unscrew the 2 screws fixing electric box ,and then unscrew the 5 screws fixing the right side plate to remove it.



Operating Procedures / Photos

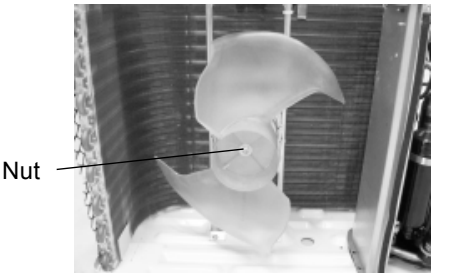
4. Disassemble Electric Box

Unscrew the screws fixing the electric box, and then pull out the inset block of lead-out wire of compressor and fan motor to take out the electric box.



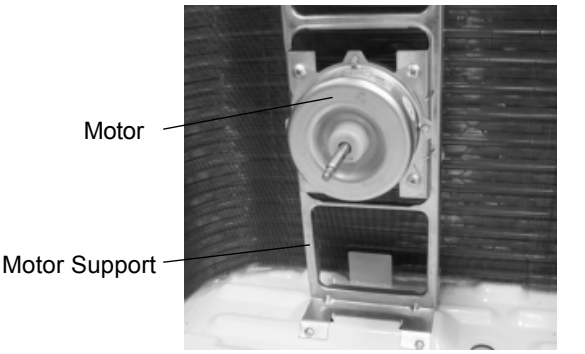
5. Disassemble Axial Flow Fan

Loosen the fastening nut fixing the axial flow fan with a spanner, and then take out the nut, spring gasket and flap gasket in turn.



6. Disassemble Motor and Motor Support

Unscrew the 4 screws fixing the motor to take out the motor,and then unscrew the 2 screws fixing the motor support to take it out.



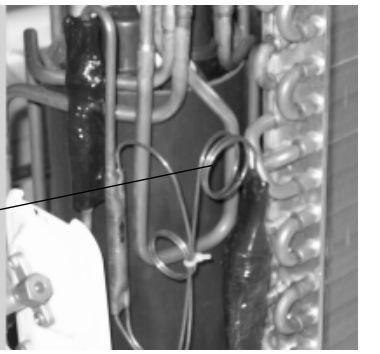
Operating Procedures / Photos

7. Disassemble Four-way Valve

Unscrew the fastening nut of the four-way valve coil and remove the coil. Wrap the four-way valve with wet cotton and unsolder the 4 weld spots connecting the four-way valve to take it out. (Note: Refrigerant should be discharged firstly.)
Welding process should be as quick as possible and keep wrapping cotton wet all the time. Be sure not to burn out the lead-out wire of compressor.

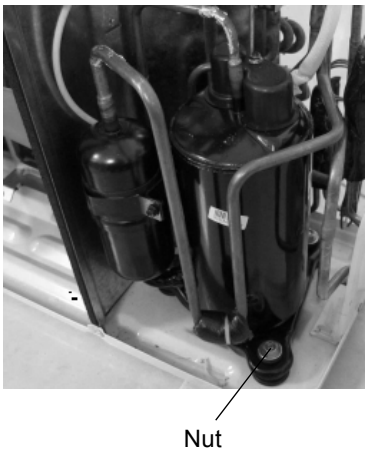
8. Disassemble Capillary

Respectively unsolder the weld spots of main capillary and auxiliary capillary to take off the capillary.



9. Disassemble Compressor

Unscrew the three foot-nuts at the foot of the compressor. Unsolder the suction and the discharge pipes of the compressor,and then carefully remove the pipes to take out the compressor.

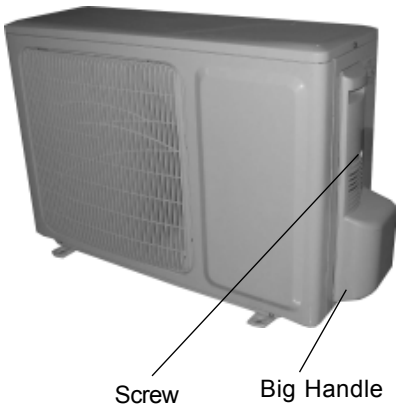


7.4 Operation procedures/pictures for outdoor uni(for 12K)

Operating Procedures / Photos

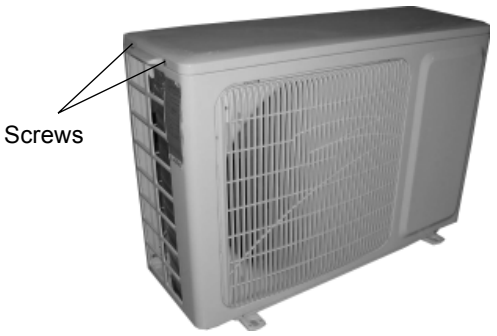
1. Disassemble Big Handle

Unscrew the screw fixing the big handle,and then remove it downwards to take it out.



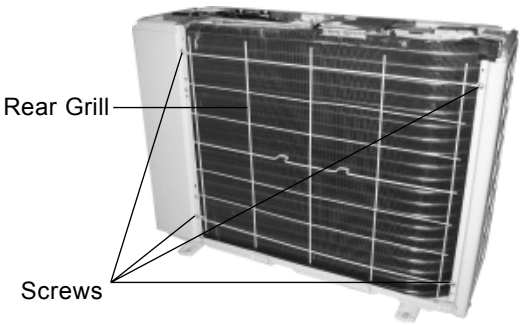
2. Disassemble Top Cover

Unscrew the 2 screws fixing left side of top cover and the 1 screw fixing the right side to remove the top cover.



3. Disassemble Rear Grill

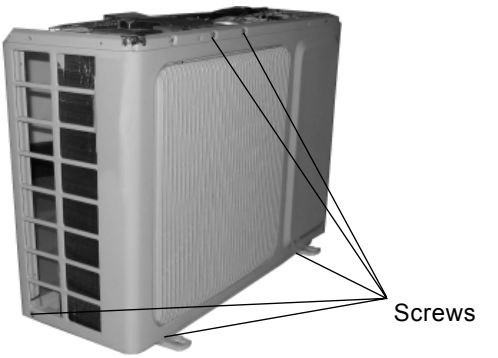
Unscrew the 4 screws fixing the rear grill to remove it.



Operating Procedures / Photos

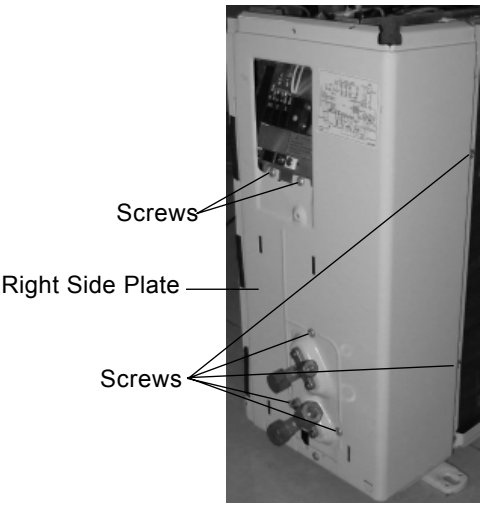
4. Disassemble Front Panel

Unscrew the 5 screws fixing the panel and dextrorotate the front panel to pull it out from groove.



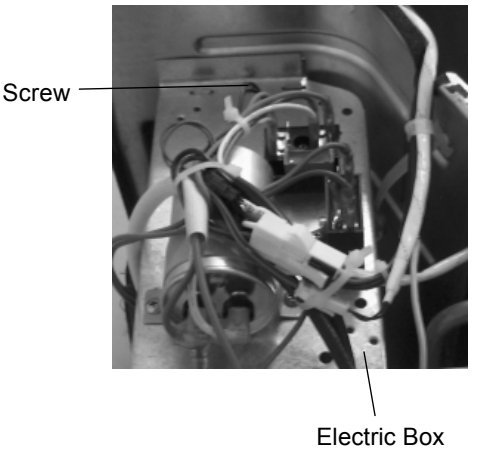
5. Disassemble Right Side Plate

Unscrew the 2 screws fixing electric box ,and then unscrew the 5 screws fixing the right side plate to remove it.



6. Disassemble Electric Box

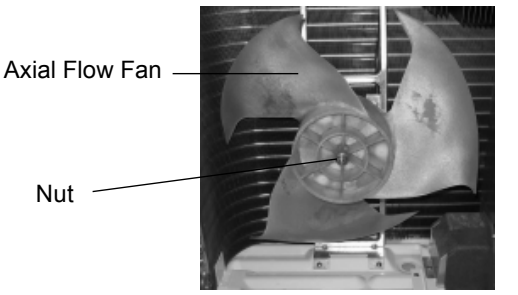
Unscrew the screws fixing the electric box, and then pull out the inset block of lead-out wire of compressor and fan motor to take out the electric box.



Operating Procedures / Photos

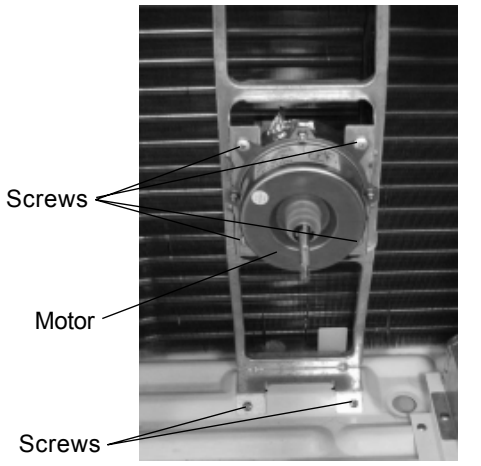
7. Disassemble Axial Flow Fan

Loosen the fastening nut fixing the axial flow fan with a spanner, and then take out the nut, spring gasket and flap gasket in turn.



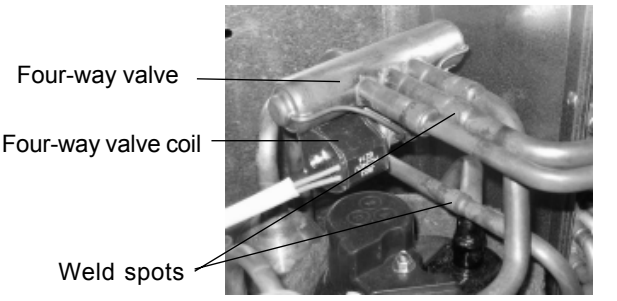
8. Disassemble Motor and Motor Support

Unscrew the 4 screws fixing the motor to take out the motor,and then unscrew the 2 screws fixing the motor support to take it out.



9. Disassemble Four-way Valve

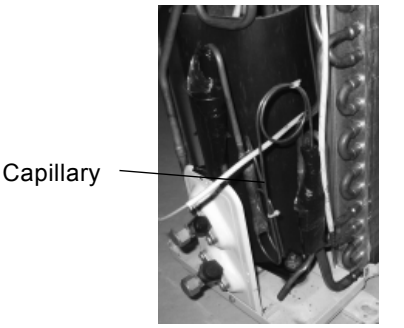
Unscrew the fastening nut of the four-way valve coil and remove the coil. Wrap the four-way valve with wet cotton and unsolder the 4 weld spots connecting the four-way valve to take it out. (Note: Refrigerant should be discharged firstly.)
Welding process should be as quick as possible and keep wrapping cotton wet all the time. Be sure not to burn out the lead-out wire of compressor.



Operating Procedures / Photos

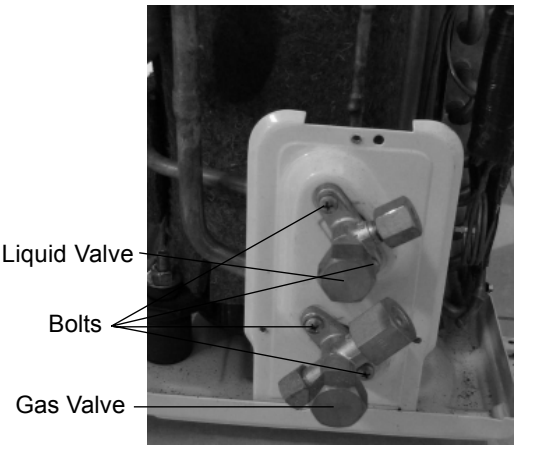
10. Disassemble Capillary

Respectively unsolder the weld spots of main capillary and auxiliary capillary to take off the capillary.



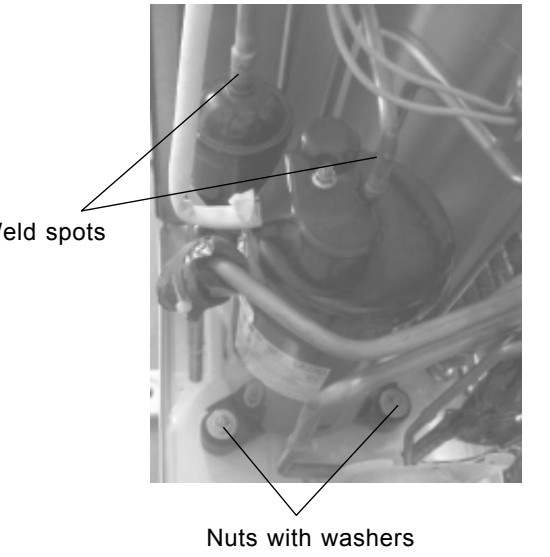
11. Disassemble Gas and Liquid Valves

Unscrew the two bolts fixing gas valve and liquid valve.Unsolder weld spots between gas valve and and air-return pipe to remove the gas valve.
Unscrew the two bolts fixing liquid valve. Unsolder weld spots between liquid valve and capillary to remove the liquid valve.
(Note:During unsoldering ,wrap the valves with wet cloth to avoid damage for high temperature.)

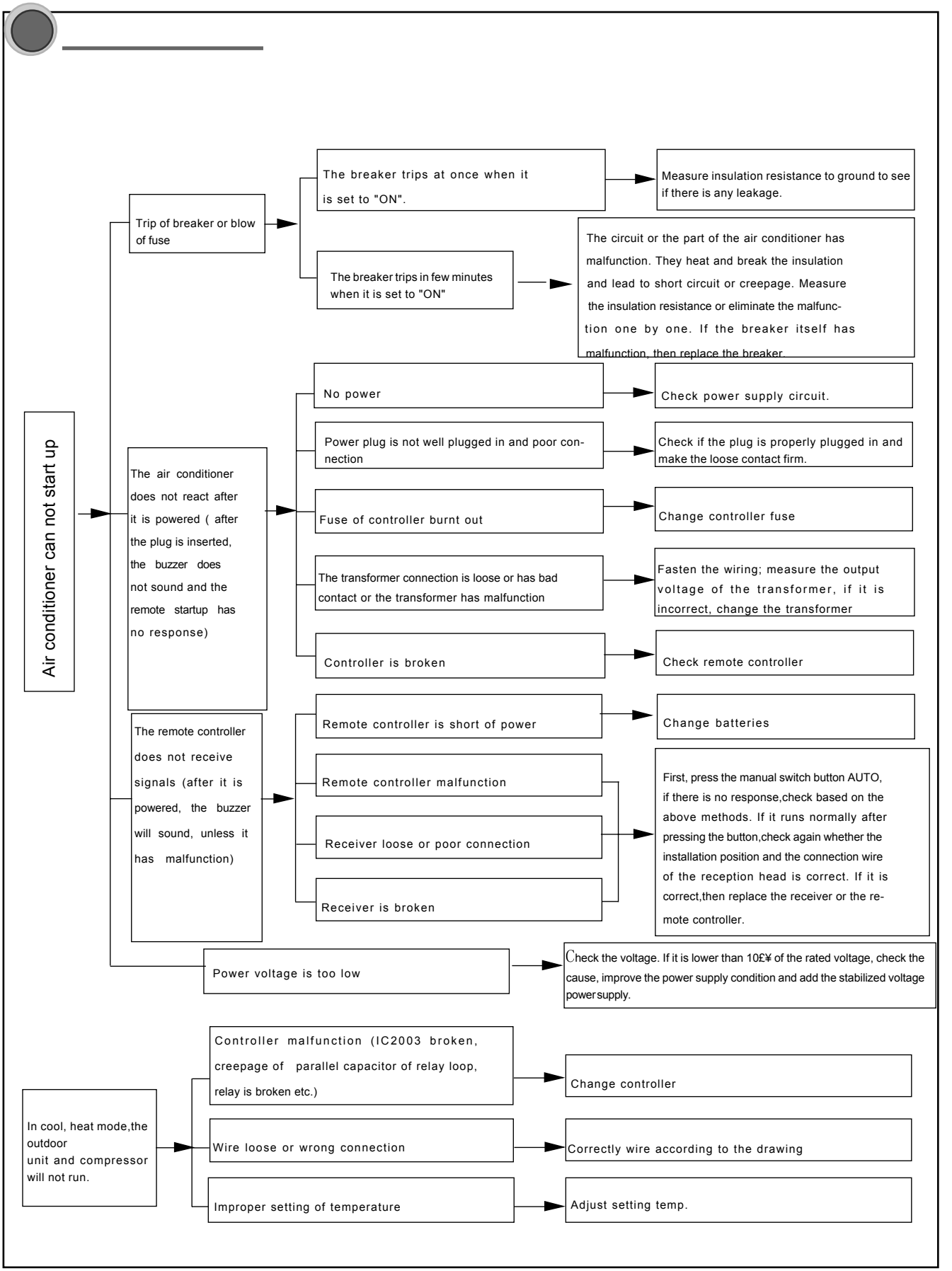


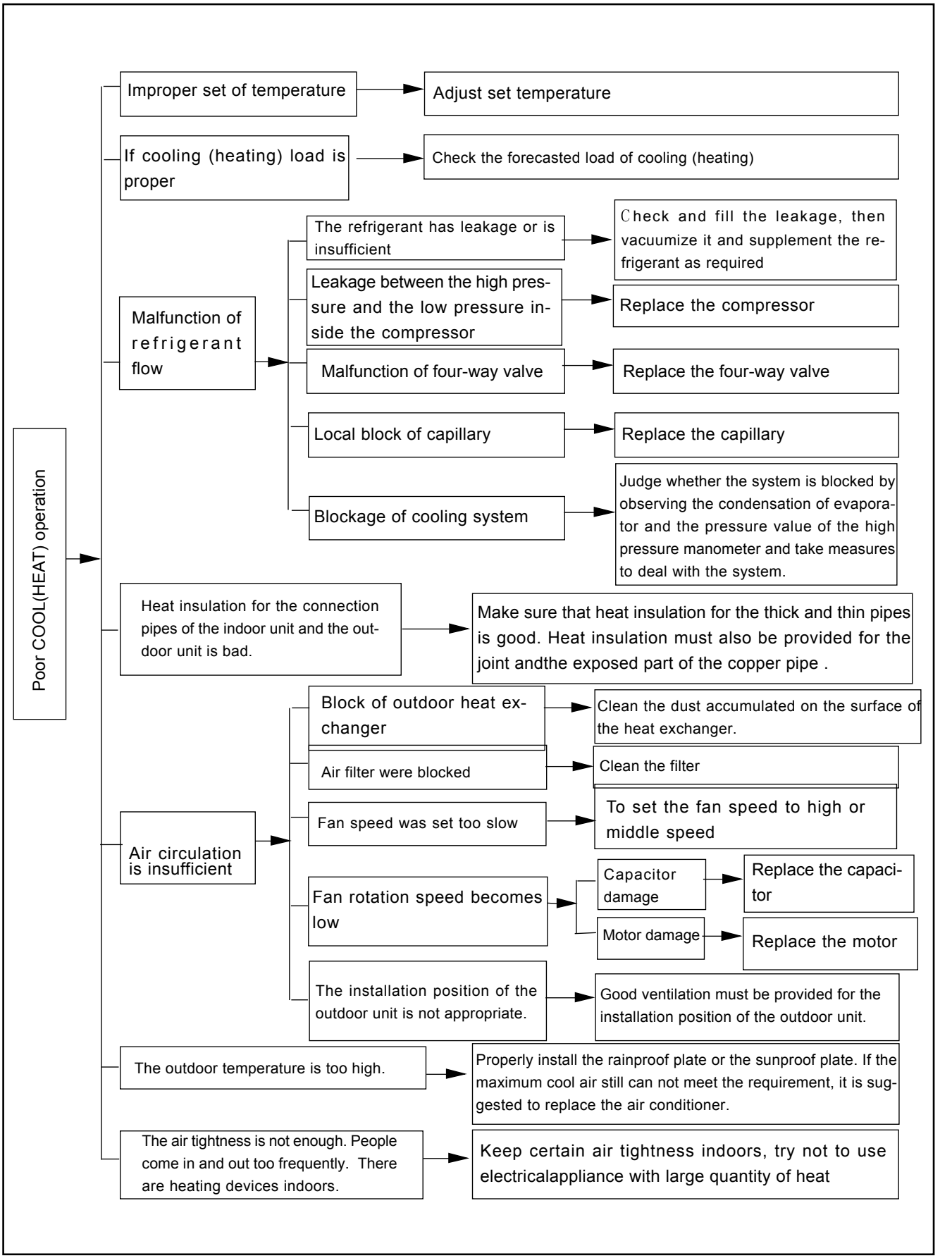
12. Disassemble Compressor

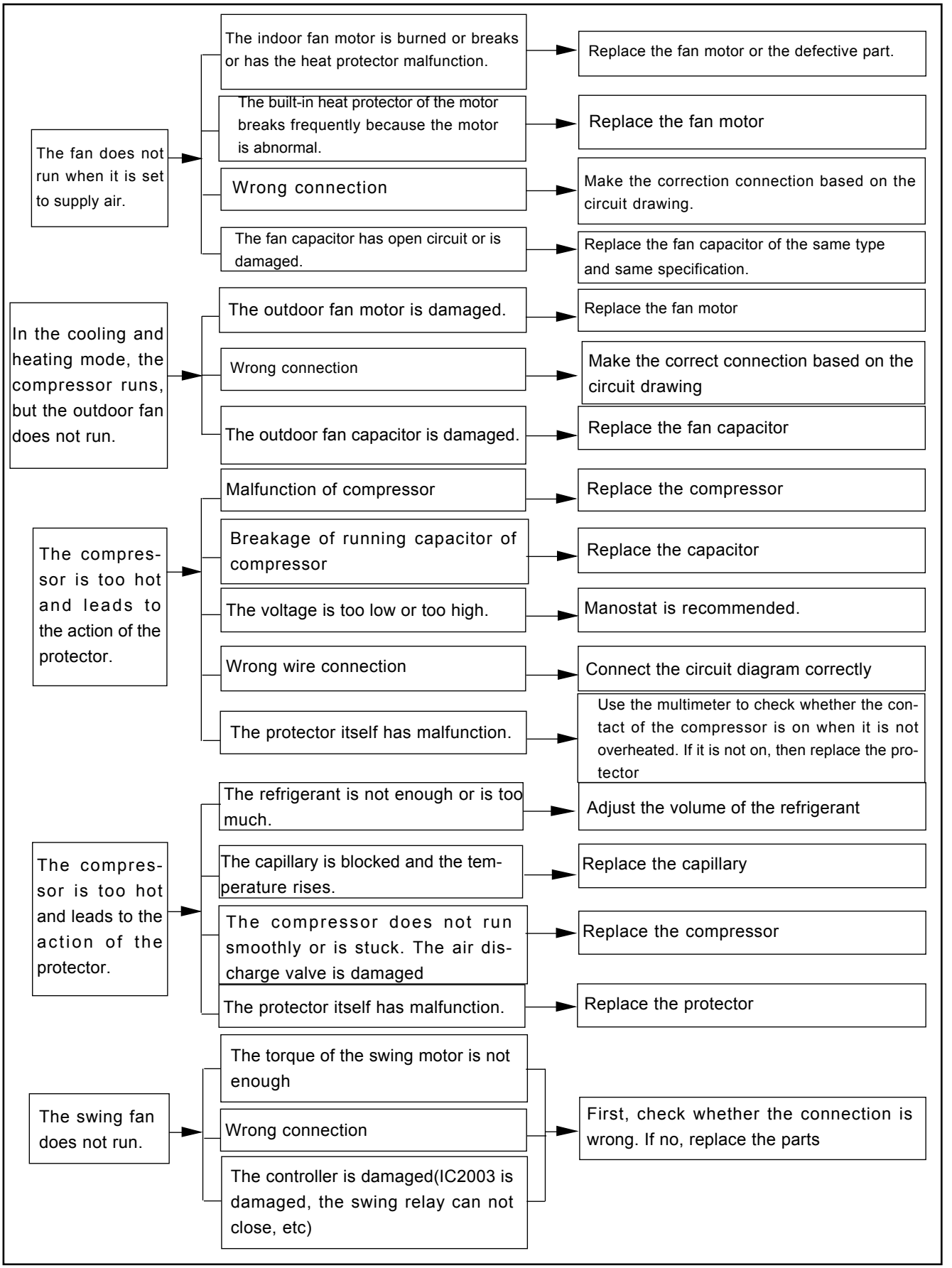
Unscrew the three foot-nuts at the foot of the compressor. Unsolder the suction and the discharge pipes of the compressor,and then carefully remove the pipes to take out the compressor.

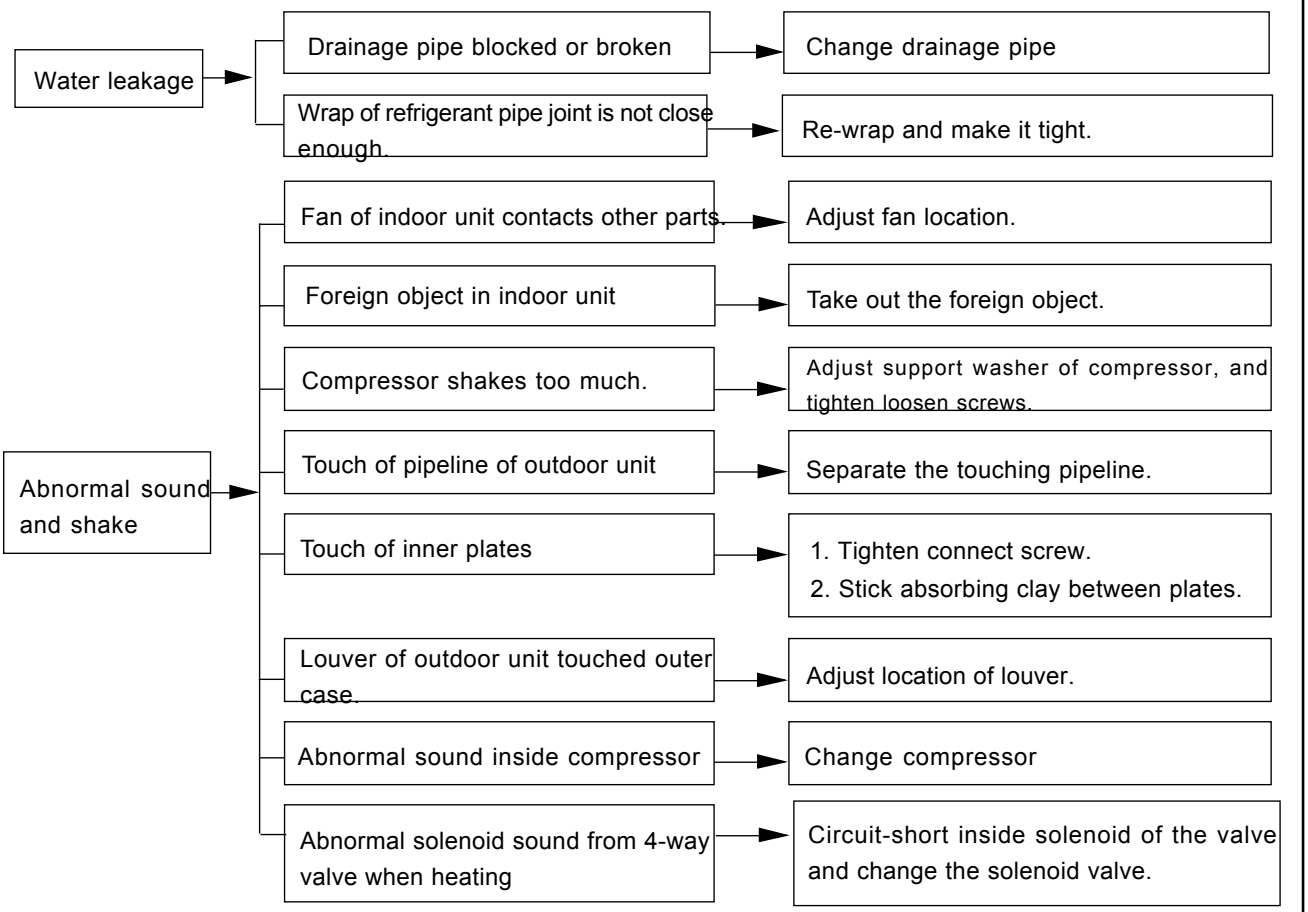


Note: When replacing the controller, make sure insert the wire jumper into the new controller, otherwise the running indicator turns off 3s and blink 15 times (the dual eight will display C5) but cannot turn on the unit£¨£only for 18k,24k©.




Poor COOL(HEAT) operation
Improper set of temperature
Adjust set temperature
If cooling (heating) load is proper
Check the forecasted load of cooling (heating)
Malfunction of refrigerant flow
The refrigerant has leakage or is insufficient
Check and fill the leakage, then vacuumize it and supplement the refrigerant as required
Leakage between the high pressure and the low pressure inside the compressor
Replace the compressor
Malfunction of four-way valve
Replace the four-way valve
Local block of capillary
Replace the capillary
Blockage of cooling system
Judge whether the system is blocked by observing the condensation of evaporator and the pressure value of the high pressure manometer and take measures to deal with the system.
Heat insulation for the connection pipes of the indoor unit and the outdoor unit is bad.
Make sure that heat insulation for the thick and thin pipes is good. Heat insulation must also be provided for the joint andthe exposed part of the copper pipe .
Air circulation is insufficient
Block of outdoor heat exchanger
Clean the dust accumulated on the surface of the heat exchanger.
Air filter were blocked
Clean the filter
Fan speed was set too slow
To set the fan speed to high or middle speed
Fan rotation speed becomes low
Capacitor damage
Replace the capacitor
Motor damage
Replace the motor
The installation position of the outdoor unit is not appropriate.
Good ventilation must be provided for the installation position of the outdoor unit.
The outdoor temperature is too high.
Properly install the rainproof plate or the sunproof plate. If the maximum cool air still can not meet the requirement, it is suggested to replace the air conditioner.
The air tightness is not enough. People come in and out too frequently. There are heating devices indoors.
Keep certain air tightness indoors, try not to use electricalappliance with large quantity of heat


The fan does not run when it is set to supply air.
The indoor fan motor is burned or breaks or has the heat protector malfunction.
Replace the fan motor or the defective part.
The built-in heat protector of the motor breaks frequently because the motor is abnormal.
Replace the fan motor
Wrong connection
Make the correction connection based on the circuit drawing.
The fan capacitor has open circuit or is damaged.
Replace the fan capacitor of the same type and same specification.
In the cooling and heating mode, the compressor runs, but the outdoor fan does not run.
The outdoor fan motor is damaged.
Replace the fan motor
Wrong connection
Make the correct connection based on the circuit drawing
The outdoor fan capacitor is damaged.
Replace the fan capacitor
The compressor is too hot and leads to the action of the protector.
Malfunction of compressor
Replace the compressor
Breakage of running capacitor of compressor
Replace the capacitor
The voltage is too low or too high.
Manostat is recommended.
Wrong wire connection
Connect the circuit diagram correctly
The protector itself has malfunction.
Use the multimeter to check whether the contact of the compressor is on when it is not overheated. If it is not on, then replace the protector
The compressor is too hot and leads to the action of the protector.
The refrigerant is not enough or is too much.
Adjust the volume of the refrigerant
The capillary is blocked and the temperature rises.
Replace the capillary
The compressor does not run smoothly or is stuck. The air discharge valve is damaged
Replace the compressor
The protector itself has malfunction.
Replace the protector
The swing fan does not run.
The torque of the swing motor is not enough
Wrong connection
The controller is damaged(IC2003 is damaged, the swing relay can not close, etc)
First, check whether the connection is wrong. If no, replace the parts



There are no heating malfunctions in the above for the cooling only unit.

PG motor locked protection H6:

Probable reasons:

1. Air vents were blocked which may cause the fan speed is too slow;
2. Fan blade locked;
3. Motor locked;
4. Fan motor capacitor damaged;
5. Motor damaged (ordors, winding, open circuit or shortcircuit are not normal, when testing the winding, pls distinguish whether the motor body cause temperature is too high so that bring on the thermal protector starts up)
6. IC board damaged (during normally running, there are voltage at both capacity input and output)
7. Mainboard damaged.
8. Motor thermal protection.

Disposal methods:

1. Remove the obstruction;
2. Reassembling;
3. Replace motor;
4. Replace capacitor;
5. Replace motor;
6. Replace circuit board;
7. Replace mainboard;

8.Under the normal circumstances, the motor will not act, but in other circumstances, such as evaporator is very dirty, to much dust attached on the fan blade that will cause the motor overload running, so that during the operation, frequent thermal protection will happen, so it is need to be cleaned or replaced.

PARTS GUIDE

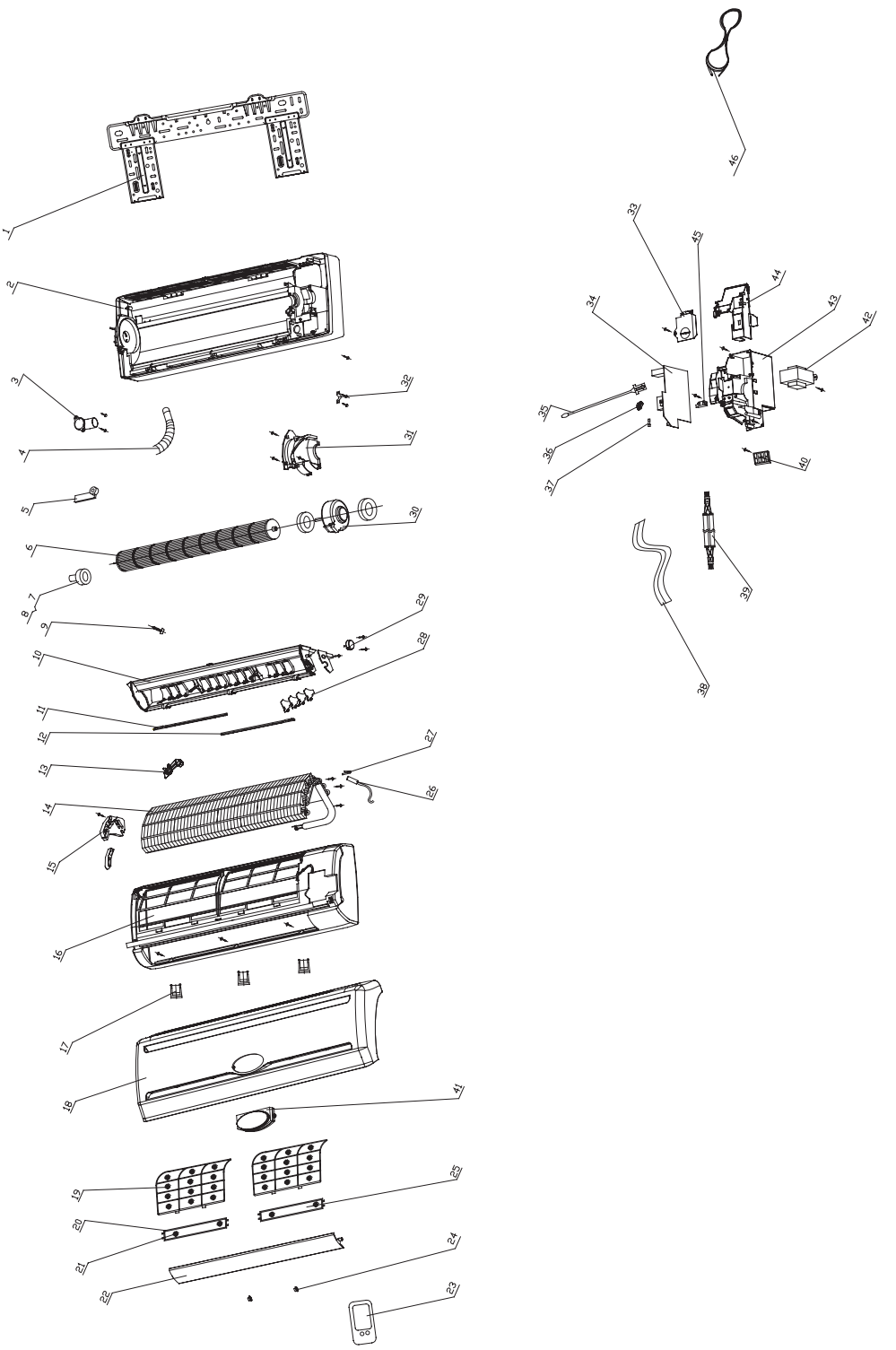
PRINCE SERIE

ASH-09AP, ASH-12AP

sinclair
AIR CONDITIONING

Explosive view and spare parts list

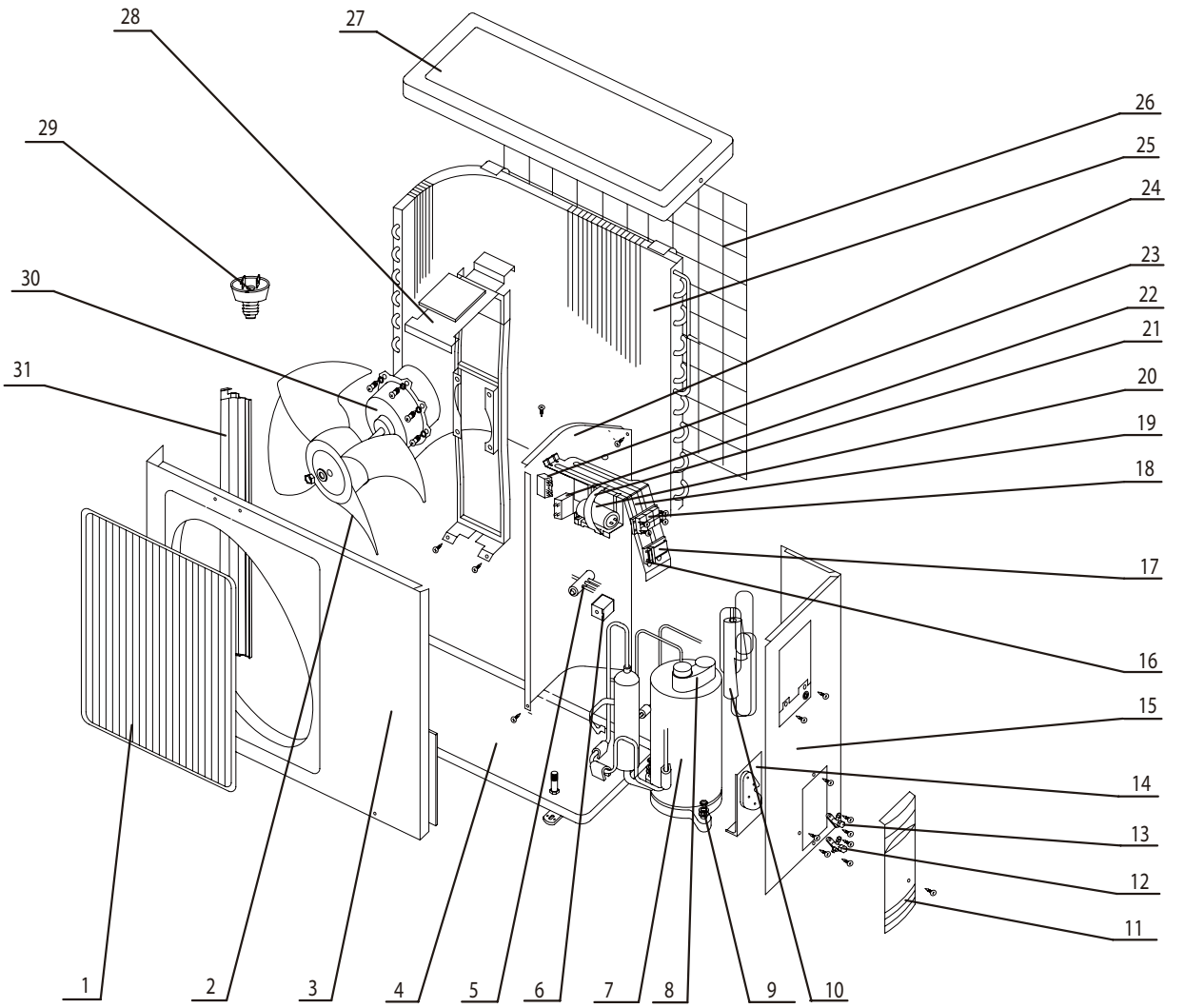
ASH-09AP, ASH-12AP - Exploded View of Components and Parts of Indoor Unit



No	Description	Part Code		Qty
		ASH-09AP	ASH-12AP	
1	Wall-Mounting Grame	01252226	01252220	1
2	Rear Case assy	222023014	222023045	1
3	Evaporator Pipe Cover	06122001	06122001	1
4	Drainage Pipe	05230014	0523001401	1
5	Pipe Clamp	24242001	24242001	1
6	Cross Flow Fan	10352398	10352001	1
7	Fan Bearing	76512210	76512210	1
8	Ring of Bearing	76512203	76512203	1
9	Water Tray Cover	76712012	76712012	1
10	Water Tray	20182004	20182006	1
11	Connecting Lever 1	11582004	10582002	1
12	Connecting Lever 2	11582005	10582003	1
13	Manual Lever	10582001	10582001	2
14	Evaporator Assy	010021114	01002070	1
15	Evaporator Supporter	24212035	24212035	1
16	Front Case	20002685	200026103	1
17	Screw Cover	242520011	242520011	3
18	Front Panel	20002811S	20002818S	1
19	Filter	11122006	11122002	2
20	Air Cleaner holder	/	/	/
21	Air Cleaner A	/	/	/
22	Guide Louver	261120042	105120016	1
23	Remote Controller YK1F	30510044	30510044	1
24	Guide Louver Bearing	10542011	10542011	3
25	Air Cleaner B	/	/	/
26	Tube Sensor	390000591	390000591	1
27	Sensor Insert	42020063	42020063	1
28	Swing Louver	10512002		10
			10512002	12
29	Stepping Motor MP24BA	15212107	15212107	1
30	Motor FN8G-PG	15012076	150120761	1
31	Motor Clamp	26112014	26112014	1
32	Wire Clip	/	/	/
33	Electric Box Cover 2	20112048	20112050	1
34	Main Board M504F1J			1
	Main Board M504F2J	30135070	30135070	1
35	Room Sensor	390001912	390001912	1
36	Jumper Cap	4202300104	4202300105	1
37	Fuse	46010014	46010014	1
38	Power Cord	400220111	400220112	1
39	Connecting Cable	40020540	400205401	1
40	Terminal Board	42010262	42010262	1
41	LED Board DBL3A	30540021	30540021	1
42	Transformer 41X26.5G	43110236	43110236	1
43	Electric Box	20112046	20112045	1
44	Electric Box Cover	20112047S	20112049S	1
45	Cable Clamp	70482001	71010103	1

The above data are subject to be changed without notice.

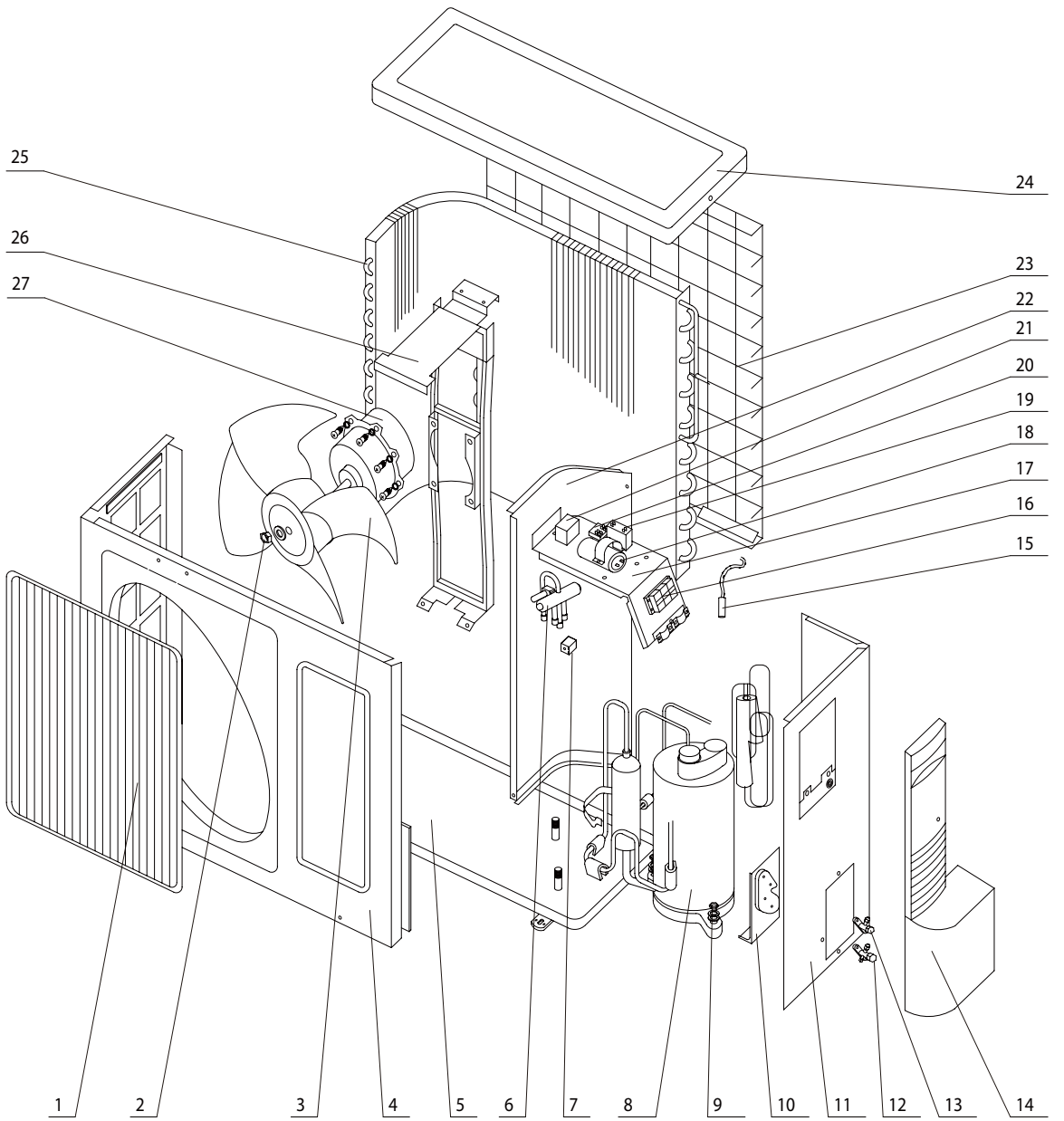
ASH-09AP - Components and Parts List of Outdoor Unit



No	Description	Part Code	Qty
		ASH-09AP	
1	Front Grill	01473004	1
2	Axial Flow Fan	10333005	1
3	Front Plate	01533024	1
4	Metal Base	01203725P	1
5	4-way valve	430004022	1
6	4-way valve coil	43000400	1
7	Compressor	00103072	1
8	Overload Protector	00183008	1
9	Nut with washer	70310014	3
10	Capillary Assy	03003918	1
11	Handle	26233101	1
12	Gas Valve 3/8	07100005	1
13	Liquid Valve 1/4	07100003	1
14	Valve Support	01713424	1
15	Right Side Plate	01303151	1
16	Wiring clamp plate	24253001	1
17	Wiring clamp cover	24253002	1
18	Terminal Board	42010254	1
19	Electric Plate	01403012	1
20	Comp Capacitor	33000018	1
21	Capacitor Clamp	02143014	1
22	Fan Capacitor	33010020	1
23	Terminal Board	42011103	1
24	Isolation Sheet Assy	01233103	1
25	Condenser Assy	01113017	1
26	Rear Grill	11123204	1
27	Top Cover	01253027	1
28	Motor Support Assy	01703054	1
29	Drainage Connecter	06123401	1
30	Motor	15013156	1
31	Backstop	01793005	1

The above data are subject to be changed without notice.

ASH-12AP - Components and Parts List of Outdoor Unit



No	Description	Part Code	Qty
		ASH-12AP	
1	Front Grill	22413431	1
2	Nut M6	70310131	1
3	Axial Flow Fan	10333414	1
4	Front Plate	01533012	1
5	Metal Base	0120362001P	1
6	4-way Valve	430004022	1
7	4-way Valve Coil	43000400	1
8	Compressor	00103025	1
	Overload Protector	00180036	1
	Compressor Gasket	自带	3
9	Nut with Washer	70310014	3
10	Valve Support	01713041	1
11	Right Side Plate	01303048	1
12	Valve 1/4″	07100003	1
13	Valve 1/2″	07100006	1
14	Handle	26233433	1
15	Tube Sensor	None	/
16	Terminal Board	42010254	1
17	Electric Plate Assy	01403117	1
18	Capacitor	33000017	1
19	Capacitor	33010026	1
20	Terminal Board 2-8	42011103	1
21	AC Contactor	None	/
22	Isolation Sheet	01233417	1
23	Rear Grill	11123205	1
24	Top cover plate	01253443	1
25	Condenser Assy	01103987	1
26	Motor Support	01703020	1
27	Motor	150130671	1

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