

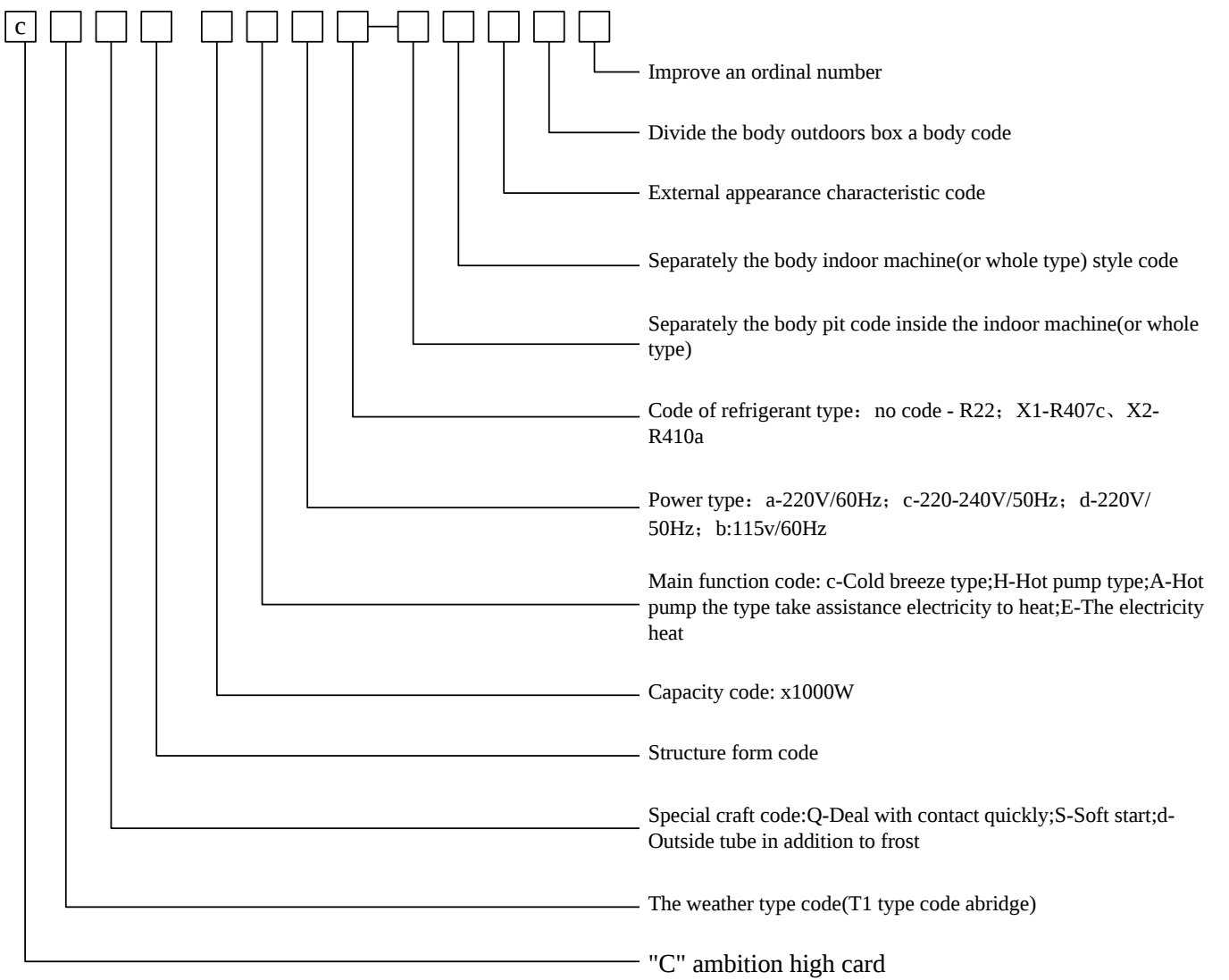
HF/HFR Series Service Manual

Wall split type

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2、Model explaining



3. INSTALLATION

BASIC ACCESSORIES

This Installation section explains how and where to connect this new air conditioner. Please read make sure all accessories are included as shown below and read manual thoroughly. This Installation section is provided to assist the person knowledgeable in air conditioner installation and should not be installed by anybody who is not thoroughly familiar with this type of installation. Please contact a professional installer if necessary.

ACCESSORIES SUPPLIED WITH THE UNIT:

No	Part Name	Q'ty	Remark	No	Part Name	Q'ty	Remark
1	Remote Controller	1		3	Battery	2	
2	Remote Holder	1					

OPTIONAL ACCESSORIES

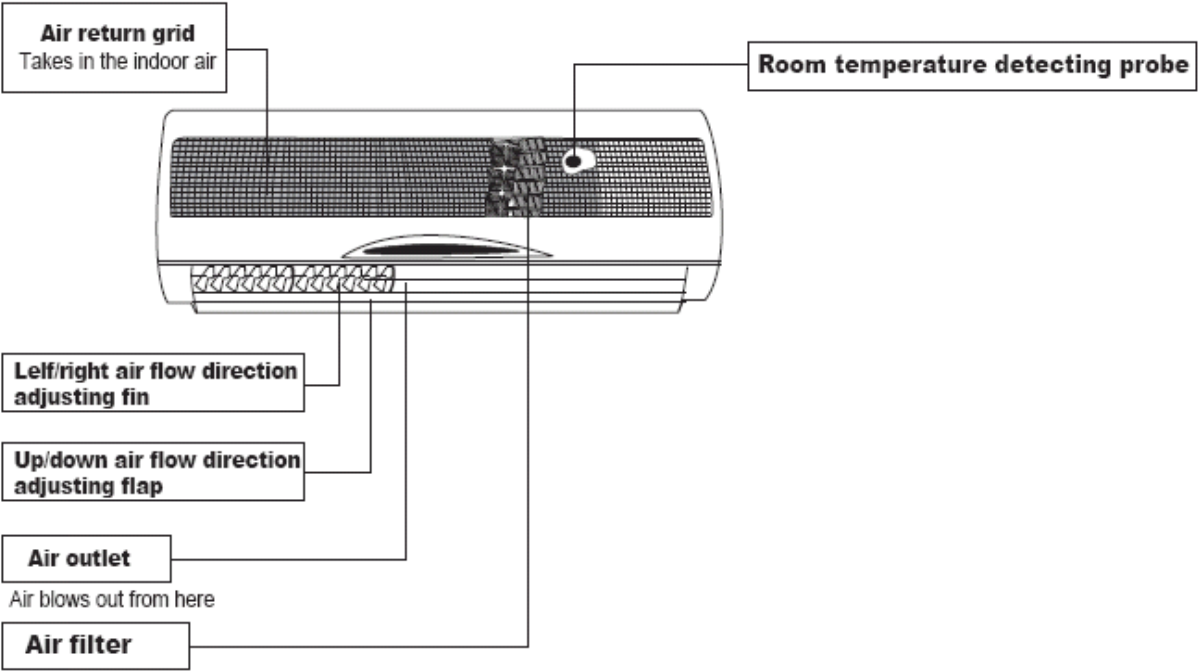
ACCESSORIES NOT SUPPLIED WITH THE UNIT:

No	Part Name	Q'ty	Description	Remark
1	Drain pipe	1	PVC, 20mm x 2M	
2	Wall plastic pipe cover B	1		
3	Wall plastic pipe cover A	1		
4	Wall plastic pipe			
5	PE heat preservation pipe	1	ϕ 35× ϕ 50×180	
6	Tape	2	50mm×7m	

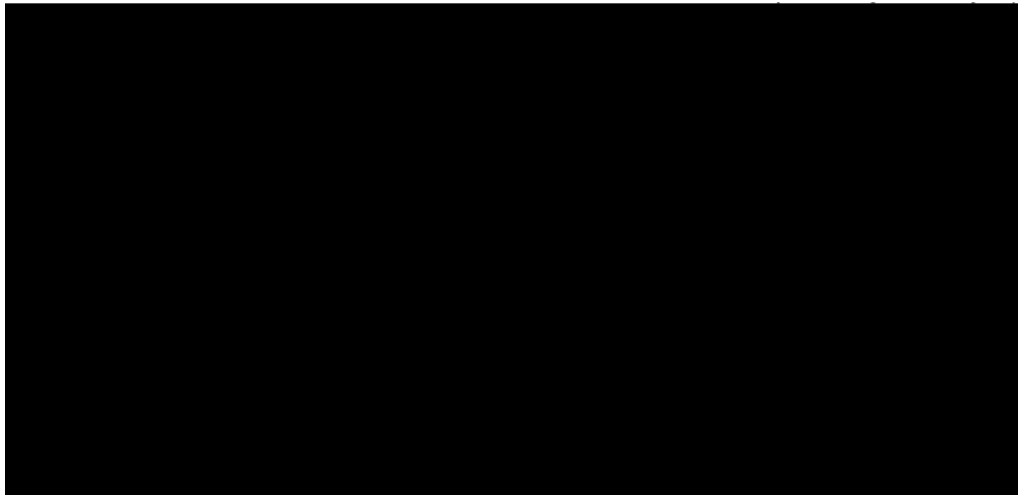
The name of each part and its function

Because there are many models,features and appearance will vary,we only introduce the follow pattern,Others please refer to using.

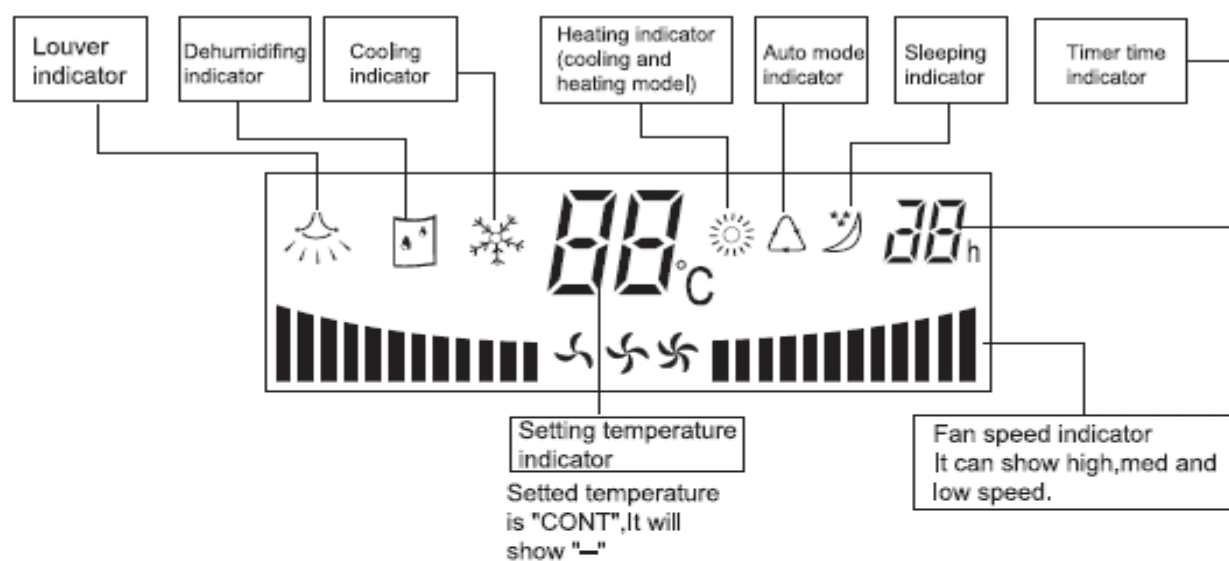
Indoor Unit



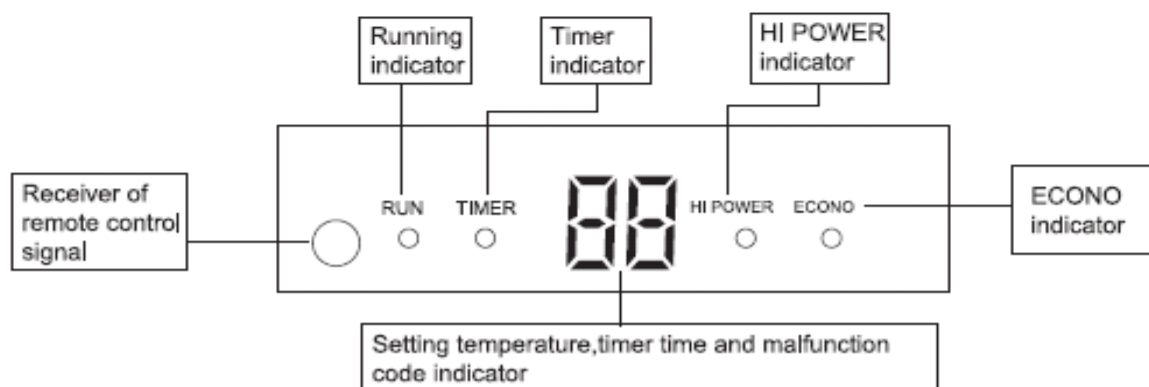
Outdoor Units



Indications of unit

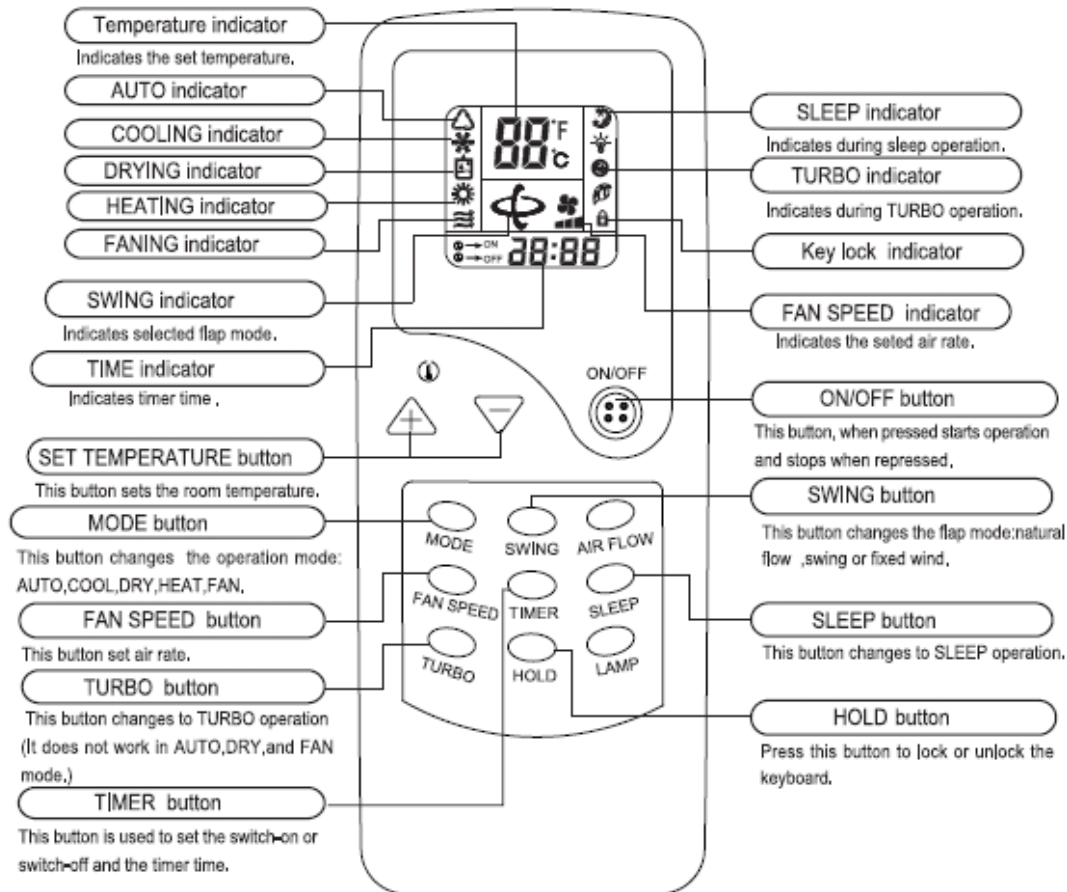


Indication2



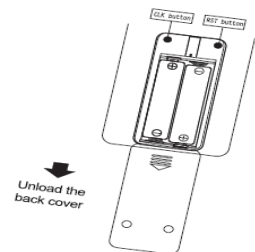
SEE OF REMOTE CONTROLLER

This remote controller is the general one of our company, it can be used for many types of our air-conditioners. We beg your forgiveness that we would not introduce the button or indicator which is not applicable for the units you purchased.



NOTE:

- Above figure shows all indications for the purpose of explanation, but practically only the pertinent .
- The set RUN mode remains after the unit is OFF, and next time when "ON / OFF" button is pressed, the set mode remains the same.



Setting of Present Time

This remote controller has the clock function and time setting is available: Remove the back cover of remote controller and press "CLOCK" button, and it displays "0: 00", Press "HOUR" button once to increase 1 hour, After setting the hour, press "MIN" button once to increase 1 minute, After setting, press "CLOCK" button again to complete setting. To set again, repeat the above steps. When the remote controller doesn't work, press "RESET" button to cancel the display.

Set SLEEP Mode with Remote Controlle

Use this mode for quiet environment. In running of air conditioner, operate as the following: Press SLEEP button The air noise from the indoor unit will be lower, In the SLEEP mode, press SLEEP button again to cancel the sleep mode.

Note:

After setting the SLEEP mode, if the air conditioner is in COOL or DEHUMIDIFY mode ,the set temperature will automatically increase 1°C after 1 hours, If the air conditioner is in HEAT mode while setting SLEEP mode, the set temperature will decrease 2°C after 1 hour ,

Timing OFF operation Set the OFF time and the air conditioner will automatically stop at the set time,

While the air conditioner is running, press the TIMING button, and the air conditioner enters timing OFF state, and "TIMING OFF" and "TIMING" lamps will be on.

Press + or - button to set the desired timing OFF time. The set time ranges from 1 to 12 hours. The green lamps on the display area show the set OFF time, that is, the time left to turn the unit off. The number of green lamps will decrease 1 hour every hour, and the rest lamps indicate the left hours.

To cancel the setting, press the TIMING button again. Under standby state, only TIMING OFF function can be set, Timing ON operation: Set the ON time and the air conditioner will automatically start at the set time.

While the air conditioner is at standby state, press TIMING button, and the air conditioner enters timing OFF state, and "TIMING ON" and "TIMING" lamps will be on.

Press + or - button to set the desired timing ON time. The set time ranges from 1 to 12 hours. The green lamps on the display area show the set ON time, that is, the time left to turn the unit off. The number of green lamps will decrease 1 hour every hour, and the rest lamps indicate the left hours.

To cancel the setting, press the TIMING button again. Under standby state, only TIMING OFF function can be set.

Before installation:

Selection of installation positions for indoor unit

To be installed at the position where the air delivered from the unit can reach every corner of the room

Avoid to blockage the air inlet or outlet of the indoor unit

To avoid too much oil smoke or steam

Avoid possible generation inflow, lingering or leakage of flammable gases

Avoid high-frequency facilities (such as high frequency arc welders etc.)

Not to install a fire alarm near the air outlet.

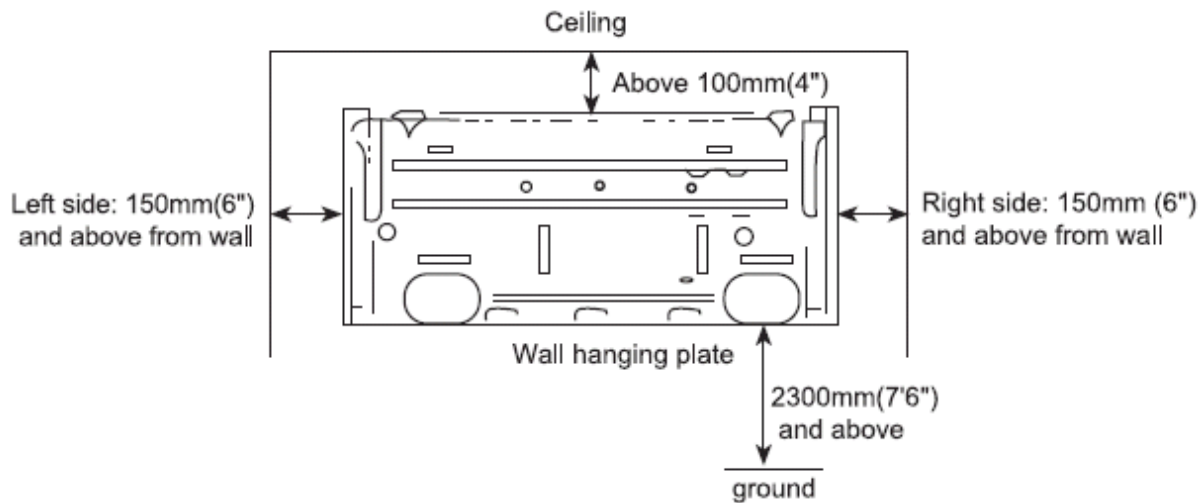
To avoid the places where acid solutions are frequently used

[Selection of installation positions for indoor unit]

- To be installed at the position where the air delivered from the unit can reach every corner of the room;
- To avoid being affected by the outdoor air;
- To avoid blockage to the air inlet or outlet of the unit;
- To avoid too much oil smoke or steam;
- To avoid possible generation, inflow, lingering or leakage of flammable gases;
- To avoid high-frequency facilities (such as high frequency arc welders, etc.);
- To avoid the places where acid solutions are frequently used;
- To avoid the places where some special sprayers (sulfides) are frequently used
- Not to install on top of the musical instruments TV computer etc, valuable appliance.
- Not to install a fire alarming device near the air outlet of the unit (during operation, the fire alarm device might be erroneously triggered by the warm air from the unit);

■ Make sure of enough space for installation and maintenance

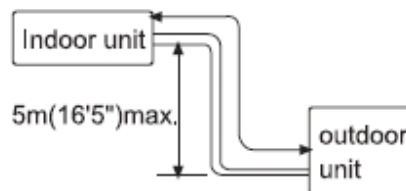
- To take into consideration the operational convenience and safety in installation, it is recommended to ensure enough space between the unit and the walls,



Attention: If there are some additional function devices to install on the air conditioner, be sure to add to the installation space for the function devices

■ Height limits of indoor and outdoor units

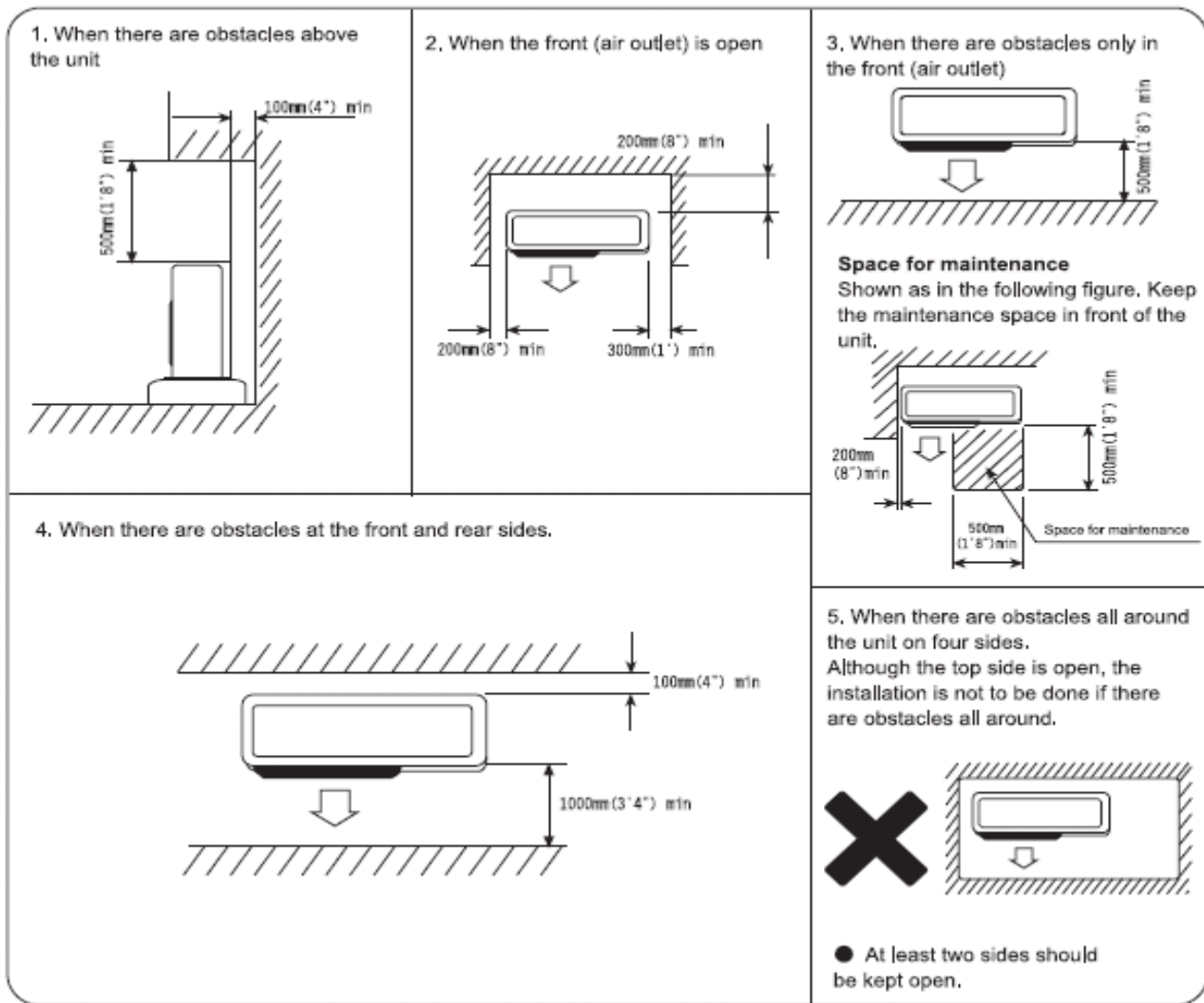
- Either the indoor unit or the outdoor unit can be higher, but the height difference must comply with the stated requirements
- Try to reduce the bending of the piping line as much as possible so as to avoid possible negative impacts upon the performances of the units



[Selection of installation positions for outdoor unit]

- To install the outdoor unit at the places which can stand the load of the machine weight and will not cause big vibrations and noises;
- To install the unit at the places not exposed to rain or direct sunshine, and the places with good ventilation;
- The noises generated from the unit will not affect the neighboring places;
- Do not install the unit on a non-metal frame;
- Not to install the unit at the places where there might occur the generation, inflow, stay or leakage of inflammable gases;
- Pay attention to the drainage of the condensed water from the base plate during operations;
- To avoid the air outlet being directly against the wind.

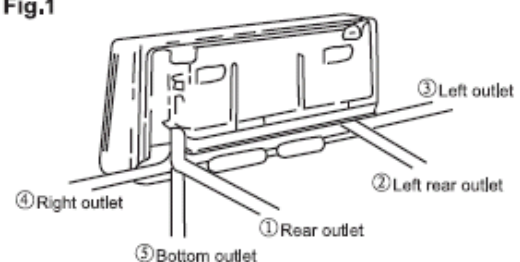
Detailed space requirements around the outdoor unit



[Installation fixture of indoor unit]

Pipelines can be connected in the directions of ①、②、③、④、and ⑤ as indicated in Fig.1. When the pipelines are connected to the directions of ③、④ and ⑤, a groove for the pipes has to be opened at the proper place on the base stand.

Fig.1



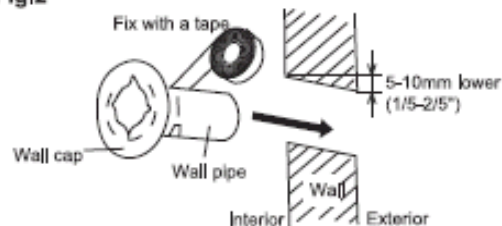
1. Installation of wall-mounting plate

Fix the wall-mounting plate firmly on the wall with screws. Make sure of the leveling of the plate. Slanted wall-mounting plate might jeopardize the smooth discharge of the condensed water.

2. Drill holes on the wall

Drill holes at places slightly below the wall-mounting plate, with hole diameter of 65mm(2-3/5") and the outer edge of the hole 5-10mm(1/5-2/5") lower (Fig.2) so that the condensed water can smoothly flow out. Cut the wall penetrating pipe to proper length according to the thickness of the wall (3-5mm(1/10-1/5") longer than the wall thickness) and insert the pipe as indicated in Fig.2.

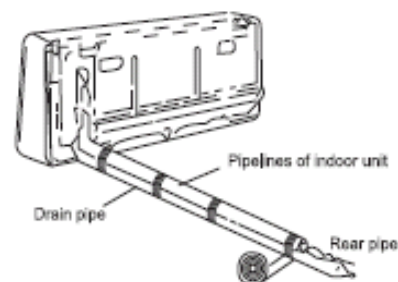
Fig.2



3. Installation of drain pipe

Install the pipelines of the indoor unit in accordance with the direction of the wall holes. Wrap tightly the drain pipe and the pipelines with tape. Make sure that the drain pipe is underneath the pipelines. (Fig.3) (When the drain pipe passes the room interior, some condensed water might occur to its surfaces if the humidity is very high).

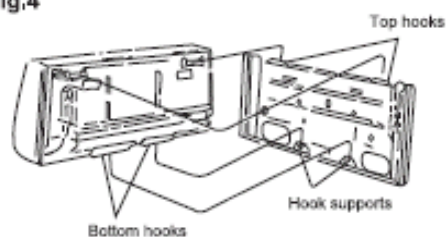
Fig.3



4. Installation of indoor unit

Pass the connection wires, connecting pipelines and drain pipe through the wall hole. Hang the indoor unit on the hooks at the top of the wall-mounting plate so that the hooks at the bottom of the indoor unit match the hooks of the wall-mounting plate. (Fig.4)

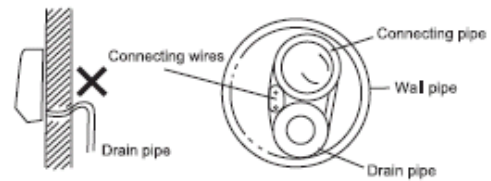
Fig.4



Inspections:

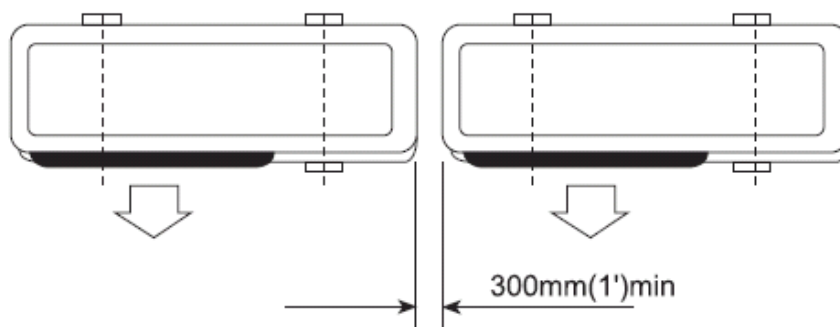
- Check if the hooks at the top and bottom are firmly fixed.
- Check if the position of the master unit is properly leveled.
- The drain pipe should not curve upward (Fig.5).
- The drain pipe should be at the lower part of the wall pipes (Fig. 5).

Fig.5



【Installation fixture of outdoor unit】

- Try to ship the product to the installation location in its original package;
- As the gravity center of the unit is not at the installation center, special caution should be taken when using hoisting cables to lift it up;
- During shipping, the outdoor unit must not be slanted to over 45 degrees (Do not store the unit in a horizontal way).
- Use expansion bolts to fix the mounting supports on the wall;
- Use bolts and nuts to fix the outdoor unit firmly on the supports and keep on the same level;
- If the unit is installed on the wall or at the rooftop, the supports have to be firmly fixed so as to resist earthquake or strong wind.



【Ordinary pipelines connection & Air purging】

- The following ordinary pipelines connection and air purging procedures are just suitable for non-quick coupler model.

■ Ordinary pipelines connection

No dust, foreign articles, air or moisture should be allowed to enter the air conditioning system. Careful attention should be paid when pipeline connection for outdoor unit is made. Try to avoid repeated curves as much as possible, otherwise hardening or cracks might be caused to the copper pipes. Suitable wrenches should be used when the pipeline connection is done so as to ensure appropriate torque (refer to following torque Table 1). Excessive torque might damage the joints while too little torque might lead to leakage.

Table 1 Torque based upon the wrench to be used

Outer diameter of copper pipe	Tightening torque	Strengthened tightening torque
Ø 6.35(1/4")	160kgf.cm(63kgf.inch)	200kgf.cm(79kgf.inch)
Ø 9.52(3/8")	300kgf.cm(118kgf.inch)	350kgf.cm(138kgf.inch)
Ø 12.7(1/2")	500kgf.cm(197kgf.inch)	550kgf.cm(216kgf.inch)
Ø 15.88(5/8")	750kgf.cm(295kgf.inch)	800kgf.cm(315kgf.inch)
Ø 19.05(3/4")	1200kgf.cm(472kgf.inch)	1400kgf.cm(551kgf.inch)

■ Air purging with vacuum pump

1.Check that pipelines connection have been properly connected,remove the charging port cap,and connect the manifold gauge and the vacuum pump to the charging valve by service hoses as shown Fig.6.

2.Open the valve of the low pressure side of manifold gauge,then,run the vacuum pump,Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below 1.5mmHG(The operation time for vacuuming is about 10 minutes).When the desired vacuum is reached,close the valve of the low pressure of the manifold and stop the vacuum pump.

3.Disconnect the service hoses and fit the cap to the charging valve.

4.Remove the blank caps,and fully open the spindles of the 2-way and 3-ways valves with a service valve wrench.

5.Tighten the blank caps of the 2-way and 3-ways valves,applying the above torque Table 1.

■ Adding refrigerant

Refrigerant must be added if the piping measures more than 5 metres(16'5") in length.This operation can only be performed by a professional technician,for the additional amount,see the table 2 below.

Table 2

Additional refrigerant amount	
Liquid pipe diameter Ø6.35(1/4")	Liquid pipe diameter:Ø9.52(3/8")
(piping length-5)m×30g or (piping length-16)ft×0.3oz	(piping length-5)m×65g or (piping length-16)ft×0.7oz

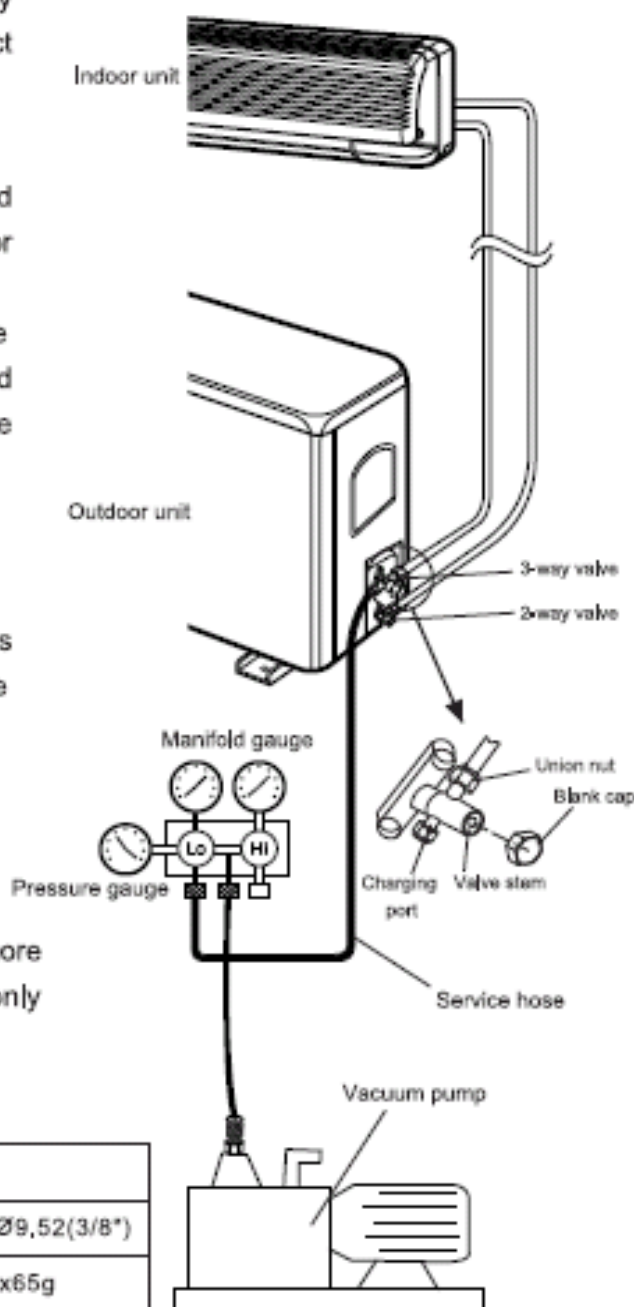


Fig.6

■ Gas leakage inspection

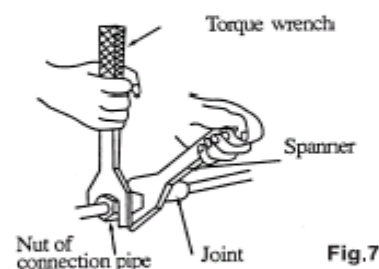
After the pipeline connection is done, use a leakage inspection device or soap suds to carefully check if there is any leakage at the joints. This is an important step to ensure the quality of installation. Once a leakage is detected, proper treatment should be taken immediately.

【Pipelines connection for Split type quick coupler model】

● If you purchase the machine for split type quick coupler model, please adopt the following pipelines connection procedures:

1. Remove the dust caps from the indoor and outdoor units, and the connecting pipe.

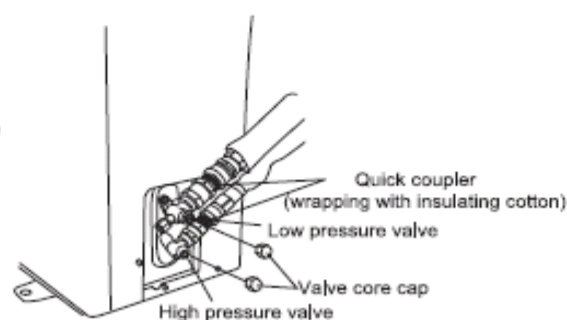
2. Align the joint counter of connecting pipe with the proper indoor and outdoor joint conic surfaces, tighten the connecting nut manually. Then, make it secure with a wrench as shown Fig.7, applying to above torque Table 1.



3. Remove the two valve core caps from the outdoor unit,

4. Turn on the high and low pressure valve cores with an socket wrench, then tighten the two valve core caps of the outdoor unit (Fig.8).

5. Finally, wrap the hot insulating cotton around the joints of indoor and outdoor units.



● Notes on installation of quick coupler:

1. Connecting pipe bending minimum radius parameters (Table 3)

2. Quick coupler assembly and disassembly limit:
the assembly and disassembly times are inadvisably more than 7.

Table 3 Minimum bending radius

Normal diameter(mm)	Minimum bending radius(mm)	cooling capacity
DN8(5/16")	80(3")	2100~2300W (7000~8000BTU)
DN10-12 (1/2")	100(4")	2500~5100W (9000~18000BTU)
DN14-16 (5/8")	150(6")	6100~7000W (22000~24000BTU)

【Pipelines connection for Coupling type quick coupler model】

● If you purchase the machine for coupling type quick coupler model, please adopt the following pipelines connection procedures:

STEP 1

● Remove two screws on the maintenance plate with a screwdriver and take off the plate, then remove the dust caps on both indoor male coupler and outdoor female coupler, See Fig.9.

STEP 2

● Press the projecting section of outdoor female coupler backward with a little force by the thumb to make inner hooks open, and then you can easily take out the outdoor valve for gas leaking by the other hand, See Fig.10.

STEP 3

● In the same way, press the projecting section backward, then connect the indoor male coupler to the outdoor female coupler, See Fig.11.

STEP 4

● Close the key lever of indoor male coupler to the horizontal position, then indoor and outdoor refrigerant will be circulating, and now you can obviously hear the sound of inner air flowing, See Fig.12.

STEP 5

● Connect the outdoor quick cable coupler with indoor quick cable coupler, See Fig.13.

STEP 6

● Finally, Re-install the maintenance plate back into its place, See Fig.14.

As for the outdoor valve for gas leaking and the dust caps, you can preserve them for future possible use on the removal of your air conditioner.

Fig.9

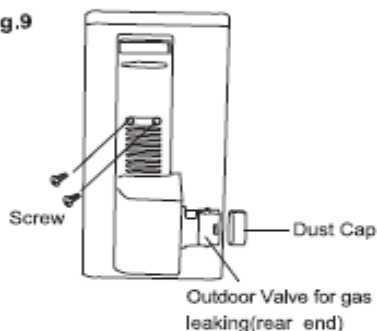


Fig.10

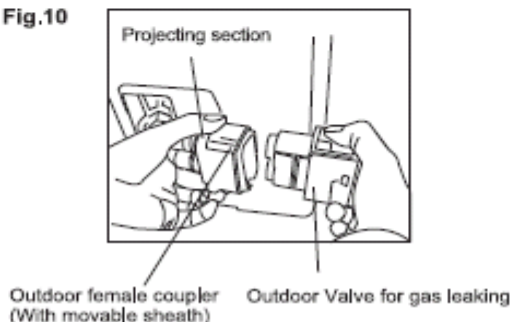


Fig.11

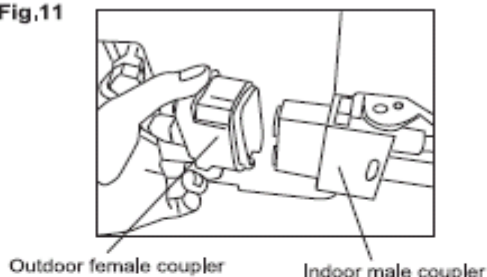


Fig.12

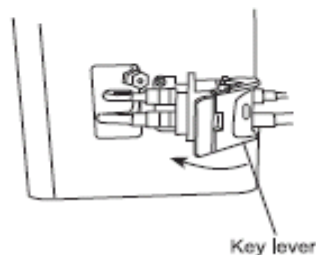
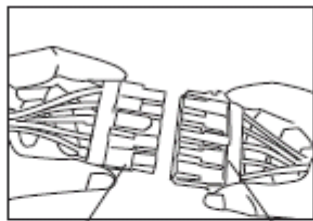


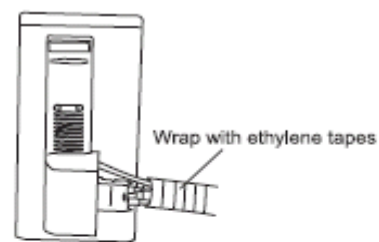
Fig.13



Outdoor quick cable coupler

Indoor quick cable coupler

Fig.14



Wrap with ethylene tapes

【Connection of power cable】

- 1.Remove the drawer of the outdoor unit.
- 2.**Non-quick coupler**:connect the indoor power and control wires with the matched outdoor wires in accordance with the electric schematic diagram and make sure that the connection is firmly done(Fig.15.)
Quick coupler:directly connect quick cable couplers with indoor and outdoor quick cable couplers after disassembly of the outdoor unit connecting box cover(Fig.16.)
- 3.Use a press plate to fix the wires firmly,and re-install the drawer.

Fig.15

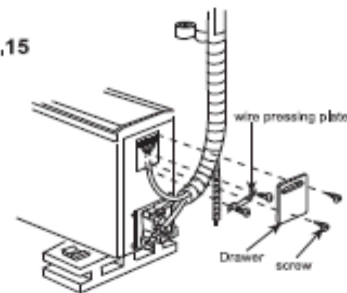


Fig.16



Note:Do not connect the wires in a wrong way,otherwise electric malfunctions will be caused and even damages to the units will occur.The appliance shall be installed in accordance with national wiring regulation.If the supply cord is damaged,it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.The plug shall be accessible after installing the appliance.If the model have not plug that a switch which have a contact separation of at least 3 mm in all poles shall be added in fixed wiring.

【Finishing touches】

- wrap the pipelines tightly with ethylene tapes.
- Fix the wrapped pipelines on the exterior wall with clamps.
- Fill in the gaps left over by the pipeline hole and wall hole to prevent rain-water from entering.

【Test running】

- Connect to the power source,check if the function selection keys on the remote controller are working properly.
- Check if the room temperature adjustments and timer settings are working properly.
- Check if the drain is smooth.
- Check if there is any abnormal noise or vibration during operation.
- Check if there is leakage of refrigerant.

【Is the unit installed correctly? 】

■ Suitable Installation Position

- Isn't there anything which prevents ventilation or obstructs operation in front of the indoor unit ?

Do not install the unit following place .

- Inflammable gases may leak .
 - Oil splashes a lot .
 - In case where the unit is used in such places as poisonous or sultry gases are generated or seaside district exposed to sea breezes corrosion may cause malfunction . Consult with your distributor .
 - Air conditioner body and remote controller must be 1 m(39-3/4") or more away from a TV or a radio.
- Drain the dehumidified water from the indoor unit to a place which drains well .

■ Pay attention to operation noise

- When installing the unit , choose a place which can stand the weight of the unit well and does not increase the operation noise or vibration . Especially where there is a possibility that vibration be transmitted to the house , fix the unit by inserting attached vibration -proof pads between the unit and fittings .
- Choose the place where hot air and operation noise from the outlet of the outdoor unit do not annoy the neighborhood .
- Things left near the outlet and inlet of the outdoor unit cause malfunction or increased operation noise . Do not leave obstacles near the outlet and inlet .
- If irregular sound is heard during operation , consult with your distributor .

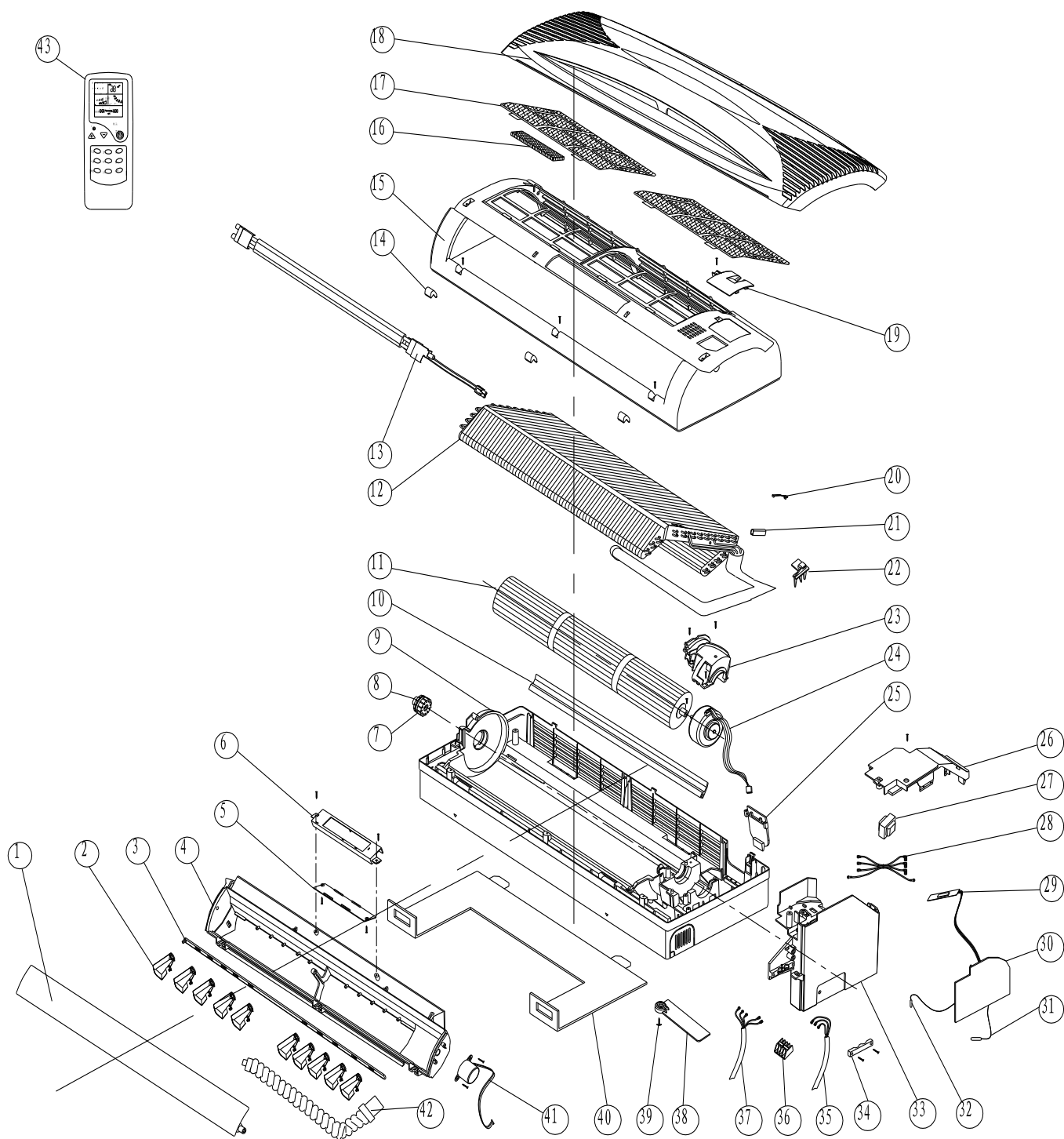
■ Inspection and Maintenance

- According to the service conditions and operating environment , the inside of the air conditioner will become dirty after several seasons (3 to 5years) of service , resulting in decreased operating performance .Inspection and maintenance are recommended in addition to usual cleaning (The air conditioner can be used for a longer period and without anxiety .)
- As to inspection and maintenance , consult your dealer or any one of business offices of dealing companies .(Service charge is required in this case .)
- We recommend to perform inspection and maintenance during an off seasons.

4、Indoor unit and outdoor unit explosion diagram and spare parts list

HF (R) -23、25、32GW/E series

4.1.1 Explosive view of indoor unit



4.1.2 Spare parts list of indoor unit

Table 1.2-1

No.	Description		Part No.				Q't y
			HF-23G/Ec	HFR-23G/Ec	HF-25G/Ec	HFR-25G/Ec	
1	Louver	导风条	391190002	391190002	391190004	391190004	1
2	Swing Louver	导风叶片	100420009	100420009	100420009	100420009	10
3	Connecting rod	大连杆	100420062	100420062	391200002	391200002	1
4	Outlet part	出风主体	100090115	100090115	100090114	100090114	1
5	Display box cover	显示盒盖	100410027	100410027	100410012	100410012	1
6	Display box	显示盒	100410028	100410028	100410004	100410004	1
7	Fan Bearing	贯流风轮轴承	110010605	110010605	110010605	110010605	1
8	Ring of Bearing	贯流风轮轴承胶圈	-----	-----	-----	-----	
9	Base	底座	391060100	391060100	391060105	391060105	1
10	Guide Water Board	塑料导水板	391990109	391990109	391990110	391990110	1
11	Cross flow fan	贯流风轮	100010001	100010001	100010019	100010019	1
12	Evaporator assembly	蒸发器组件	960900007	960900007	990112505	990112505	1
13	Electric heater	电加热器	-----	-----	-----	-----	
14	Screw cover	螺钉盖	109990239	109990239	109990086	109990086	3
15	Middle frame	中框	100080004	100080004	100080014	100080014	1
16	Cold Catalyst	冷触媒	119990003	119990003	119990003	119990003	2
17	Air Filter	过滤网	100190104	100190104	100190106	100190106	2
18	Front Panel	面板	391022111	100070168	391022076	391022076	1
19	Middleframecoverplate	中框盖板	100080036	100080036	100080036	100080036	1
20	Insert Block	弹簧片	079990240	079990240	079990240	079990240	1
21	Copper pipeof sensor	探头铜管	079990030	079990030	079990030	079990030	1
22	Room temp. Sensor Holder	室温探头架	100280105	100280105	100280105	100280105	1
23	Motor Clamp	电机压盖	100130024	100130024	100130024	100130024	1
24	Motor	电机	030020115	030020115	030020169	030020169	1
25	Maintenance plate	维修板	109990090	109990090	109990090	109990090	1
26	Electric box cover	电器盒盖	029994104	029994104	100100039	100100039	1
27	Transformer	变压器	030180061	030180061	030180013	030180013	1
28	Connecting Wire	连接线	343100021	343100021	343100021	343100021	1
			343100022	343100022	343100022	343100022	
			343100023	343100023	343100023	343100023	
			343100024	343100024	343100024	343100024	
29	Display lamp panel	显示板	331800142	331800005	331800011	331800012	1
30	Electric control plate	电控板	040010132	040010134	040010149	040010151	1
31	Room Temp. Sensor	室温探头	049990012	049990012	049990012	049990012	1
32	Tube Temp. Sensor	管温探头					
33	Electric Box	电器盒	100100010	100100010	100100010	100100010	1
34	Wire Clip	压线扣	391110016	391110017	391110016	100430084	1
35	Power Cord	电源线	050010026	050010042	050010042	050010042	1
36	Terminal Board	端子台	030090004	030090005	030090004	030090005	1
37	Connecting Cable	室内外连接电缆线	342100026	342100030	050020005	050020014	
38	Pipe Clamp	压管板	100430027	100430027	100430027	100430027	1

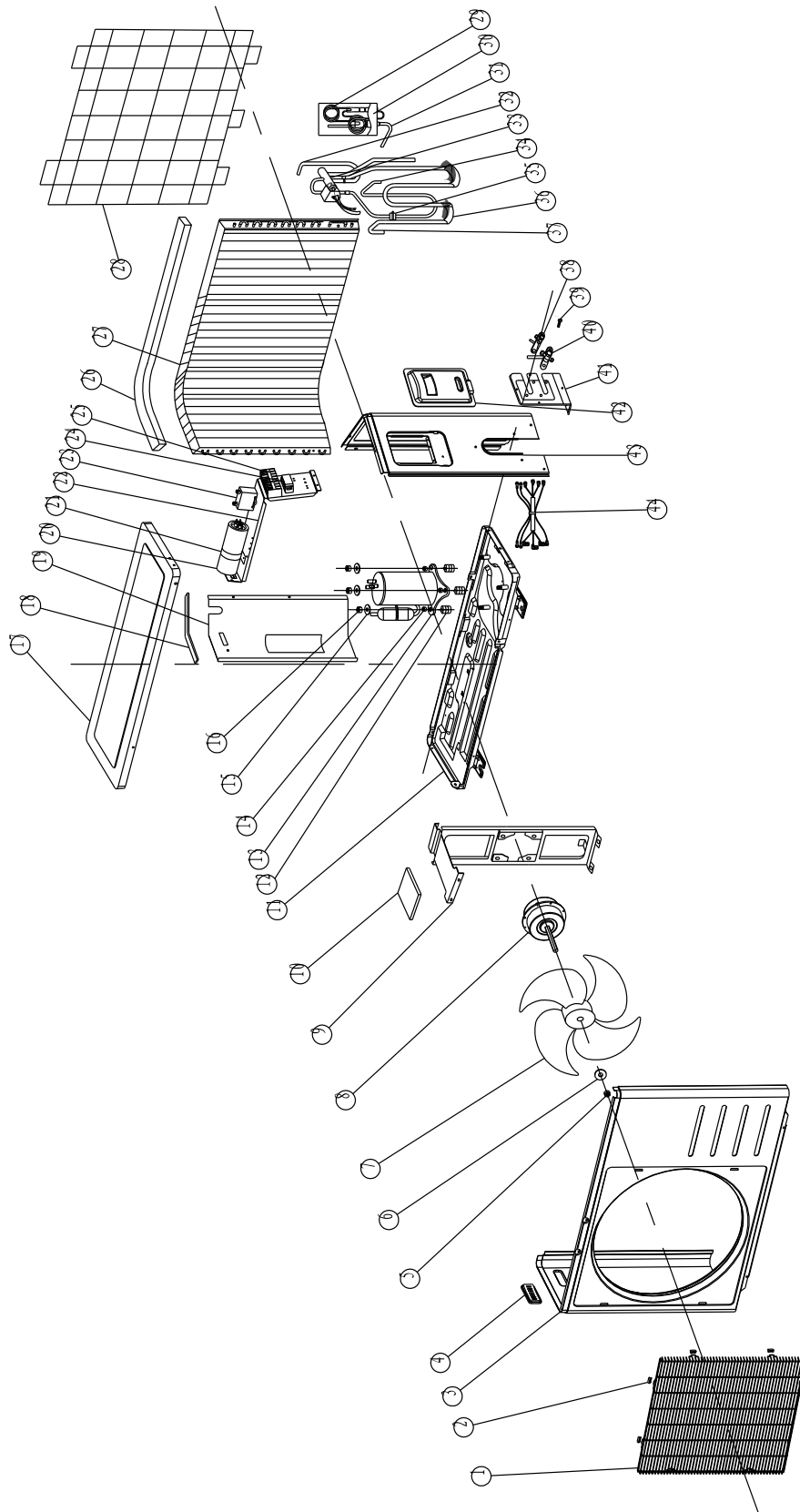
39	Screw	螺钉	150010018	150010018	150010018	150010018	1
40	Wall-mounting frame	挂墙板	020100008	020100008	020100009	020100009	1
41	Step motor	步进电机	320273001	320273001	030020401	030020401	1
42	Thermal insulation pipe	保温水管	099990080	099990080	099990080	099990080	1
43	Remote controller	遥控器	336815005	336825002	040080019	040080020	1

Table 1.2-2

No.	Description		Part No.				Q't y
			HF-32G/Ec	HFR-32G/Ec			
1	Louver	导风条	391190004	391190004			1
2	Swing Louver	导风叶片	100420009	100420009			10
3	Connecting rod	大连杆	391200002	391200002			1
4	Outlet part	出风主体	100090114	100090114			1
5	Display box cover	显示盒盖	100410013	100410013			1
6	Display box	显示盒	100410005	100410005			1
7	Fan Bearing	贯流风轮轴承	110010605	110010605			1
8	Ring of Bearing	贯流风轮轴承胶圈	-----	-----			
9	Base	底座	391060105	391060105			1
10	Guide Water Board	塑料导水板	391990110	391990110			1
11	Cross flow fan	贯流风轮	100010019	100010019			1
12	Evaporator assembly	蒸发器组件	972900514	972900514			1
13	Electric heater	电加热器	-----	-----			
14	Screw cover	螺钉盖	109990086	109990086			3
15	Middle frame	中框	100080014	391070004			1
16	Cold Catalyst	冷触媒	119990003	119990003			2
17	Air Filter	过滤网	100190106	100190106			2
18	Front Panel	面板	100070046	391022076			1
19	Middleframecoverplate	中框盖板	100080036	100080036			1
20	Insert Block	弹簧片	079990240	079990240			1
21	Copper pipeof sensor	探头铜管	079990030	079990030			1
22	Room temp. Sensor Holder	室温探头架	100280105	100280105			1
23	Motor Clamp	电机压盖	100130024	100130024			1
24	Motor	电机	030020115	030020115			1
25	Maintenance plate	维修板	109990090	109990090			1
26	Electric box cover	电器盒盖	100100039	100100039			1
27	Transformer	变压器	030180061	030180061			1
28	Connecting Wire	连接线	343100021 343100022 343100023 343100024	343100021 343100022 343100023 343100024			1
29	Display lamp panel	显示板	331800004	331800003			1
30	Electric control plate	电控板	040012590	040012592			1
31	Room Temp. Sensor	室温探头	049990012	049990012			1
32	Tube Temp. Sensor	管温探头					
33	Electric Box	电器盒	100100010	100100010			1
34	Wire Clip	压线扣	391110016	391110018			1

35	Power Cord	电源线	050010026	050010027			1
36	Terminal Board	端子台	030090004	030090005			1
37	Connecting Cable	室内外连接电缆线	342100026	342100030			
38	Pipe Clamp	压管板	100430027	100430027			1
39	Screw	螺钉	150010018	150010018			1
40	Wall-mounting frame	挂墙板	020100009	020100009			1
41	Step motor	步进电机	320273001	320273001			1
42	Thermal insulation pipe	保温水管	099990080	099990080			1
43	Remote controller	遥控器	336811005	336815006			1

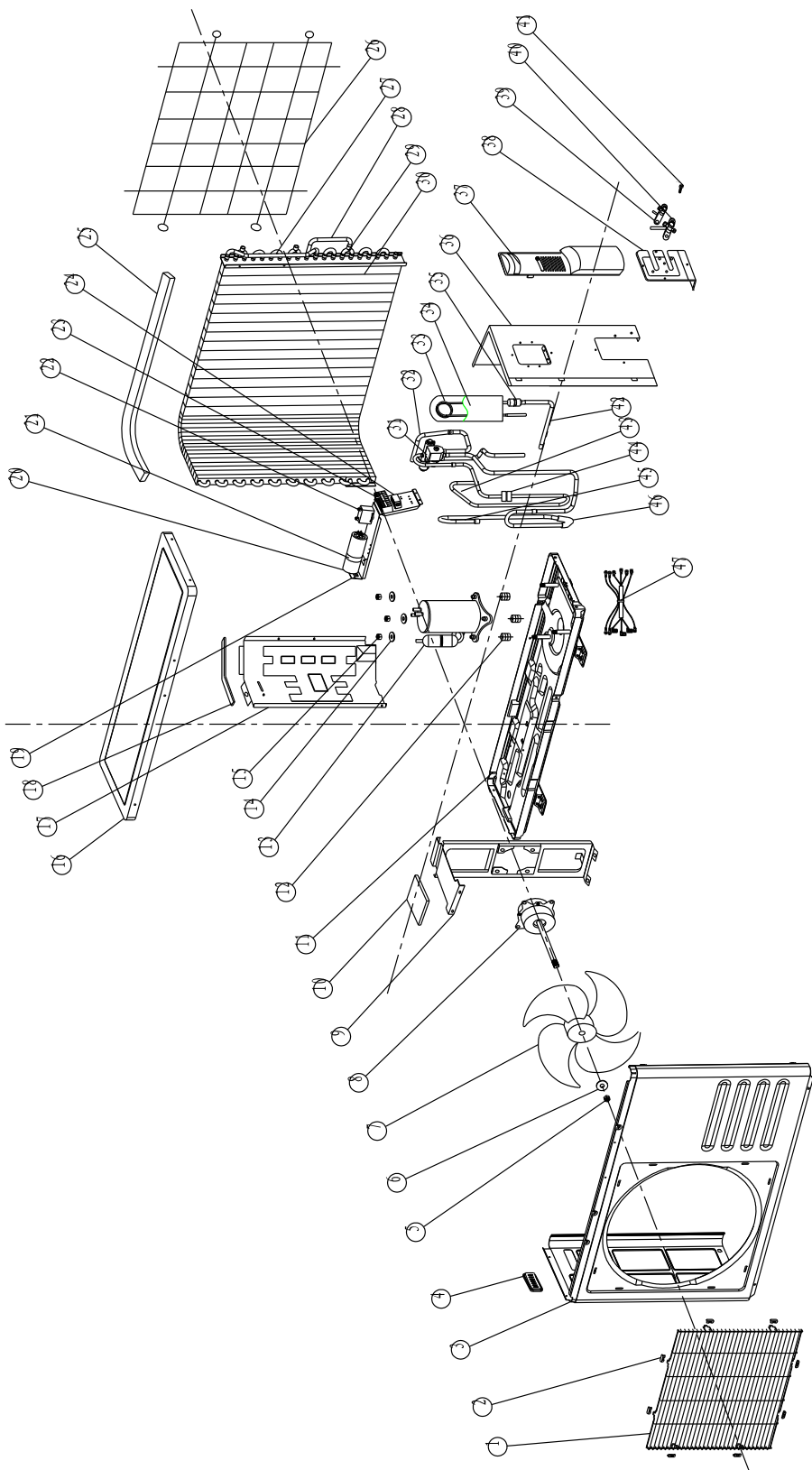
4.1.3 Explosive view of outdoor unit for 1HP



4.1.4 Spare parts list of outdoor unit

No.	Description		Part No.				Q't y
			HF-23W/E	HFR-23W/E	HF-25W/E	HFR-25W/E	
1	Front Grill	前网罩	020120002	020120002	020120002	020120002	1
2	Grill Clip	前网扣	109990256	109990256	109990256	109990256	8
3	Front Plate	前面板	020070001	020070001	020070053	020070001	1
4	Small handle	小抽手	100050013	100050001	100050013	100050001A	1
5	Nut	螺 母	150020019	150020019	150020019	150020019	1
6	Gasket	垫 片	150030016	150030016	150030016	150030016	1
7	Axial flow fan	轴流风轮	100030013	100030013	100030013	100030013	1
8	Motor	电机	030020246	030020246	030020246	030020246	1
9	Motor support	电机架	020040029	020040029	020040029	020040001	1
10	PE Sponge	PE 保温棉	-----	-----	-----	-----	
11	Base	底盘	020010112	020010112	020010111	313011010	1
12	Anti-vibration pad for the compressor	压缩机减震脚	010010980	010010980	010010980	010010980	3
13	Compressor	压缩机	960110003	960110003	10010923	010010923	1
14	Nut	螺 母	150020003	150020003	150020003	150020003	3
15	Gasket	垫 片	150030010	150030010	150030010	150030010	3
16	Nut	螺 母	010010978	010010978	010010978	010010978	1
17	Top panel	顶盖板	020080001	020080001	020080001	020080001	1
18	PU Sponge	中隔板密封条	090020226	090020226	090020226	090020226	1
19	Partition Board	中隔板	020030001	962100001	962100001	020030001	1
20	Electric installation board	电器安装板	020130001	020130001	020130001	020130001	1
21	Compressor Capacitor	压缩机电容	030010028	030010028	030010015	030010015	1
22	Capacitor Clamp	电容夹	020140007	020140007	020140006	020140006	1
23	Fan Capacitor	风机电容	030010005	030010005	030010005	030010005	1
24	Terminal Board	端子台	030090009	030090025	030090009	030090025	1
25	Wire Clip	压线扣	321100011	321100011	321100011	321100011	1
26	PU Sponge	冷凝器上密封条	-----	-----	-----	-----	
27	Condenser	冷凝器	960400009	990040012	960400155	960400033	1
28	Rear Grill	背网	020110001	020110001	020110001	020110001	1
29	Capillary Assy	毛细管组件	990070051	990072309	990072504	990072512	1
30	Damping rubber	阻尼胶	110030015	110030017	110030015	110030017	1
31	Drainpipe for the condensor	冷凝器出液管	070040097	070040001	070040001	070040001	1
32	Intake pipe for the condensor	冷凝器进气管	070030270	070030270	070030270	070030270	1
33	4-way Valve	四通阀	-----	030130015	-----	030130015	1
34	Discharge pipe	排气管	360210007	070010003	070010004	070010002	1
35	Damping block	减震块	110020002	110020002	110020002	110020002	1
36	Damping rubber	阻尼胶	110030020	110030020	110030020	110030020	1
37	Suction pipe	吸气管	070020202	070020003	070170002	070020003	1
38	High-pressure valve	高压阀	060020092	060020092	060020092	060020092	1
39	Screw	螺 钉	150010048	150010048	150010048	150010048	4
40	Low-pressure valve	低压阀	060020095	060020095	060020095	060020095	1
41	Valve installation plate	阀座板	020020001	020020001	020020001	020020001	1
42	Large handle	大抽手	100040001	100040001	100040001	100040001	1
43	Right panel	右侧板	020060004	020060004	020060032	020060004	1
44	Connecting Wire	室外部分连接线	050030002	050030023	050030003	050030023	1

4.1.5 Explosive view of outdoor unit for 1.5HP



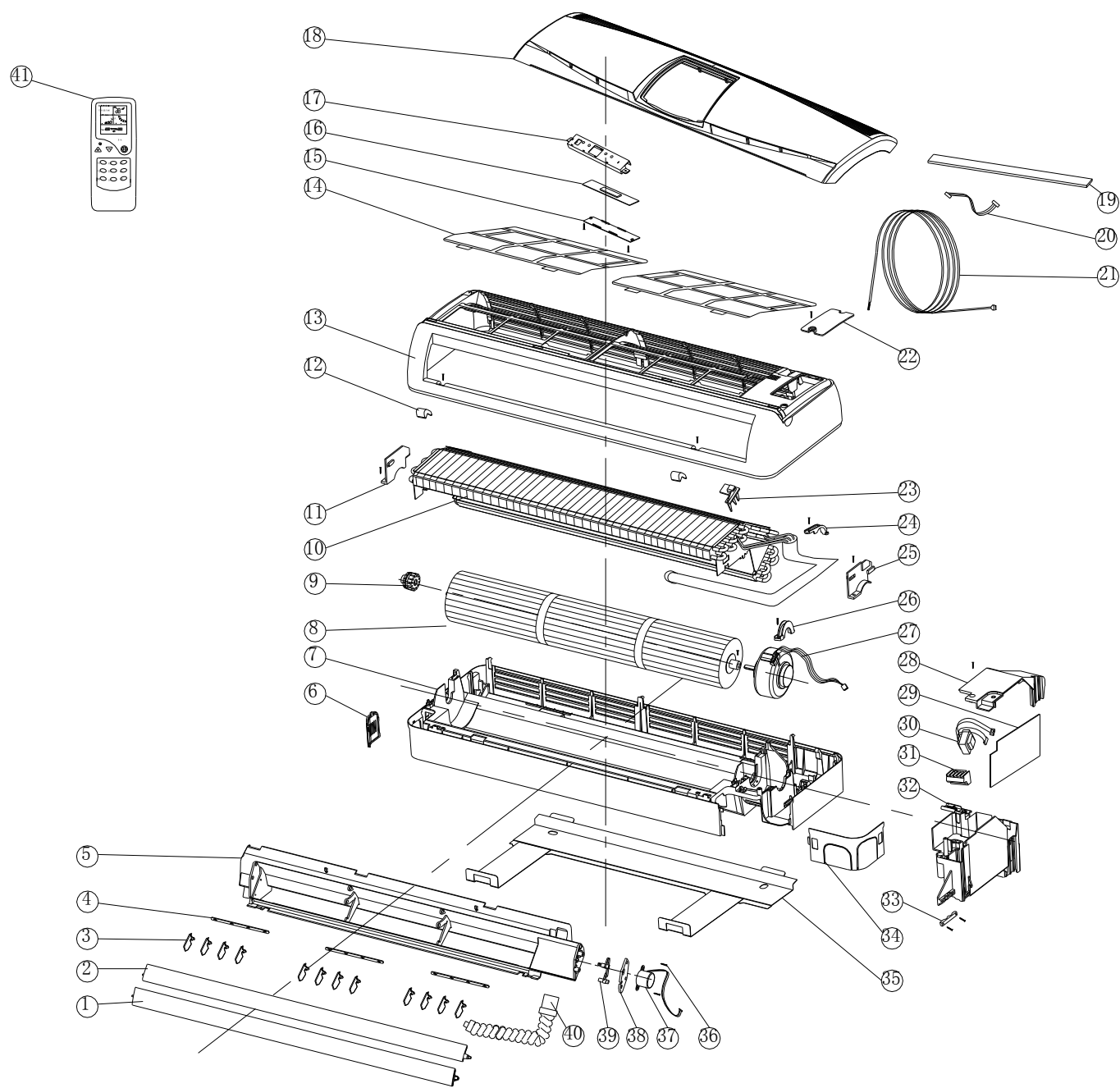
4.1.6 Spare parts list of outdoor unit

No.	Description		Part No.				Q'ty
			HF-32W/E	HFR-32W/E			
1	Front Grill	前网罩	020120015	020120015			1
2	Grill Clip	前网扣	393990022	393990022			8
3	Front Plate	前面板	020070056	393990022			1
4	Small handle	小抽手	100050021	100050021			1
5	Nut	螺 母	150020003	150020003			1
6	Gasket	垫 片	150030010	150030010			1
7	Axial flow fan	轴流风轮	393010001	393010001			1
8	Motor	电机	320222005	320222005			1
9	Motor support	电机架	020040038	313040002			1
10	PE Sponge	PE 保温棉	090020234	090020234			
11	Base	底盘	020010102	020010102			1
12	Anti-vibration pad for the compressor	压缩机减震脚	010010986	010010986			3
13	Compressor	压缩机	301109009	301109009			1
14	Nut	螺 母	150020003	150020003			3
15	Gasket	垫 片	150030010	150030010			3
16	Nut	螺 母	010010978	010010978			1
17	Top panel	顶盖板	020080002	020080002			1
18	PU Sponge	中隔板密封条	090020027	090020027			1
19	Partition Board	中隔板	313030027	313030027			1
20	Electric installation board	电器安装板	313120025	313120025			1
21	Compressor Capacitor	压缩机电容	030010016	030010016			1
22	Capacitor Clamp	电容夹	020140006	020140006			1
23	Fan Capacitor	风机电容	030010005	030010005			1
24	Terminal Board	端子台	321000025	321000025			1
25	Wire Clip	压线扣	321100011	321100011			1
26	PU Sponge	冷凝器上密封条	-----	-----			
27	Condenser	冷凝器	372200064	372100002			1
28	Rear Grill	背网	020110002	020110002			1
29	Capillary Assy	毛细管组件	960800179	971900168			1
30	Damping rubber	阻尼胶	110030017	110030017			1
31	Drainpipe for the condensor	冷凝器出液管	070040097	070040002			1
32	Intake pipe for the condensor	冷凝器进气管	360420005	360440006 070030064			1
33	Reverse valve	四通阀	-----	030130006			1
34	Discharge pipe	排气管	360220090 360130123	360220084			1
35	Damping block	减震块	110020005	110020005			1
36	Damping rubber	阻尼胶	110030023	110030023			1
37	Suction pipe	吸气管	360130123	360120079			1
38	High-pressure valve	高压阀	060020092	060020107			1
39	Screw	螺 钉	150010048	150010048			4
40	Low-pressure valve	低压阀	060020088	060020107			1
41	Valve installation plate	阀座板	020020002	020020002			1
42	Large handle	大抽手	100040002	100040002			1

43	Right panel	右侧板	020060009	020060009			1
44	Connecting Wire	室外部分连接线	050030044 345200094	050030044 345200094			1

HF (R) -23、25、32、35GW/A、51GW/B series

4.2.1 Explosive view of indoor unit



4.2.2 Spare parts list of indoor unit

Table 2.2-1

No.	Description		Part No.				Q'ty
			HF-23G/A	HFR-23G/A	HF-25G/A	HFR-25G/A	
1	Louver A	下导风条	391190015	391190015	100420083	100420083	1
2	Louver B	上导风条	391190014	391190014	100420003	100420003	1
3	Swing Louver	导风叶片	391190016	391190016	100420007	100420007	12
4	Connecting rod	导风叶片连杆	391200019	391200019	100420072	100420072	3
5	Outlet part	出风主体	100090106	100090106	100090110	100090110	1
6	Left angle plate	底座左角板	100360005	100360005	100360001	100360001	1
7	Base	底座	100060129	100060129	100060108	100060108	1
8	Cross flow fan	贯流风轮	100010016	100010016	100010016	100010016	1
9	Fan Bearing	贯流风轮轴承胶圈	401000006	401000006	401000006	401000006	1
10	Evaporator assembly	蒸发器组件	990112508	990112508	972900499	972900499	1
11	Evaporator left fixed plate	蒸发器左固定板	109990237	109990237	029993988	029993988	1
12	Screw cover	螺钉盖	391990094	391990094	109990023	109990023	2
13	Middle frame	中框	100080015	100080015	391070007	391070007	1
14	Air Filter	过滤网	100190112	100190112	100190127	100190127	2
15	Display box cover	显示盒盖	100410020	100410020	100410009	100410009	1
16	Display lamp plate	显示灯板	331800023	331800023	331800004	337000041	1
17	Display box	显示盒	100410019	100410019	100410001	100410001	1
18	Front Panel	面板	100070037	391022223	391022026	391022026	1
19	Sponge bar	海绵条	-----	-----	386100008	386100008	
20	Connecting Cable	室内外连接电缆	342100026	342100032	342100026	342100030	1
21	Power Cord	电源线	050010042	050010042	050010042	050010042	1
22	Middle frame coverplate	中框盖板	100430025	100430025	100430025	100430025	1
23	Room temp. Sensor Holder	室温探头架	109990109	109990109	109990109	109990109	1
24	Pipe Clamp	压管板	100430049	100430049	100430025	100430025	1
25	Evaporator right fixed plate	蒸发器右固定板	109990238	109990238	109990109	109990109	1
26	Motor platen	电机压板	100130013	100130013	100130003	100130003	1
27	Motor	电机	030020173	030020173	320204004	320204004	1
28	Electric box cover	电器盒盖	391100011	391100011	391100011	391100011	1
29	Electric control plate	电控板	331100056	331300105	331200083	331400083	1
30	Transformer	变压器	030180059	030180059	321620014	321620014	1
31	Terminal Board	端子台	030090009	030090001	321000022	030090241	1
32	Electric box	电器盒	100100019	100100019	391100011	391100011	1
33	Screw	螺钉	150010058	150010058	150010058	150010058	2
34	Wire Clip	压线扣	100430050	100430050	391110057	391110057	1
35	Right angle plate	底座右角板	100300013	100300013	100300003	100300003	1
36	Wall-mounting frame	挂墙板	020100002	020100002	020100010	020100010	1
37	Step motor	步进电机	320273001	320273001	320273001	320273001	1
38	Step Motor plate	步进电机座	391200020	391200020	391200050	391200050	1
39	Crank connecting rod	曲柄连杆	391200019	391200019	100420082	100420082	1
40	Thermal insulation pipe	保温水管	099990080	099990080	099990080	099990080	1
41	Remote controller	遥控器	336821005	336815006	336821050	336821049	1

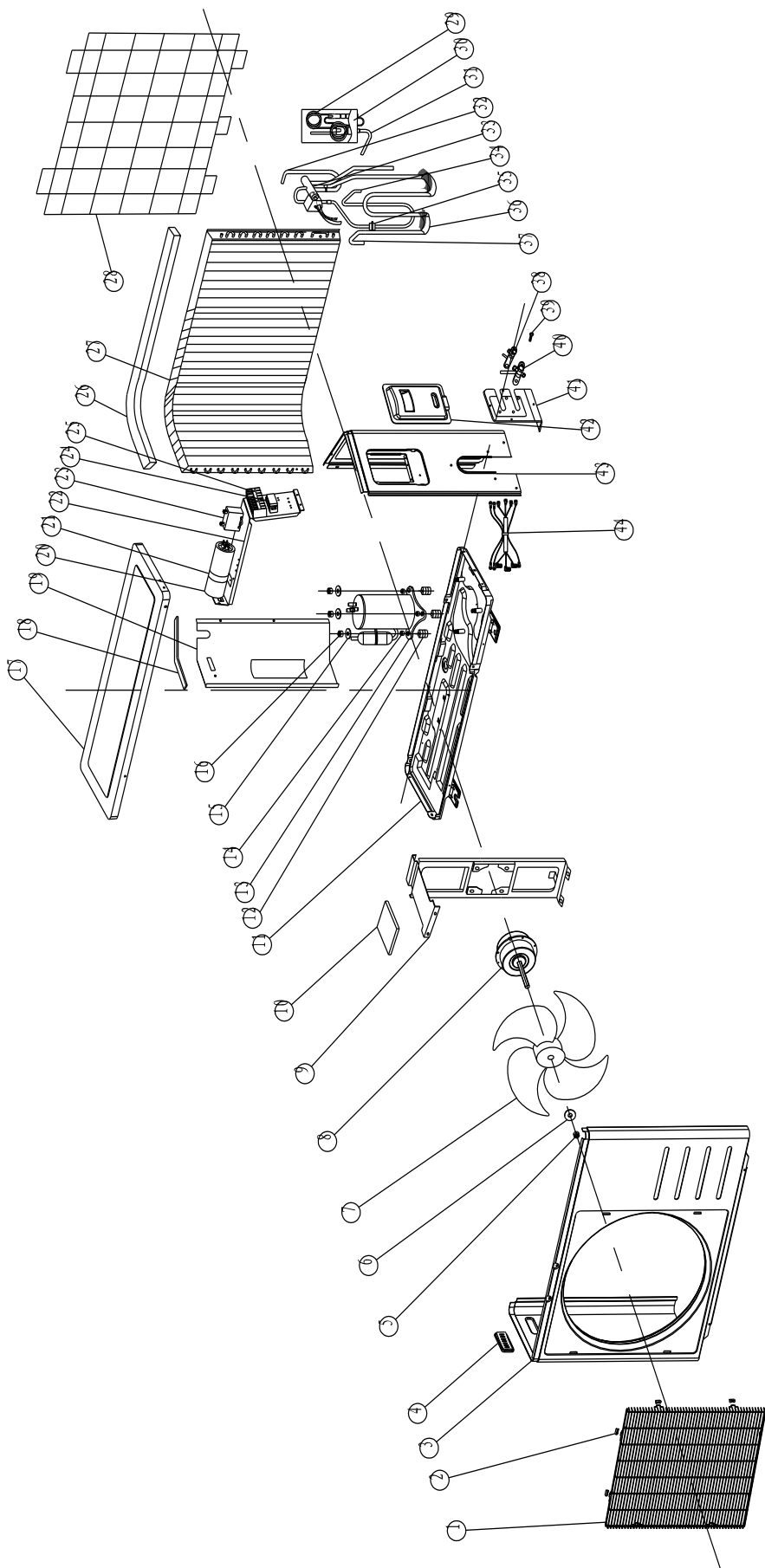
Table 2.2-2

No.	Description		Part No.				Q't y
			HF-32G/A	HFR-32G/A	HF-35G/A	HFR-35G/A	
1	Louver A	下导风条	100420083	100420083	100420083	100420083	1
2	Louver B	上导风条	100420003	100420003	100420003	100420003	1
3	Swing Louver	导风叶片	100420007	100420007	100420007	100420007	12
4	Connecting rod	导风叶片连杆	100420072	100420072	100420072	100420072	3
5	Outlet part	出风主体	100090110	100090110	100090110	100090110	1
6	Left angle plate	底座左角板	100360001	100360001	100360001	100360001	1
7	Base	底座	100060108	100060108	391060127	391060127	1
8	Cross flow fan	贯流风轮	100010026	100010026	100010016	100010016	1
9	Fan Bearing	贯流风轮轴承胶圈	401000007	401000007	401000007	401000007	1
10	Evaporator assembly	蒸发器组件	972900477	972900477	972900977	972900977	1
11	Evaporator left fixed plate	蒸发器左固定板	029993988	029993988	029993926	029993926	1
12	Screw cover	螺钉盖	109990023	109990023	109990023	109990023	2
13	Middle frame	中框	391070007	391070007	100080022	100080022	1
14	Air Filter	过滤网	100190127	100190127	100190127	100190127	2
15	Display box cover	显示盒盖	100410009	100410009	100410009	100410009	1
16	Display lamp plate	显示灯板	331800004	337000041	331800004	337000041	1
17	Display box	显示盒	100410001	100410001	100410001	100410001	1
18	Front Panel	面板	391022026	391022026	391022026	391022026	1
19	Sponge bar	海绵条	386100008	386100008	386100008	386100008	
20	Connecting Cable	室内外连接电缆线	342100026	342100030	342100028	342100034	1
21	Power Cord	电源线	050010042	050010042	050010027	050010027	1
22	Middle frame coverplate	中框盖板	100430025	100430025	100080034	100080034	1
23	Room temp. Sensor Holder	室温探头架	109990109	109990109	100280105	100280105	1
24	Pipe Clamp	压管板	100430025	100430025	100430025	100430025	1
25	Evaporator right fixed plate	蒸发器右固定板	109990109	109990109	029993926	029993926	1
26	Motor platen	电机压板	100130003	100130003	391990210	391990210	1
27	Motor	电机	320204004	320204004	030020173	030020173	1
28	Electric box cover	电器盒盖	391100011	391100011	100100041	100100041	1
29	Electric control plate	电控板	331200083	331400083	040010178	040010179	1
30	Transformer	变压器	321620014	321620014	030180061	030180061	1
31	Terminal Board	端子台	321000022	030090241	030090004	030090005	1
32	Electric box	电器盒	391100011	391100011	100100035	100100035	1
33	Screw	螺钉	150010058	150010058	150010058	150010058	2
34	Wire Clip	压线扣	391110057	391110057	391110017	391110017	1
35	Right angle plate	底座右角板	100300003	100300003	100300003	100300003	1
36	Wall-mounting frame	挂墙板	020100010	020100010	020100010	020100010	1
37	Step motor	步进电机	320273001	320273001	320273001	320273001	1
38	Step Motor plate	步进电机座	391200050	391200050	100420002	100420002	1
39	Crank connecting rod	曲柄连杆	100420082	100420082	100420082	100420082	1
40	Thermal insulation pipe	保温水管	099990080	099990080	099990080	099990080	1
41	Remote controller	遥控器	336821050	336821049	336811005	336811006	1

Table 2.2-3

No.	Description		Part No.				Q't y
			HF-51G/B	HFR-51G/B			
1	Louver A	下导风条	100420088	100420088			1
2	Louver B	上导风条	100420087	100420087			1
3	Swing Louver	导风叶片	100420007	100420007			12
4	Connecting rod	导风叶片连杆	100420048	100420048			3
5	Outlet part	出风主体	100090129	100090129			1
6	Left angle plate	底座左角板	100360002	100360002			1
7	Base	底座	100060138	100060138			1
8	Cross flow fan	贯流风轮	391050015	391050015			1
9	Fan Bearing	贯流风轮轴承胶圈	401000007	401000007			1
10	Evaporator assembly	蒸发器组件	960400217	960400217			1
11	Evaporator left fixed plate	蒸发器左固定板	029993926	029993926			1
12	Screw cover	螺钉盖	109995908	109995908			2
13	Middle frame	中框	100080012	100080012			1
14	Air Filter	过滤网	100190139	100190139			2
15	Display box cover	显示盒盖	100410009	100410009			1
16	Display lamp plate	显示灯板	331800004	337000041			1
17	Display box	显示盒	100410001	100410001			1
18	Front Panel	面板	391022150	391022150			1
19	Sponge bar	海绵条	386100031	386100031			
20	Connecting Cable	室内外连接电缆线	050020015	342200038			1
21	Power Cord	电源线	050010027	050010027			1
22	Middle frame coverplate	中框盖板	100080034	100080034			1
23	Room temp. Sensor Holder	室温探头架	100280105	100280105			1
24	Pipe Clamp	压管板	100430025	100430025			1
25	Evaporator right fixed plate	蒸发器右固定板	029993926	029993926			1
26	Motor platen	电机压板	391990210	391990210			1
27	Motor	电机	030020173	030020173			1
28	Electric box cover	电器盒盖	100100041	100100041			1
29	Electric control plate	电控板	040012722	040010179			1
30	Transformer	变压器	030180061	030180061			1
31	Terminal Board	端子台	030090004	030090005			1
32	Electric box	电器盒	100100035	100100035			1
33	Screw	螺钉	150010058	150010058			2
34	Wire Clip	压线扣	391110017	391110017			1
35	Right angle plate	底座右角板	100300026	100300026			1
36	Wall-mounting frame	挂墙板	020100011	020100011			1
37	Step motor	步进电机	320273001	320273001			1
38	Step Motor plate	步进电机座	100420002	100420002			1
39	Crank connecting rod	曲柄连杆	100420082	100420082			1
40	Thermal insulation pipe	保温水管	099990080	099990080			1
41	Remote controller	遥控器	336825001	336825002			1

4.2.3 Explosive view of outdoor unit for 1HP

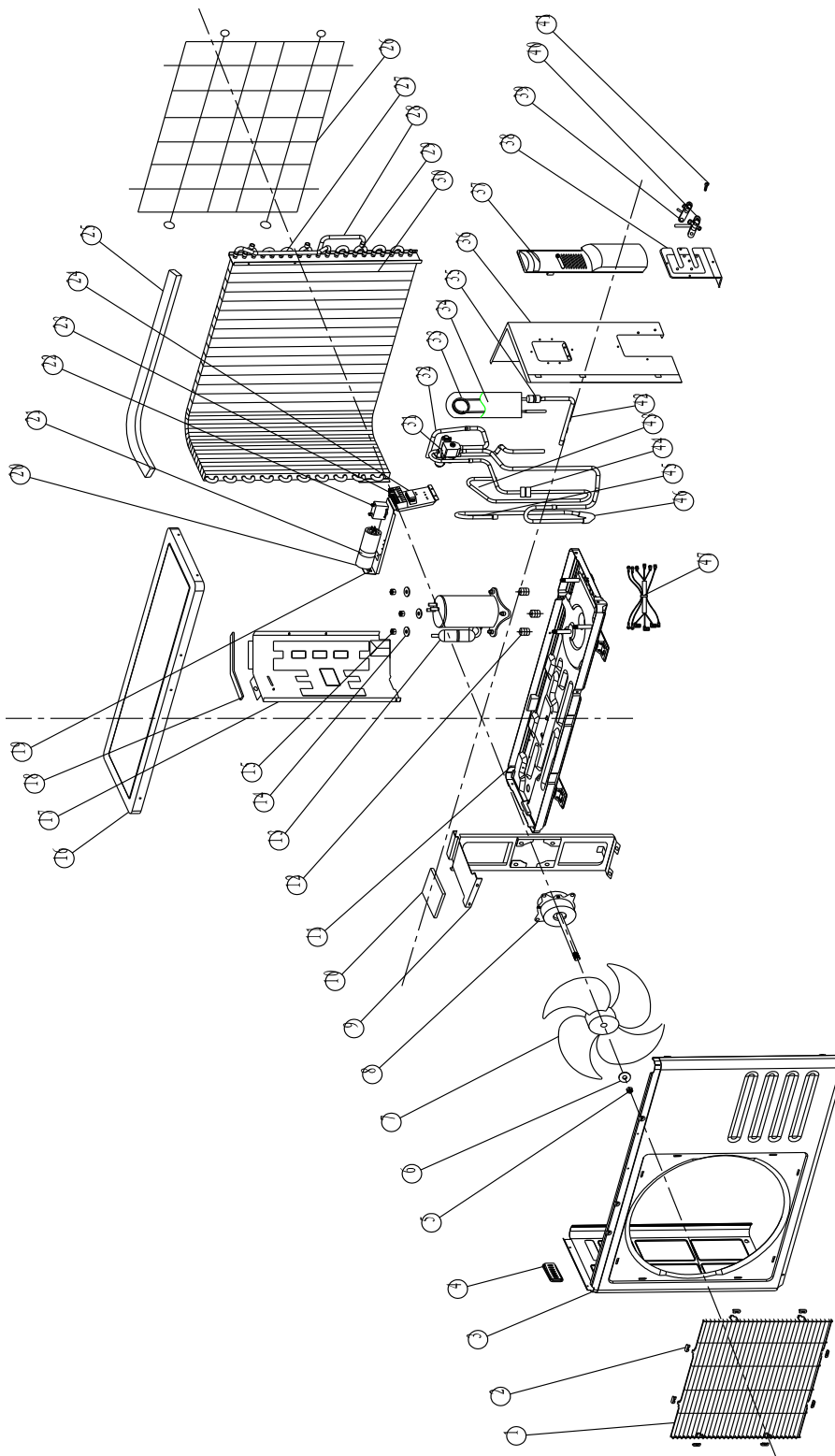


4.2.4 Spare parts list of outdoor unit

No.	Description		Part No.				Q't y
			HF-23W/A	HFR-23W/A	HF-25W/A	HFR-25W/A	
1	Front Grill	前网罩	393990022	393990022	393990022	393990022	1
2	Grill Clip	前网扣	020120002	020120002	020120002	020120002	8
3	Front Plate	面板	020070001	020070001	020070001	020070001	1
4	Small handle	小抽手	100050001	100050001	100050001	100050001	1
5	Nut	螺 母	150020019	150020019	150020019	150020019	1
6	Gasket	垫 片	150030016	150030016	150030016	150030016	1
7	Axial flow fan	轴流风轮	100030013	100030013	100030013	100030013	1
8	Motor	电机	030020201	030020201	030020201	030020201	1
9	Motor support	电机支架	020040029	313040004	020040029	313040004	1
10	PE Sponge	PE 保温棉	382100010	382100010	382100010	382100010	1
11	Base	底盘	020010112	020010112	313221003	020010111	1
12	Anti-vibration pad for the compressor	压缩机减震脚	010010980	010010980	010010980	010010980	3
13	Compressor	压缩机	301109004	301109004	010010923	010010923	1
14	Gasket	垫片	150030010	150030010	150030010	150030010	3
15	Nut	螺母	150020003	150020003	150020003	150020003	3
16	Top panel	顶盖板	020080001	020080001	020080001	020080001	1
17	Partition board	中隔板	020030001	020030001	020030001	020030001	1
18	PU Sponge	中隔板密封条	090020226	090020226	090020226	090020226	1
19	Electric installation board	电器安装板	313120027	313120027	313120027	313120027	1
20	Compressor Capacitor	压缩机电容	030010028	030010028	030010015	030010015	1
21	Capacitor Clamp	电容夹	020140007	020140007	020140006	020140006	1
22	Terminal Board	端子台	321000025	321000025	321000025	030090025	1
23	Fan Capacitor	风机电容	030010005	030010005	030010005	030010005	1
24	Wire Clip	压线扣	321100011	321100011	321100011	321100011	1
25	PU Sponge	冷凝器上密封条	-----	-----	-----	-----	
26	Rear Grill	背网	020110001	020110001	020110001	020110001	1
27	Span Pipe	跨管	-----	-----	-----	-----	
28	Span Pipe	跨管	070050020	070050020	070050020	070050020	1
29	3-way Pipe	三通管	070130100	070130101	070130100	070130101	1
30	Condenser	冷凝器	372100126	372100045	372200076	372100045	1
31	4-way Valve	四通阀组件	-----	961300017	-----	961300026	1
32	Intake pipe for the condensor	冷凝器进气管	360420005	070030277	360420005	070030277	1
33	Capillary Assy	毛细管组件	990070051	960800127	960800168	960800183	1
34	Damping rubber	阻尼胶	110030017	110030017	110030017	110030017	1
35	Filter	过滤器	070190038	070190038	070190007-	070190007	1
36	Right panel	右侧板	020060004	020060004	020060004	020060004	1
37	Large handle	大抽手	100040001	100040001	100040001	100040001	1
38	Valve installation plate	阀座板	020020001	020020001	020020001	020020001	1
39	High-pressure valve	高压阀	060020092	060020092	060020092	060020092	1
40	Low-pressure valve	低压阀	060020095	060020095	060020095	060020095	1
41	Screw	螺钉	150010048	150010048	150010048	150010048	4
42	Drainpipe for the	冷凝器出液管	070040097	070040097	070040097	070040097	1

	condensor						
43	Discharge pipe	排气管	070040097	070010551	360220096	360220093	1
44	Damping block	减震块	110020002	110020002	110020005	110020005	4
45	Suction pipe	吸气管	360120095	360120072	360120096	360120092	
46	Damping rubber	阻尼胶	110030020	110030023	110030020	110030023	1
47	Connecting Wire	室外部分连接线	050030044 345200094	050030044 345200094	050030044 345200094	050030044 345200094	1

4.2.5 Explosive view of outdoor unit for 1.5HP



4.2.6 Spare parts list of outdoor unit

Table 2.6-1

No.	Description		Part No.				Q'ty
			HF-32W/A	HFR-32W/A	HF-35W/A	HFR-35W/A	
1	Front Grill	前网罩	020120015	020120015	020120015	020120015	1
2	Grill Clip	前网扣	393990022	393990022	393990022	393990022	8
3	Front Plate	面板	020070056	020070056	020070056	020070056	1

4	Small handle	小抽手	100050021	100050021	100050021	100050021	1
5	Nut	螺 母	150020003	150020003	150020003	150020003	1
6	Gasket	垫 片	150030010	150030010	150030010	150030010	1
7	Axial flow fan	轴流风轮	393010001	393010001	393010001	393010001	1
8	Motor	电机	020040038	320222005	020040038	320222005	1
9	Motor support	电机支架	020040038	313040002	020040038	313040002	1
10	PE Sponge	PE 保温棉	382100010	382100010	382100010	382100010	1
11	Base	底盘	020010102	020010102	020010102	020010102	1
12	Anti-vibration pad for the compressor	压缩机减震脚	010010984	010010984	010010984	010010984	3
13	Compressor	压缩机	301109009	301109009	301109009	301109009	1
14	Gasket	垫片	150030010	150030010	150030010	150030010	3
15	Nut	螺母	150020003	150020003	150020003	150020003	3
16	Top panel	顶盖板	020080002	020080002	020080002	020080002	1
17	Partition board	中隔板	313030027	313030027	313030027	313030027	1
18	PU Sponge	中隔板密封条	090020027	090020027	090020027	090020027	1
19	Electric installation board	电器安装板	313120025	313120025	313120025	313120025	1
20	Compressor Capacitor	压缩机电容	030010016	030010016	030010016	030010016	1
21	Capacitor Clamp	电容夹	020140006	020140006	020140006	020140006	1
22	Terminal Board	端子台	321000025	030090025	321000025	030090025	1
23	Fan Capacitor	风机电容	030010005	030010005	030010005	030010005	1
24	Wire Clip	压线扣	321100011	321100011	321100011	321100011	1
25	PU Sponge	冷凝器上密封条	-----	-----	-----	-----	
26	Rear Grill	背网	020110002	020110002	020110002	020110002	1
27	Span Pipe	跨管	-----	070050031	-----	070050031	1
28	Span Pipe	跨管	-----	070050030	-----	070050030	1
29	3-way Pipe	三通管	070130100	070130206	070130100	070130206	1
30	Condenser	冷凝器	372200064	372100002	372200064	372100002	1
31	4-way Valve	四通阀组件	-----	961300020	-----	961300020	1
32	Intake pipe for the condensor	冷凝器进气管	360420005	360220084	360420005	360220084	1
33	Capillary Assy	毛细管组件	971900167	971900168	971900167	971900168	1
34	Damping rubber	阻尼胶	110030017	110030017	110030017	110030017	1
35	Filter	过滤器	-----	-----	070190034	070190034	1
36	Right panel	右侧板	020060009	020060009	020060009	020060009	1
37	Large handle	大抽手	100040002	100040002	100040002	100040002	1
38	Valve installation plate	阀座板	020020002	020020002	020020002	020020002	1
39	High-pressure valve	高压阀	060020092	060020092	060020092	060020092	1
40	Low-pressure valve	低压阀	060020088	060020107	060020088	060020107	1
41	Screw	螺钉	150010048	150010048	150010048	150010048	4
42	Drainpipe for the condensor	冷凝器出液管	070040097	070040002	070040097	070040002	1
43	Discharge pipe	排气管	360220090	360220084	360220090	360220084	1
44	Damping block	减震块	110020005	110020005	110020005	110020005	4
45	Suction pipe	吸气管	360130123	360120079	360130123	360120079	
46	Damping rubber	阻尼胶	110030023	110030023	110030023	110030023	1

47	Connecting Wire	室外部分连接线	050030048 345200020	050030048 345200020	050030048 345200020	050030048 345200020	1
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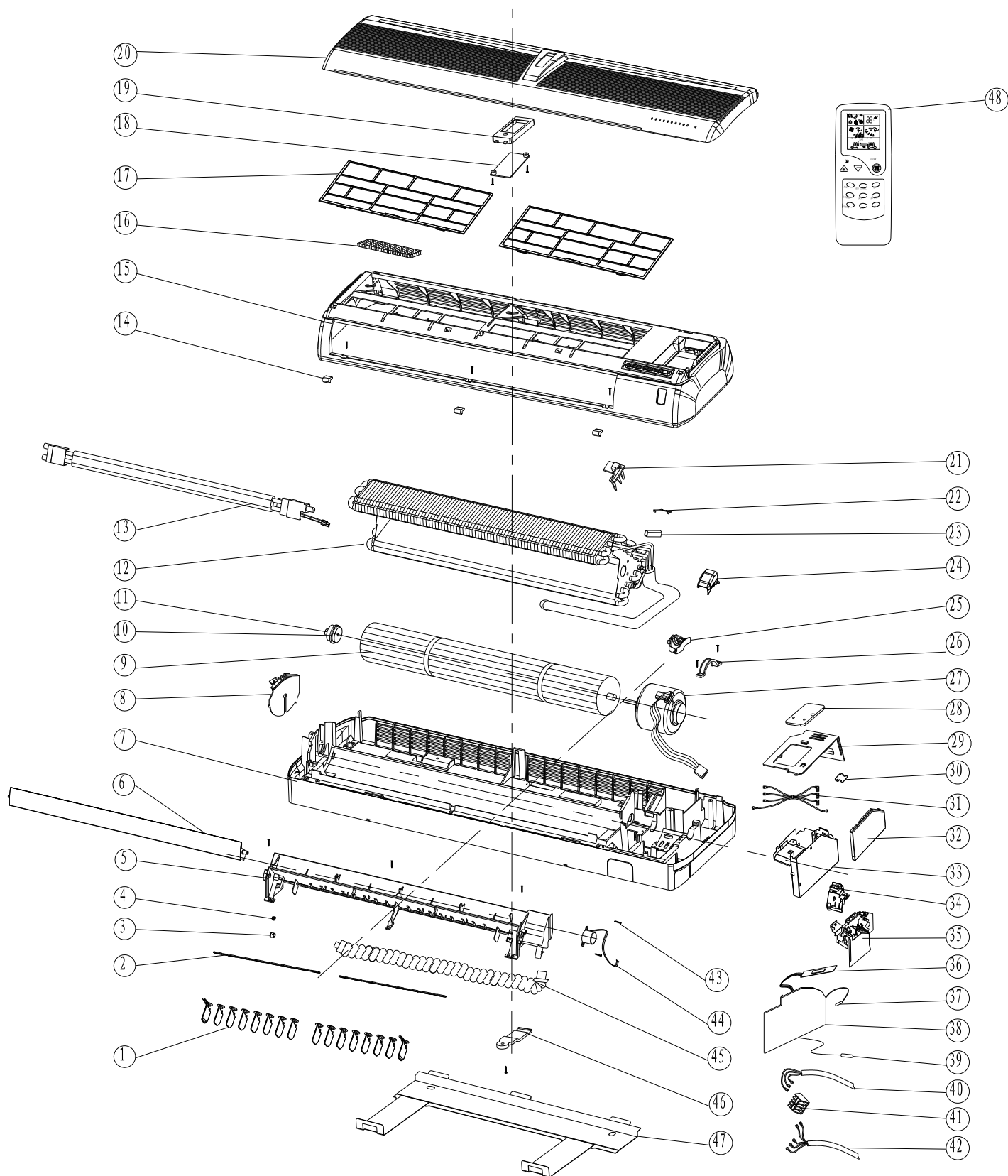
Table 2.6-2

No.	Description		Part No.				Q'ty
			HF-51W/B	HFR-51W/B			
1	Front Grill	前网罩	020120015	020120015			1
2	Grill Clip	前网扣	393990022	393990022			8
3	Front Plate	面板	020070056	020070056			1
4	Small handle	小抽手	100050021	100050021			1
5	Nut	螺 母	150020003	150020003			1
6	Gasket	垫 片	-----	-----			1
7	Axial flow fan	轴流风轮	393010015	393010015			1
8	Motor	电机	320222014	320222014			1
9	Motor support	电机支架	020040045	020040045			1
10	PE Sponge	PE 保温棉	382100010	382100010			1
11	Base	底盘	313011091	313011091			1
12	Anti-vibration pad for the compressor	压缩机减震脚	010010980	010010980			3
13	Compressor	压缩机	301109007	301109007			1
14	Gasket	垫片	150030010	150030010			3
15	Nut	螺母	150020003	150020003			3
16	Top panel	顶盖板	020080002	020080002			1
17	Partition board	中隔板	313030027	313030027			1
18	PU Sponge	中隔板密封条	090020027	090020027			1
19	Electric installation board	电器安装板	313120025	313120025			1
20	Compressor Capacitor	压缩机电容	030010020	030010020			1
21	Capacitor Clamp	电容夹	020140010	020140010			1
22	Terminal Board	端子台	321000025	030090025			1
23	Fan Capacitor	风机电容	030010007	030010007			1
24	Wire Clip	压线扣	321100013	321100013			1
25	PU Sponge	冷凝器上密封条	-----	-----			
26	Rear Grill	背网	020110002	020110002			1
27	Span Pipe	跨管	-----	-----			1
28	Span Pipe	跨管	-----	-----			1
29	3-way Pipe	三通管	070130108	070130108			1
30	Condenser	冷凝器	372200065	372100070			1
31	4-way Valve	四通阀组件	-----	973500052			1
32	Intake pipe for the condensor	冷凝器进气管	360420006	360450012			1
33	Capillary Assy	毛细管组件	960800199	960800182			1
34	Damping rubber	阻尼胶	110030017	110030017			1
35	Filter	过滤器	070190034	070190034			1
36	Right panel	右侧板	020060009	020060009			1

37	Large handle	大抽手	100040002	100040002			1
38	Valve installation plate	阀座板	020020002	020020002			1
39	High-pressure valve	高压阀	060020092	060020092			1
40	Low-pressure valve	低压阀	060020088	060020088			1
41	Screw	螺钉	150010048	150010048			4
42	Drainpipe for the condensor	冷凝器出液管	361690004	361690004			1
43	Discharge pipe	排气管	360230125	360230092			1
44	Damping block	减震块	110020011	110020011			4
45	Suction pipe	吸气管	360130144	360130144			
46	Damping rubber	阻尼胶	110030023	110030023			1
47	Connecting Wire	室外部分连接线	345200020 345200225	345200020 345200225			1

HF(R)-51、61GW/c、66GW/B serieses

4.3.1 Explosive view of indoor unit



4.3.2 Spare parts list of indoor unit

Table 3.2-1

No.	Description		Part No.				Q't y
			HF-51G/c	HFR-51G/c	HF-61G/c	HFR-61G/c	
1	Swing Louver	导风叶片	100420012 (A×2) 100420041 (B×12)	100420012 (A×2) 100420041 (B×12)	100420012 (A×2) 100420041 (B×12)	100420012 (A×2) 100420041 (B×12)	14
2	Connecting rod	连杆	100420061	100420061	100420061	100420061	4
3	Guide Louver Bearing A	导风条轴套 A	109990468	109990468	109990468	109990468	2
4	Guide Louver Bearing B	导风条轴套 B	109990472	109990472	109990472	109990472	1
5	Outlet part	出风主体	100090107	100090107	100090107	100090107	1
6	Louver	导风条	100390005	100390005	100390005	100390005	1
7	Base	底座	100060118	100060118	100060118	100060118	1
8	Left fixed plate	风轮左端固定板	109990310	109990310	109990310	109990310	1
9	Cross flow fan	贯流风轮	100010003	100010003	100010003	100010003	1
10	Fan Bearing	贯流风轮轴承	110010202	110010202	110010202	110010202	1
11	Ring of Bearing	贯流风轮轴承胶圈	—	—	—	—	
12	Evaporator assembly	蒸发器组件	980280057	980280057	980280010	980280010	1
13	Electric heater	电加热器	—	—	—	—	
14	Screw cover	螺钉盖	109990079	109990079	109990079	109990079	3
15	Middle frame	中框	100080007	100080007	100080007	100080007	1
16	Cold Catalyst	冷触媒	119990011	119990011	119990011	119990011	1
17	Air Filter	过滤网	100190118	100190118	100190118	100190118	2
18	Display box cover	显示盒盖	100410010	100410010	100410010	100410010	1
19	Display box	显示盒	100410002	100410002	100410002	100410002	1
20	Front Panel	面板	391022095 (面板) 100110038 (装饰条)	391022095 (面板) 100110038 (装饰条)	391022095 (面板) 100110038 (装饰条)	391022095 (面板) 100110038 (装饰条)	1
21	Room temp. Sensor Holder	室温探头架	100280105	100280105	100280105	100280105	1
22	Insert Block	弹簧片	079990240	079990240	079990240	079990240	1
23	Copper pipe of sensor	探头铜管	079990030	079990030	079990030	079990030	1
24	Water-resistant board	挡水板	109990392	109990392	109990392	109990392	1
25	Motor platen	电机压板	100130004	100130004	100130004	100130004	1
26	Motor fixed-board	电机右固定板	100130026	100130026	100130026	100130026	1
27	Motor	电机	030020109	030020109	030020176	030020176	1
28	Electric box small cover plate	安全盖	020160029	020160029	020160029	020160029	1
29	Electric box cover	电器盒盖	020160016	020160016	020160016	020160016	1
30	Wire Clamp	压线板	100430022	100430022	100430022	100430022	1
31	Connecting Wire	连接线	050030014	050030014	050030014	050030014	
32	Electric box Panel 1	电器盒内件 1	100430014	100430014	100430014	100430014	1
33	Electrical box	电器盒	020150034	020150034	020150034	020150034	1
34	Electric box Panel 2	电器盒内件 2	100430015	100430015	100430015	100430015	1
35	Electric box Panel 3	电器盒内件 3	100430016	100430016	100430016	100430016	1
36	Display lamp panel	显示板	331800095	331800077	331800095	331800077	1
37	Tube Temp. Sensor	管温探头	049990017	049990017	049990017	049990017	1

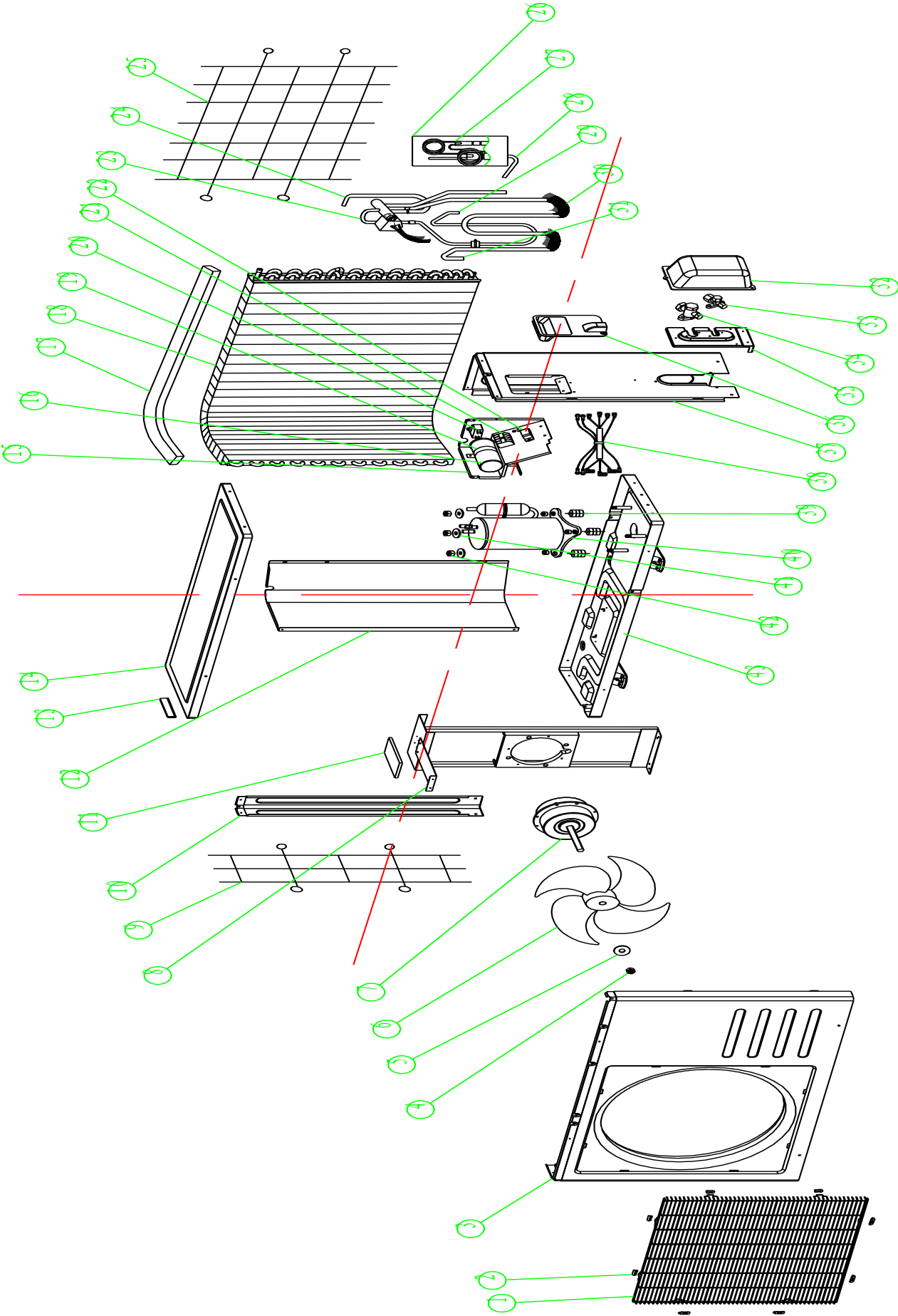
38	Electric control plate	电控板	040012639	040012641	331100117	331300086	1
39	Room Temp. Sensor	室温探头	049990017	049990017	049990017	049990017	1
40	Power Cord	电源线(国标)	050010027	050010027	050010017	050010017	1
41	Terminal Board	端子台	030090004	030090004	030090004	030090004	1
42	Connecting Cable	室内外连接电缆线	050020015	050020015	050020015	050020015	1
43	Screw	螺钉	150010057	150010057	150010057	150010057	2
44	Step motor	步进电机	030020406	030020406	030020406	030020406	1
45	Thermal insulation pipe	保温水管	099990080	099990080	099990080	099990080	1
46	Pipe Clamp	压管板	100430026	100430026	100430026	100430026	1
47	Wall-mounting frame	挂墙板	020100003	020100003	020100003	020100003	1
48	Remote controller	遥控器	336811001	336821002	336811001	336821002	1

Table 3.2-2

No.	Description		Part No.				Q't y
			HF-66G/B	HFR-66G/B			
1	Swing Louver	导风叶片	100420012 (A×2) 100420041 (B×12)	100420012 (A×2) 100420041 (B×12)			14
2	Connecting rod	连杆	100420061	100420061			4
3	Guide Louver Bearing A	导风条轴套 A	109990468	109990468			2
4	Guide Louver Bearing B	导风条轴套 B	109990472	109990472			1
5	Outlet part	出风主体	100090107	100090107			1
6	Louver	导风条	100390005	100390005			1
7	Base	底座	100060118	100060118			1
8	Left fixed plate	风轮左端固定板	109990310	109990310			1
9	Cross flow fan	贯流风轮	100010003	100010003			1
10	Fan Bearing	贯流风轮轴承	110010202	110010202			1
11	Ring of Bearing	贯流风轮轴承胶圈	—	—			
12	Evaporator assembly	蒸发器组件	980280010	980280010			1
13	Electric heater	电加热器	—	—			
14	Screw cover	螺钉盖	109990079	109990079			3
15	Middle frame	中框	100080007	100080007			1
16	Cold Catalyst	冷触媒	119990011	119990011			1
17	Air Filter	过滤网	100190118	100190118			2
18	Display box cover	显示盒盖	100410010	100410010			1
19	Display box	显示盒	100410002	100410002			1
20	Front Panel	面板	391022095 (面板) 100110038 (装饰条)	391022095 (面板) 100110038 (装饰条)			1
21	Room temp. Sensor Holder	室温探头架	100280105	100280105			1
22	Insert Block	弹簧片	079990240	079990240			1
23	Copper pipe of sensor	探头铜管	079990030	079990030			1
24	Water-resistant board	挡水板	109990392	109990392			1
25	Motor platen	电机压板	100130004	100130004			1

26	Motor fixed-board	电机右固定板	100130026	100130026			1
27	Motor	电机	030020176	030020176			1
28	Electric box small cover plate	安全盖	020160029	020160029			1
29	Electric box cover	电器盒盖	020160016	020160016			1
30	Wire Clamp	压线板	100430022	100430022			1
31	Connecting Wire	连接线	050030014	050030014			
32	Electric box Panel 1	电器盒内件 1	100430014	100430014			1
33	Electrical box	电器盒	020150034	020150034			1
34	Electric box Panel 2	电器盒内件 2	100430015	100430015			1
35	Electric box Panel 3	电器盒内件 3	100430016	100430016			1
36	Display lamp panel	显示板	331800095	331800077			1
37	Tube Temp. Sensor	管温探头	049990017	049990017			1
38	Electric control plate	电控板	331100117	331300086			1
39	Room Temp. Sensor	室温探头	049990017	049990017			1
40	Power Cord	电源线(国标)	050010028	050010028			1
41	Terminal Board	端子台	030090004	030090004			1
42	Connecting Cable	室内外连接电缆线	050020015	050020015			1
43	Screw	螺钉	150010057	150010057			2
44	Step motor	步进电机	030020406	030020406			1
45	Thermal insulation pipe	保温水管	099990080	099990080			1
46	Pipe Clamp	压管板	100430026	100430026			1
47	Wall-mounting frame	挂墙板	020100003	020100003			1
48	Remote controller	遥控器	336811001	336821002			1

4.3.3 Explosive view of outdoor unit for 2HP

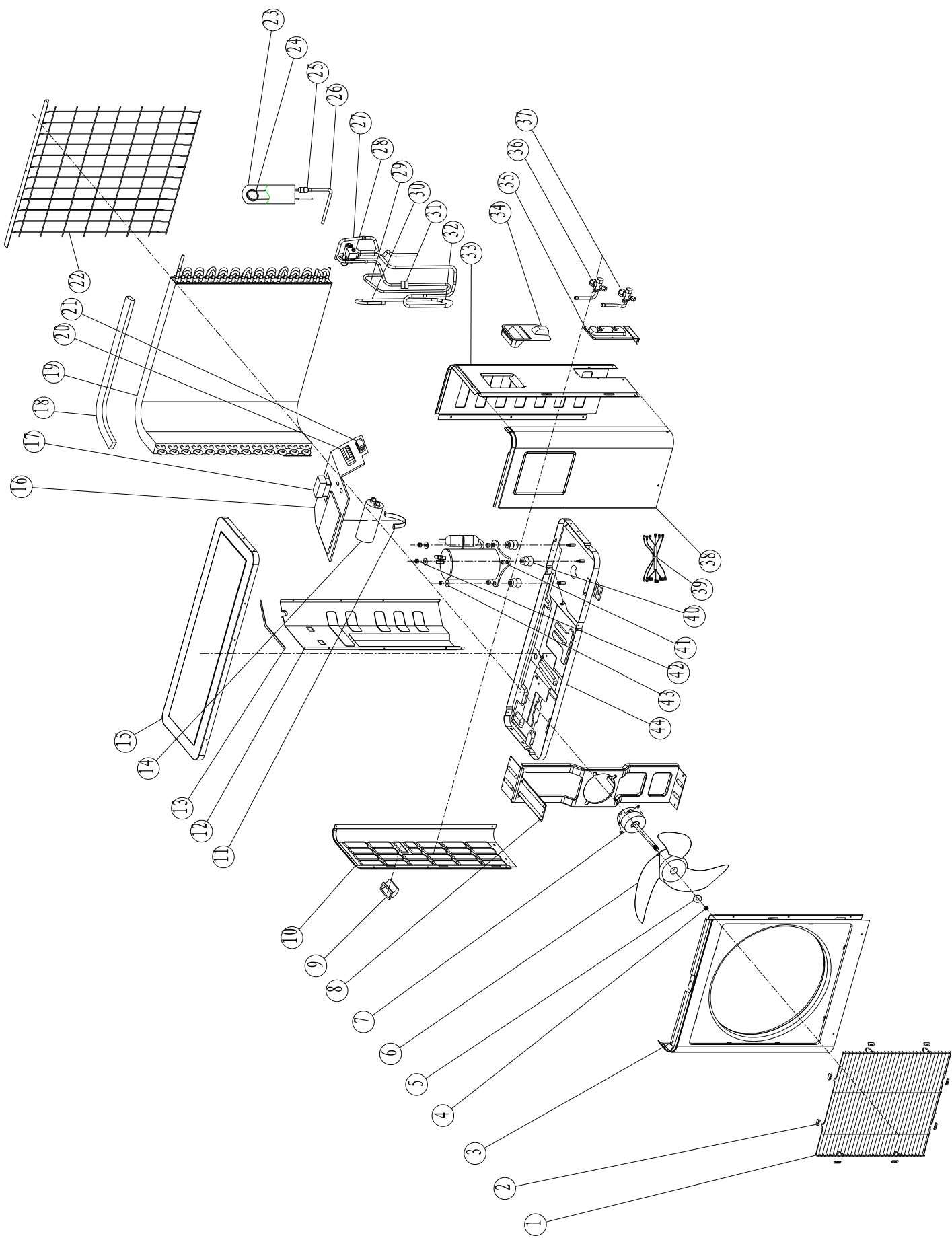


4.3.4 Spare parts list of outdoor unit

No.	Description		Part No.				Q't y
			HF-51W/Bc	HFR-51W/Bc	HF-61W/Bc	HFR-61W/Bc	
1	Front Grill	前网罩	313110001	313110001	313110001	313110001	1
2	Grill Clip	前网扣	393990022	393990022	393990022	393990022	8
3	Front Plate	面 板	313070009	313070009	313070009	313070009	1
4	Nut	螺 母	150020019	150020019	150020019	150020019	1
5	Gasket	垫 片	150030007	150030007	150030007	150030007	
6	Axial flow fan	轴流风轮	100030005	100030005	100030005	100030005	1
7	Motor	电 机	320222015	320222014	320222015	320222015	1
8	Motor support	电机支架	313040024	313040024	313040011	313040011	1
9	Left protect net	左护网	313990020	313990020	313990020	313990020	1
10	Pillar	立 柱	313990021	313990021	313990021	313990021	2
11	PE Sponge	PE 保温棉	382200002	382200002	382200002	382200002	1
12	Partition board	中隔板	313030028	313030028	313030028	313030028	1
13	Small handle	小抽手	100050018	100050018	100050018	100050018	1
14	Top panel	顶盖板	313080002	313080002	313080002	313080002	1
15	Electric box	电器盒	313990007	313990007	313990007	313990007	1
16	Compressor Capacitor	压缩机电容	030010020	030010020	030010019	030010019	1
17	PU Sponge	冷凝器上密封条	090020332	090020332	090020150	090020150	
18	Condenser	冷凝器	372200097	372100070	372200088	372100163	1
19	Capacitor clamp	电容夹	313130006	313130006	313130006	313130006	1
20	Fan Capacitor	风机电容	030010009	030010007	030010009	030010009	1
21	Terminal Board	端子台	321000025	030090025	321000025	321000025	1
22	Wire Clip	压线扣	321100013	321100003	321100013	321100013	1
23	Four-way valve assembly	四通阀组件	-----	973500052	-----	973500203	1
24	Intake pipe for the condensor	冷凝器进气管	070030017	360450012	070030247	070030247	1
25	Rear Grill	背 网	313100005	313100005	313100010	313100010	1
26	Damping rubber for capillary	阻尼胶	110030017	110030017	110030015	110030017	1
27	Capillary Assy	毛细管组件	971900373	971900243	971900377	971900359	1
28	Drainpipe for the condensor	冷凝器出液管	070040030	070040030	070040030	070040030	1
29	Discharge pipe	排气管	360230183	360230092	360230198	360230198	1
30	Damping rubber	阻尼胶	110030023	110030023	110030023	110030023	2
31	Suction pipe	吸气管	360130206	360130126	360130191	360130191	1
32	Valve cover	阀门盖					
33	High-pressure valve	高压阀	060020009	060020009	060020102	060020102	1
34	Low-pressure valve	低压阀	060020089	060020089	060020145	060020145	1
35	Valve installation plate	阀座板	313020001	313020001	313020001	313020001	1
36	Large handle	大抽手	100040004	100040004	100040004	100040004	1
37	Right panel	右侧板	313060007	313060007	313060007	313060007	1
38	Power cord	电源线	345200020	345200020	345200020	345200020	1
			050040064	050040064	050040064	050040064	
			345100010	345100010	345100010	345100010	
39	Anti-vibration pad for the	压缩机减震脚	010010980	010010980	305146007	305146007	3

	compressor						
40	Compressor	压缩机	301109007	301109007	301114034	301114034	1
41	Gasket	垫片	150030010	150030010	150030010	150030010	3
42	Nut	螺母	150020003	150020003	150020003	150020003	3
43	Base	底盘	313012003	313011091	313012005	313012005	1

4.3.5 Explosive view of outdoor unit for Small 3HP



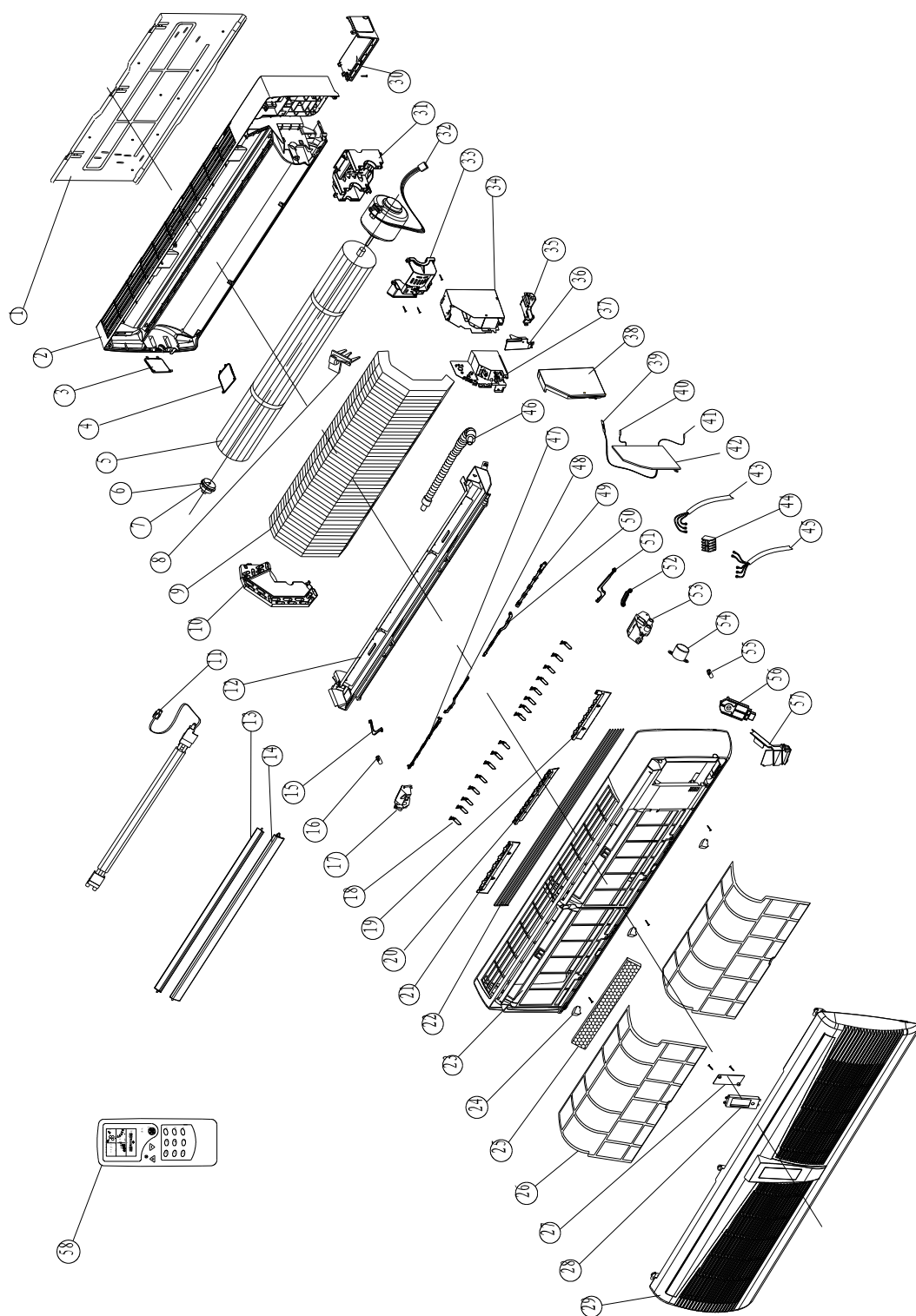
4.3.6 Spare parts list of outdoor unit

No.	Description		Part No.				Q't y
			HF-66W/Bc	HFR-66W/Bc			
1	Front Grill	前网罩	020120001	020120001			1
2	Grill Clip	前网扣	393990022	393990022			8
3	Front Plate	面板	020070004	020070004			1
4	Nut	螺母	150020031	150020031			1
5	Gasket	垫片	150030217	150030217			1
6	Axial flow fan	轴流风轮	100030008	100030008			1
7	Motor	电机	320222018	320222018			1
8	Motor support	电机支架	313040007	313040007			1
9	Small handle	小抽手	100050003	100050003			1
10	Left panel	左侧板	020050003	020050003			1
11	Cpacitor clamp	电容夹	020140022	020140022			1
12	Partition board	中隔板	020030007	020030007			1
13	PU Sponge	中隔板密封棉	090010033	090010033			1
14	Compressor Capacitor	压缩机电容	030010020	030010020			1
15	Top panel	顶盖板	020080035	020080035			1
16	Electric installation board	电器安装板	020130003	020130003			1
17	Fan Capacitor	风机电容	030010010	030010010			1
18	PU Sponge	冷凝器上密封条	090020150	090020150			1
19	Condenser	冷凝器	372200067	372200067			1
20	Terminal Board	端子台	030090016	030090016			1
21	Wire Clip	压线扣	321100004	321100004			1
22	Rear Grill	背网	020110003	020110003			1
23	Damping rubber for capillary tube	阻尼胶	110030015	110030015			1
24	Capillary Assy	毛细管组件	971900323	971900140			1
25	Filter	过滤器	361910011	070190007			1
26	Drainpipe for the condensor	冷凝器出液管	070040007	070040007			1
27	Intake pipe for the condensor	冷凝器进气管	070030104	070030104			1
28	4-way valve Assy	四通阀	-----	990088813			1
29	Discharge pipe	排气管	360230213	070010517			1
30	Suction pipe	吸气管	070170014 070020028	070170014 070020028			1
31	Anti-vibration pad	减震块	110020016	110020016			1
32	Anti-vibration damping rubber	阻尼胶	110030023	110030023			2
33	Right panel	右侧板	020050003	020050003			1
34	Large handle	大抽手	100040004	100040004			1
35	Valve installation plate	阀座板	020020007	020020007			1
36	Low-pressure valve	低压阀	060020108	060020108			1
37	High-pressure valve	高压阀	060020102	060020102			1
38	Maintenance plate	维修板	020090001	020090001			1

39	Compressor power cord	连接线	050040064 050040043 050040046 050040015	050040064 050040043 050040046 050040015			1
40	Anti-vibration pad for the compressor	压缩机减震胶脚	305146007	305146007			3
41	Compressor	压缩机	301114021	301114021			1
42	Nut	螺母	150020003	150020003			3
43	Gasket	垫片	150030011	150030011			3
44	Base	底盘	020010228	020010228			1

HF(R)-70GW/c serieses

4.4.1 Explosive view of indoor unit

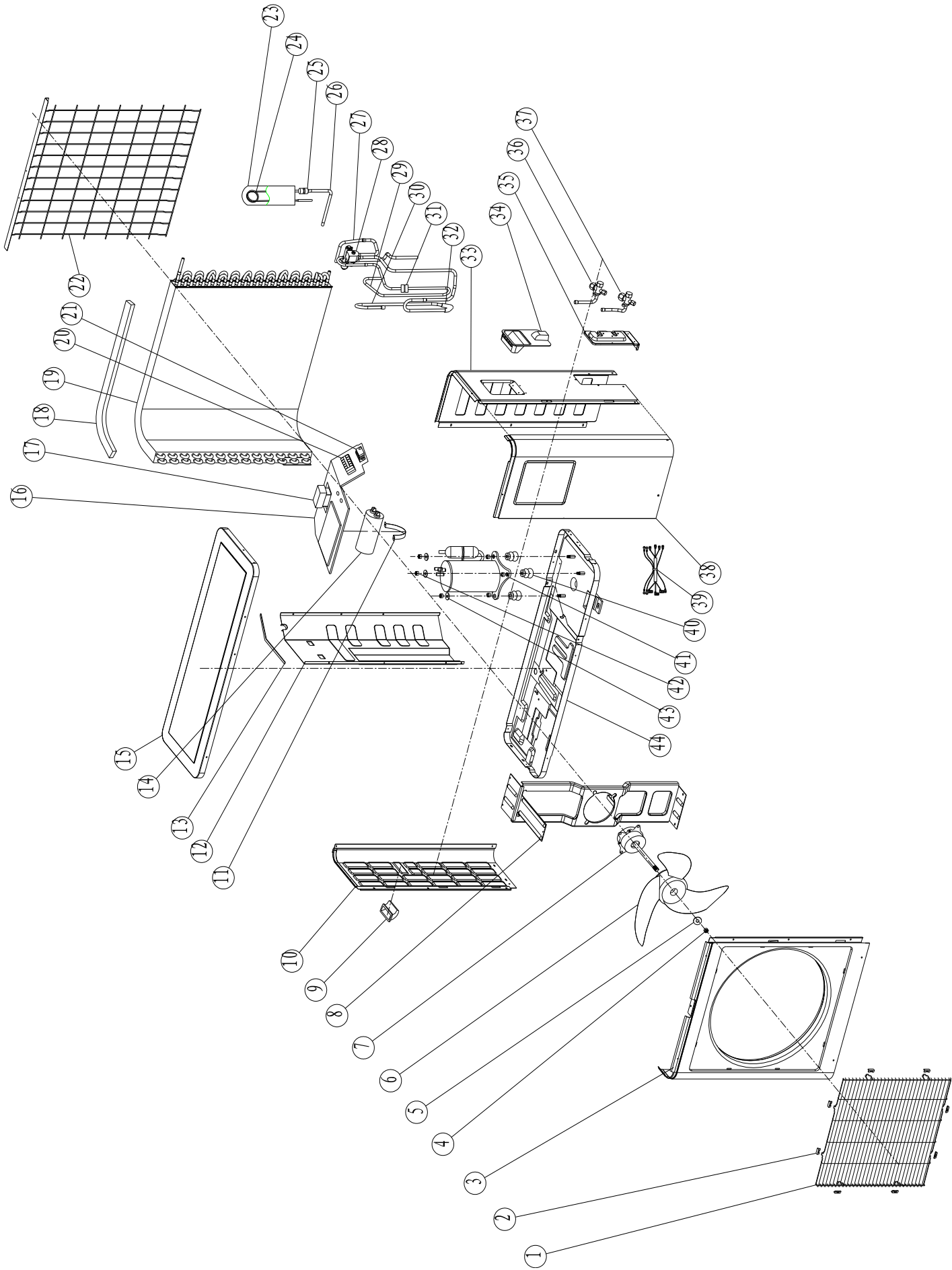


4.4.2 Spare parts list of indoor unit

No.	Description		Part No.				Q'ty
			HF-70G/c	HFR-70G/c			
1	Wall-mounting frame	挂墙板	020100016	020100016			1
2	Base	底座	100060127	100060127			1
3	Left angle plate	左角板	391990039	391990039			1
4	Front angle plate	前角板	391990040	391990040			1
5	Cross flow fan	贯流风轮	100010025	100010025			1
6	Fan Bearing	贯流风轮轴承	401000059	401000059			1
7	Ring of Bearing	贯流风轮轴承胶圈	-----	-----			1
8	Room temp. Sensor Holder	室温探头架					0
9	Evaporator Assy	蒸发器组件	972900247	972900247			1
10	Evaporator fixed plate	蒸发器左端板	109990264	109990264			1
11	Electric heater	电加热器	-----	-----			1
12	Outlet part	出风主体	391080006	391080006			1
13	Louver A	上导风条	391190023	391190023			1
14	Louver B	下导风条	391190024	391190024			1
15	Left Connecting rod A	左大连杆 A	391200035	391200035			1
16	Guide Louver Bearing A	轴套 A	391200029	391200029			3
17	Step motor left support	步进电机左支架	391200044	391200044			2
18	Swing louver	导风叶片	391190025 391190026 391190027	391190025 391190026 391190027			2
19	Swing louver right support	导风叶片右支架	391200041	391200041			1
20	Swing louver middle support	导风叶片中支架	391200040	391200040			1
21	Swing louver left support	导风叶片左支架	391200039	391200039			1
22	Air outlet protect net	风口护网	311030006	311030006			1
23	Middle frame	中框	391070026	391070026			1
24	Screw cover	螺钉盖	109990257	109990257			3
25	Cold Catalyst	冷触媒	119990011	119990011			1
26	Air filter	过滤网	100190120	100190120			2
27	Display box cover	显示盒盖	391140018	391140018			1
28	Display box	显示盒	391130021	391130021			1
29	Front Panel	面板	391022270	391022270			1
30	Right angle plate	右角板	391990038	391990038			1
31	Motor holder	电机固定座	100130015	100130015			1
32	Fan motor	电机	030020168	030020168			1
33	Motor cover	电机护盖	100130016	100130016			1
34	Electrical box	电器盒	020150086	020150086			1
35	Hook for the wire	过线扣	391110015	391110015			1
36	Wire Clamp	压线板	391110015	391110015			1
37	Electric box Panel 1	电器盒内件 1	100430080	100430080			1
38	Electric box Panel 2	电器盒内件 2	100430081	100430081			1

39	Display lamp plate	显示板	331800096	331800097			1
40	Room Temp. Sensor	室温探头	338000009	338000009			1
41	Tube Temp. Sensor	管温探头					
42	Electric control plate	电控板	331100178	331100178			1
43	Power cord	电源线	050010028	050010028			1
44	Terminal Board	端子台	030090006	030090006			1
45	Connecting cable	室外连接电缆线	050020057	050020057			1
46	Thermal insulation pipe	保温水管	099990080	099990080			1
47	Left Connecting rod B	左大连杆 B	391200037	391200037			1
48	Left middle Connecting rod	左中连杆	391200033	391200033			1
49	Right middle Connecting rod	右中连杆	391200034	391200034			1
50	Right Connecting rod B	右大连杆 B	391200038	391200038			1
51	Right Connecting rod A	右大连杆 A	391200036	391200036			1
52	Right small Connecting rod	右小连杆	391200043	391200043			1
53	Step motor right support	步进电机右支架	391200045	391200045			3
54	Step motor	步进电机	320273013 320273014 320273015	320273013 320273014 320273015			1
55	Guide Louver Bearing B	轴套 B	391200030	391200030			1
56	Wire Clip	压线扣	391110015	391110015			1
57	Water-resistant board	挡水板	100120008	100120008			1
58	Remote controller	遥控器	336821047	336821046			1

4.4.3 Explosive view of outdoor unit for Small 3HP



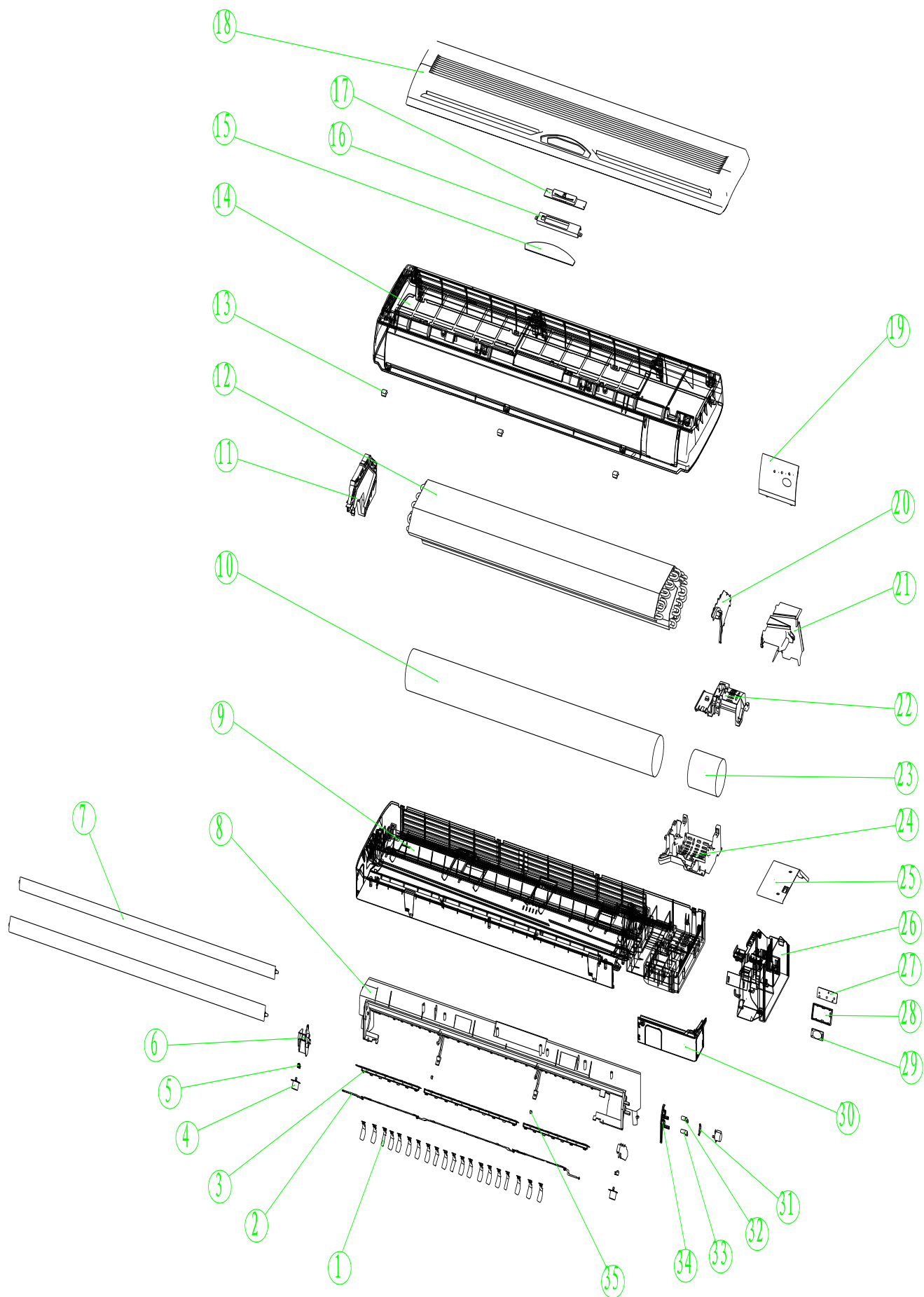
4.4.4 Spare parts list of outdoor unit

No.	Description		Part No.				Q't y
			HF-70W/c	HFR-70W/c			
1	Front Grill	前网罩	020120001	020120001			1
2	Grill Clip	前网扣	393990022	393990022			8
3	Front Plate	面板	020070004	020070004			1
4	Nut	螺母	150020031	150020031			1
5	Gasket	垫片	150030217	150030217			1
6	Axial flow fan	轴流风轮	100030008	100030008			1
7	Motor	电机	320222018	320222018			1
8	Motor support	电机支架	313040007	313040007			1
9	Small handle	小抽手	100050003	100050003			1
10	Left panel	左侧板	020050003	020050003			1
11	Cpacitor clamp	电容夹	020140022	020140022			1
12	Partition board	中隔板	020030007	020030007			1
13	PU Sponge	中隔板密封棉	090010033	090010033			1
14	Compressor Capacitor	压缩机电容	030010020	030010020			1
15	Top panel	顶盖板	020080035	020080035			1
16	Electric installation board	电器安装板	020130003	020130003			1
17	Fan Capacitor	风机电容	030010010	030010010			1
18	PU Sponge	冷凝器上密封条	090020150	090020150			1
19	Condenser	冷凝器	372200067	372200067			1
20	Terminal Board	端子台	030090016	030090016			1
21	Wire Clip	压线扣	321100004	321100004			1
22	Rear Grill	背网	020110003	020110003			1
23	Damping rubber for capillary tube	阻尼胶	110030015	110030015			1
24	Capillary Assy	毛细管组件	971900323	971900140			1
25	Filter	过滤器	361910011	070190007			1
26	Drainpipe for the condensor	冷凝器出液管	070040007	070040007			1
27	Intake pipe for the condensor	冷凝器进气管	070030104	070030104			1
28	4-way valve Assy	四通阀	-----	990088813			1
29	Discharge pipe	排气管	360230213	070010517			1
30	Suction pipe	吸气管	070170014 070020028	070170014 070020028			1
31	Anti-vibration pad	减震块	110020016	110020016			1
32	Anti-vibration damping rubber	阻尼胶	110030023	110030023			2
33	Right panel	右侧板	020050003	020050003			1
34	Large handle	大抽手	100040004	100040004			1
35	Valve installation plate	阀座板	020020007	020020007			1
36	Low-pressure valve	低压阀	060020108	060020108			1
37	High-pressure valve	高压阀	060020102	060020102			1
38	Maintenance plate	维修板	020090001	020090001			1

39	Connected wires	连接线	348400021	348400021			1
			348600002	348600002			
			348600007	348600007			
			348600034	348600034			
			348500021	348500021			
			050040058	050040058			
			345200032	345200032			
40	Anti-vibration pad for the compressor	压缩机减震胶脚	305146007	305146007			3
41	Compressor	压缩机	301114021	301114021			1
42	Nut	螺母	150020003	150020003			3
43	Gasket	垫片	150030011	150030011			3
44	Base	底盘	020010228	020010228			1

HF(R)-88CH3-Q serieses

4.5.1 Explosive view of indoor unit

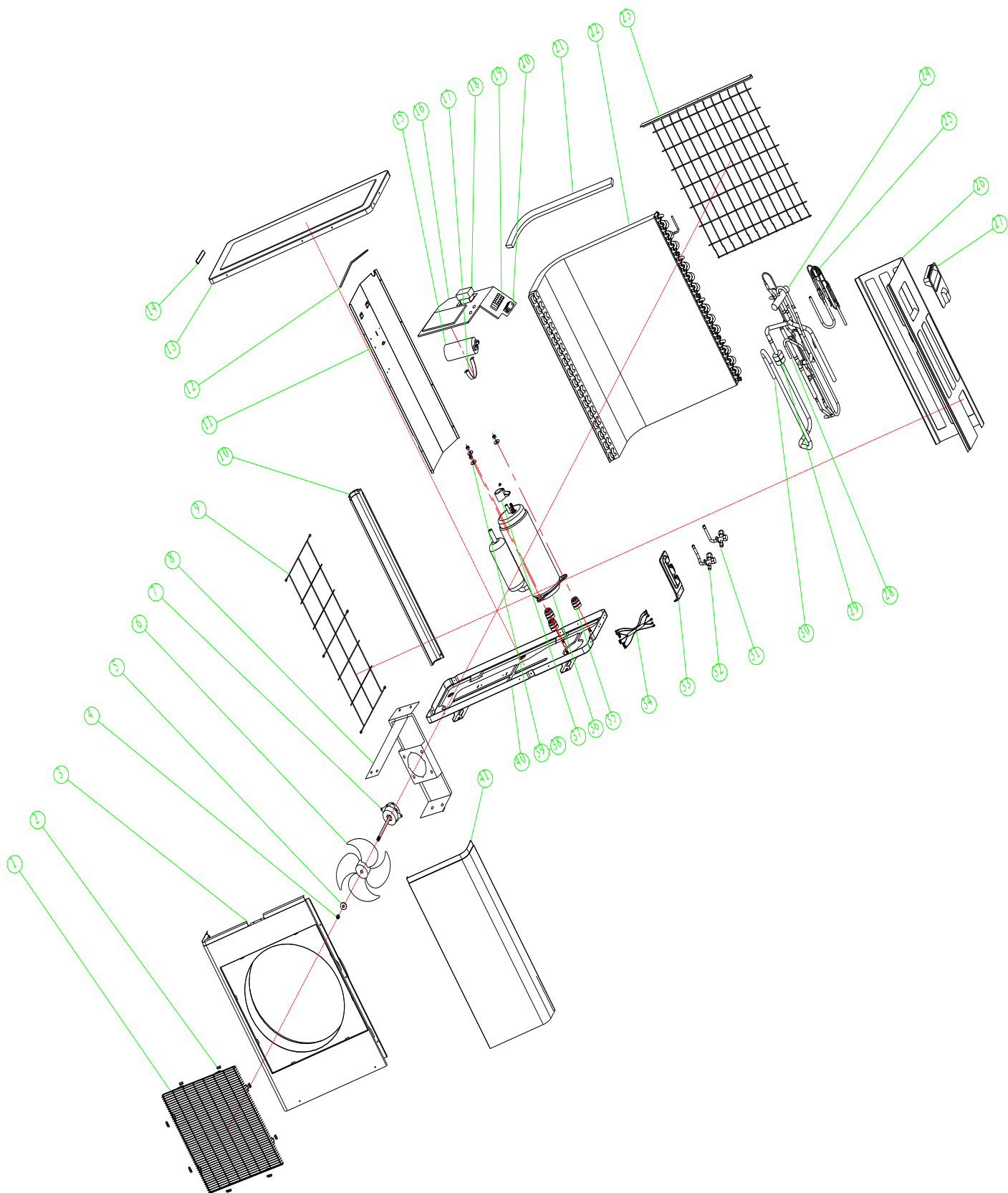


4.5.2 Spare parts list of indoor unit

No.	Description		Part No.				Q't y
			CS-88C3-Q	CS-88CH3-Q			
1	Swing louver	导风叶片	391200095	391200095			20
2	Connecting rod 1	连 杆 1	391200086 391200087 391200088 391200089 391200090 391200091 391200096 391200097	391200086 391200087 391200088 391200089 391200090 391200091 391200096 391200097			1
3	Connecting rod 2	连 杆 2	391200092 391200093 391200094	391200092 391200093 391200094			1
4	Step motor	步进电机	320273013 320273014 320273015	320273013 320273014 320273015			1
5	Step motor bearing A	步进电机轴套 A	391200082	391200082			1
6	Step motor fixing A	步进电机安装架 A	391200081	391200081			1
7	Louver	导风条	391190050 391190051	391190050 391190051			1
8	Outlet part	出风主体	391800030	391800030			1
9	Base	底座	391060109	391060109			1
10	Cross flow fan	贯流风轮	100010018	100010018			1
11	Evaporator fixed plate	蒸发器左端板	391990164	391990164			1
12	Evaporator assembly	蒸发器组件	972900689	972900689			1
13	Screw cover	螺钉盖	391990157	391990157			3
14	Middle frame	中 框	391070065	391070065			1
15	Reveal eyeglass	显示镜片	391040047	391040047			1
16	Display box	显示盒	391130004	391130004			1
17	Display lamp panel	显示灯板					
18	Front Panel	面板	391022228	391022228			1
19	Middle fram small cover board	中框小盖板	391220064	391220064			1
20	Evaporator right plate	蒸发器右端板					
21	Water-resistant board	挡水板	391990162	391990162			1
22	Motor cover	电机护盖	391990161	391990161			1
23	Motor	电机	320202003	320202003			1
24	Motor holder	电机固定座	391990160	391990160			1
25	Electric box cover	电器盒盖	311020006	311020006			1
26	Electric box	电器盒	020150086	020150086			1
27	lamp rack Assembly1	灯架部件 1	100430080	100430080			1
28	lamp rack Assembly 2	灯架部件 2	100430081	100430081			1
29	lamp rack Assembly 3	灯架部件 3	391110014	391110014			1
30	ngle plate	角板	391250003	391250003			1
31	Step motor Connecting	步进电机连杆	391200084	391200084			1

	rod						
32	Step motor bearing B	步进电机轴套 B	391200083	391200083			1
33	Step motor bearing C	步进电机轴套 C	391200084	391200084			1
34	Step motor fixing B	步进电机安装架 B	391200081	391200081			1
35	Louver bearing	导风条轴承	391200085	391200085			1

4.5.3 Explosive view of outdoor unit for 3HP

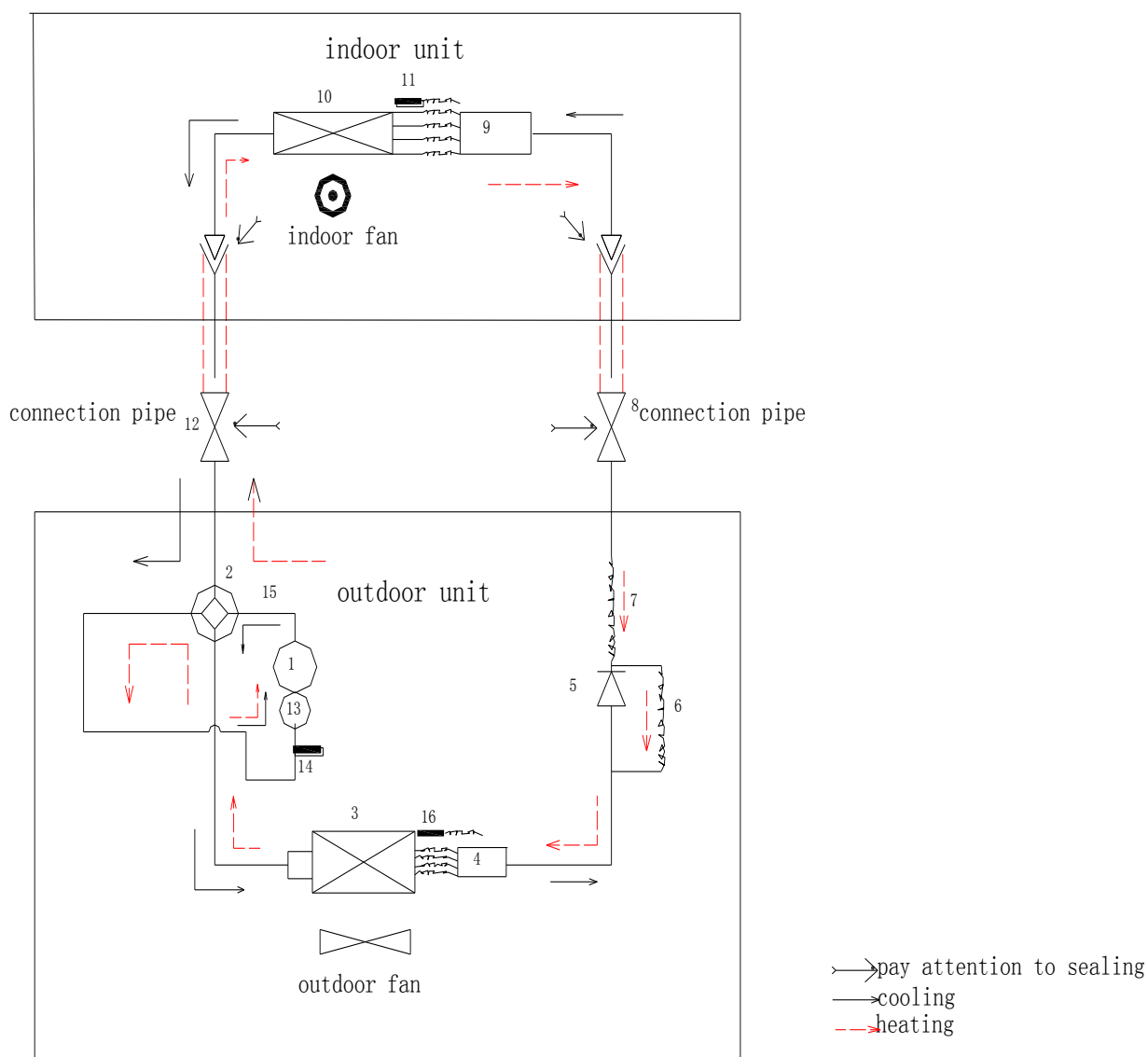


4.5.4 Spare parts list of outdoor unit

No.	Description		Part No.				Q't y
			CS-88C3-T	CS-88CH3-T			
1	Front Grill	前网罩	020120001	020120001			1
2	Grill Clip	前网扣	393990022	393990022			1
3	Front Plate	面 板	020070036	020070036			1
4	Nut	螺 母	150020003	150020003			1
5	Gasket	垫 片	150030011	150030011			1
6	Axial flow fan	轴流风轮	100030008	100030008			1
7	Motor	电机	030020248	030020248			1
8	Motor support	电机支架	020040013	020040013			1
9	Left protect net	左护网	313990018	313990018			1
10	Pillar	立 柱	----	-----			
11	Partition board	中隔板	020030017	020030017			1
12	PU Sponge	中隔板密封条	090010594 090020310	090010594 090020310			1
13	Top panel	顶盖板	020080032	020080032			1
14	Small handle	小抽手	100050018	100050018			1
15	Fan Capacitor	压缩机电容	030010022	030010022			1
16	Electric installation board	电器安装板	020130035	020130035			1
17	Cpacitor clamp	电容夹	020140035	020140035			1
18	Fan Capacitor	风机电容	030010010	030010010			1
19	Terminal Board	端子台	030090144	030090038			1
20	Wire Clip	压线扣	321100004	321100006			1
21	PU Sponge	冷凝器上密封条	090020311	090020311			1
22	Condenser	冷凝器	372200090	372200090			1
23	Rear Grill	背 网	313100003	313100003			1
24	4-way valve Assy	四通阀组件	-----	961300035			1
25	Capillary Assy	毛细管组件	971900307	971900289			1
26	Right panel	右侧板	020060025	020060025			1
27	Large handle	大抽手	100040004	100040004			1
28	Discharge pipe	排气管	070010512	360230233 360230234			1
29	Anti-vibration pad	减震块	110020007	110020019			1
30	Suction pipe	吸气管	360160067 360160070	360160053			1
31	Low-pressure valve	低压阀	060020145	060020145			1
32	High-pressure valve	高压阀	060020102	060020102			1
33	Valve installation plate	阀座板	020020007	020020007			1
34	Compressor power cord	连接线	345200023 345200024 345200025 345200026 345200027 345200028 345200029	345200096 345200097 345200098 345200099 345200100 345200101 345200102			1

			345200030 050040022	345200103 050040022			
35	Anti-vibration pad for the compressor	压缩机减震胶脚	306091001	306091001			1
36	Compressor	压缩机	301109012	301109012			1
37	Compressor terminal cover	压缩机保护器盖	306092001	306092001			1
38	Nut	螺 母	150020003	150020003			3
39	Gasket	垫 片	150030011	150030011			3
40	Base	底 盘	313012014	313012014			1
41	Maintenance plate	维修板	020090008	020090008			1

5. Operation principle



1.compressor 2. 4-way valve 3.condenser 4.flow divider for condenser 5.Non-return valve 6.auxiliary capillary 7.cooling capillary 8.high-pressure valve 9.flow divider for evaporator 10.evaporator 11. pipe temp. sensor for evaporator 12.low-pressure valve 13.Vapor liquid separator 14.low-pressure switch 15. high-pressure switch 16. pipe temp. sensor for condenser

Cooling cyclly : compressor→4-way value→condenser→flow divider for condenser→Non-return valve→cooling capillary→high-pressure valve→flow divider for evaporator→evaporator→low-pressure valve→4-way value→Vapor liquid separator→compressor.

Heating cyclly: compressor→4-way value→low-pressure valve→evaporator→flow divider for evaporator→high-pressure valve→cooling capillary→Non-return valve→auxiliary capillary→flow divider for condenser→condenser→4-way value→compressor.

→auxiliary capillary→flow divider for condenser→condenser→4-way value→Vapor liquid separator→compressor.

Note: To the model of RF or LF beginning, use outdoor unit model to express the whole unit.

6. Parameter (Performance parameter)

Table 6-1

Model			HF-23GW/Ac	HF-23GW/Ec	HFR-23GW/Ac	HFR-23GW/Ec
pattern		NO.				
Power supply		Ph-V-H z	220-240/50	220-240/50	220-240/50	220-240/50
Cooling	Capacity	W	2477/2300	2314/2300	2399/2300	2235/2300
	Input	W	926/880	851/840	902/880	843/825
	Rated current	A	4.1/3.9	3.8/4.2	4.0/3.9	3.8/3.7
	EER	w/w.	2.67/2.61	2.72/2.73	2.66/2.61	2.65/2.79
Heating	Capacity	w			2300/2530	2479/2600
	Input	W			760/850	799/840
	Rated current	A			3.5/3.8	3.5/3.7
	COP	w/w			3.03/2.97	3.10/3.10
Additional electrical heater power input		W				
Additional electrical heater current input		A				
Moisture Removal		Kg/h	0.647	0.623	0.697	0.653
Max. input consumption		W	1200	1080	1200	1040
Max. current		A	6.5	5.8	6.5	4.6
Compressor	Model		KH145VHEA	KH145VHEA	KH145VHEA	PH150X2C-8DZ D3
	Type		Circumvolve model	Circumvolve model	Circumvolve model	Circumvolve model
	Brand		mitsubislshl	mitsubislshl	mitsubislshl	toshiba
	Capacity	W	2440/2470±5%	2440/2470±5%	2440/2470±5%	
	Input	W	830/870±5%	830/870±5%	830/870±5%	
	Start electric current	A				
	Rated current(RLA)/Locked rotor Amp(LRA)	A	3.90/3.95-18/20	3.90/3.95-18/20	3.90/3.95-18/20	
	Thermal protector		BF690-KB/ oute rinstall	BF690-KB/ oute rinstall	BF690-KB/ oute rinstall	
	Capacitor	uF	20	20	20	30
	Refrigerant oil	ml	DIAMOND/270	DIAMOND/270	DIAMOND/270	
Indoor unit	Fan motor	Model	YDK-16-4	YDK-14-4	YDK-16-4	YDK-14-4
		Brand	40	40	40	40
		Capacitor	uF	1.2	1.2	1.2
		Speed(hi/mi/lo)	r/min	1150/950/850	1100/950/850	1150/950/850
	Fan motor	diameter×height	mm	93×633	φ97×583	93×633
	Evaporator	Number of rows×Number of circuits×Number of circuits		2×12×2	2×12×2	2×12×2
		Tube pitch × row pitch × Fin spacing	mm	17.6×12.3×1.4	21×13×1.6	17.6×12.3×1.4

		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe
		Coil length x height x width	mm	647X×197	579× 249	647×197	579× 249
	Air flow		m3/h	(456 / /) (400 / /)	371/400	419/400	390/400
	Noise level		dB(A)	(39.2/ /) (39 / /)	33.5/39	39.8/42	38/39
	Dimension (W*H*D)		mm	795×270×200	747.2×250.5×19 7	795×270×200	747.2×250.5×19 7
	Packing (W*H*D)		mm	860×350×260	820×325×255	860×350×260	820×325×255
	Net/Gross weight		Kg	10/10.5	8.5/10	10/10.5	8.5/10
Outdoor uni	Fan motor	Model		YDK-30-6	YDK-30-6	YDK-30-6	YDK-30-6
		Input	W	60	60	60	60
		Capacitor	uF	2	2	2	2
		Speed	r/min	890/ /	890/ /	890/ /	890/ /
	Fan motor	diameter×height	mm	φ384×136	φ384×136	φ384×136	φ384×136
	Condenser	Number of rows × Number of circuits × Number of circuits		1×11×1	1×11×1	1×11×2	1×11×2
		Tube pitch× row pitch×Fin spacing	mm	21×13.4×1.4	21×13.4×1.4	21×13.4×1.4	21×13.4×1.4
		Fin type (code)		Light foilkarat window finned	Hydrophile foil karat window finned	Light foilkarat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe
		Coil length x height x width	mm	525×185×441	525× 185×441	525×185 ×441	525×185×441
		Air flow		m3/h			
	Noise level		dB(A)	49.1/49	49.3/55	48.2/52	49.1/49
	Dimension (W*H*D)		mm	700×256×500	700×256×500	700×256×500	700×256×500
	Packing (W*H*D)		mm	825×320×535	825×320×535	825×320×535	825×320×535
	Net/Gross weight		Kg	30/32	30/32	30/32	30/32
	Refrigerant type		g	R22/550	R22/530	R22/620	R22/610
	Design pressure		MPa	2.45/0.7	2.45/0.7	2.45/0.7	2.45/0.7
	Qty’ per 40’ HQ			set			
	use temperature range			℃- ℃			
	setting temperature range			℃- ℃			
connecting pipe/cable	Liquid pipe/ gas pipe dia. /length		mm	6.35/9.52 /3500	6.35/9.52 /3500	6.35/9.52 /3500	6.35/9.52 /3500
	Max pipe length/ Max pipe high		m	4	4	4	4
	cable spec. (dia. /quantity/length)		mm/ /m	1.0 / 3 / 4000	1.0 / 3 / 4000	1.0 / 5 / 4000	1.0 / 5 / 4000

Experiment parameter		Discharge gas temperature/suction gas temperature		℃	90.3 / 14.9	82.6 / 9.9	73.8 / 7.6	81.2 / 11.2
		Temperature of condenser middle/exit		℃	50.9	46.2	48.6	47.3
		Evaporator of condenser middle		℃				
		high pressure/low pressure		MPa	/			
Electric fittings		PCB model			ZGCA-77-3E	ZHF-35GW/E 72-F	ZGHA-77-3E	ZHFR-35GW/E 72-F
		Transformer model			EI-41	EI-41	EI-41	EI-41
		Fuse model/fuse current		A	50CT/3.15	50CT/3.15	50CT/3.15	50CT/3.15
function	Remote controller type				Eidolon currency	Eidolon currency	Eidolon currency	Eidolon currency
		Display mode			Brilliant variety 3 lamp	More variety	Brilliant variety 3 lamp	More variety
		swing	horizontal(a uto/manual)	Mauley move	Mauley move	Mauley move	Mauley move	
			vertical (aut o/manual)	oneself	oneself	oneself	oneself	
		Health function (anion/cold catalyst/light cataly/Plasma/air cleaner)						
		Special function(soft start/power cut memory/hard start/other)						
	certification	Safety certificati on	CE/CB/GS/SAA/UL/SASO/E MC/					
Energy consumption		Australian energy consumption/European energy consumption/DOE/other						
RoHs								

Table6-2

Model			HF-25GW/Ac	HF-25GW/Ec	CS-25C3-U27AB	HFR-25GW/Ac
pattern		NO.			27	
Power supply		Ph-V-Hz	220-240/50	220-240/50	220-240/50	220-240/50
Cooling	Capacity	W	2486/2500	2535/2500	2623/2500	2418/2500
	Input	W	968/920	938/920	943/900	975/950
	Rated current	A	4.3/4.1	4.2/4.1	4.2/4.0	4.3/4.2
	EER	w/w.	2.57/2.72	2.70/2.72	2.78/2.78	2.482.63
Heating	Capacity	W				2643/2800
	Input	W				872/850
	Rated current	A				3.9/3.8
	COP	w/w				3.03/3.3
Additional electrical heater power input		W				

Additional electrical heater current input		A				
Moisture Removal		Kg/h	1.057	1.027	0.678	1.061
Max. input consumption		W	1200	1150	1200	1300
Max. current		A	6.5	5.1	6.5	6.5
Compressor	Model		RH165VHAC	KS165VGBC	PH160X1C-8DZ D3	RH165VHAC
	Type		Circumvolve model	Circumvolve model	Circumvolve model	Circumvolve model
	Brand		mitsubislshl	mitsubislshl	toshiba	mitsubislshl
	Capacity	W	2810/2840±5%	2830/2860±5%	2730±5%	2810/2840±5%
	Input	W	910/930±5%	910/955±5%	1180±5%	910/930±5%
	Start electric current	A			25.3±5%	
	Rated current(RLA)/Locked rotor Amp(LRA)	A	4.2/4.0-21/23	4.20/4.20-16/18	5.40±5%	4.2/4.0-21/23
	Thermal protector		Inner rinstall	Inner rinstall	MAR13430-9087 OR B163-135-241E OR EQUIVALENT/ oute rinstall	Inner rinstall
	Capacitor	uF	25	25	30	25
	Refrigerant oil	ml	DIAMOND/300	NM56EP OR 4GSI/300	SUNISO 4GSD/ATMOS NM56EP/400	DIAMOND/300
Indoor unit	Fan motor	Model		YDK-16-4	YDK-14-4	YDK-16-4
		Brand	W	40	40	40
		Capacitor	uF	1.2	1.2	1.2
		Speed(hi/mi/lo)	r/min	1150/950/850	1020/950/850	1100/950/850
	Fan motor	diameter×height	mm	93X633	φ97χ583	93X633
	Evaporator	Number of rows×Number of circuits×Number of circuits		2×12×2	2×12×2	2×12×2
		Tube pitch× row pitch×Fin spacing	mm	17.6X12.3X1.4	21X13X1.6	21X12.7X1.6
		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe
		Coil length x height x width	mm	647×197	579×249	645×230
	Air flow		m3/h	418/500	395/400	474/450
	Noise level		dB(A)	38.1/39	38.5/41	36.6/39
	Dimension (W*H*D)		mm	795×270×200	747.2×250.5×197	795×270×200
	Packing (W*H*D)		mm	860×350×260	820×325×255	860×350×260

	Net/Gross weight		Kg	10/10.5	8.5/10	10/10.5	10/10.5
Outdoor unit	Fan motor	Model		YDK-30-6	YDK-30-6	YDK-30-6	YDK-30-6
		Input	W	60	60	60	60
		Capacitor	uF	2	2	2	2
		Speed	r/min	890/ /	890/ /	890/ /	890/ /
	Fan motor	diameter×height	mm	φ384×136	φ384×136	φ384×136	φ384×136
	Condenser	Number of rows × Number of circuits×Number of circuits		1×11×1	1×11×1	1×11×1	1×11×2
		Tube pitch× row pitch×Fin spacing	mm	21×13.4×1.4	21×13.4×1.4	21×13.4×1.4	21×13.4×1.4
		Fin type (code)		Light foilkarat window finned	Light foilkarat window finned	Light foilkarat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe
		Coil length x height x width	mm	525×185×441	525×185×441	525×185×441	525×185×441
	Air flow		m3/h				
	Noise level		dB(A)	49/51.1	49.2/55	50.8/49	49.2/49
	Dimension (W*H*D)		mm	700×256×500	700×256×500	700×256×500	700×256×500
	Packing (W*H*D)		mm	825×320×535	825×320×535	825×320×535	825×320×535
	Net/Gross weight		Kg	30/32	30/32	30/32	30/32
	Refrigerant type		g	R22/530	R22/510	R22/560	R22/640
	Design pressure		MPa	2.45/0.7	2.45/0.7	2.45/0.7	2.45/0.7
Qty’per 40’HQ			set				
use temperature range			℃- ℃				
setting temperature range			℃- ℃				
connecting pipe/cable	Liquid pipe/ gas pipe dia./length		mm	6.35/9.52 /3500	6.35/9.52 /3500	6.35/9.52 /3500	6.35/9.52 /3500
	Max pipe length/ Max pipe high		m	4	4	4	4
	cable spec.(dia./quantity/length)		mm/ /m	1.0 /3 /4000	1.0 /3 /4000	1.0 /3 /4000	1.0 /5 /4000
Experiment parameter	discharge gas temperature/suction gas temperature		℃	81.4/5.5	83.2/11.6	81.2/6.3	68.5/8.8
	Temperature of condenser middle/exit		℃	47.3	47.2	47.5	48.9
	Evaporator of condenser middle		℃				
	high pressure/low pressure		MPa				
Electric fittings	PCB model			ZGCA-77-3E	ZHF-25GW/E 72-F	ZHF-25GW/A 27/1	ZGHA-77-3E
	Transformer model			EI-41	EI-41	EI-41	EI-41
	Fuse model/fuse current		A	50CT/3.15	50CT/3.15	50CT/3.15	50CT/3.15
function	Remote controller type			Eidolon currency	Eidolon currency	Eidolon 1 mark	Eidolon currency

	units	Display mode		Brilliant variety 3 lamp	More variety	More variety	Brilliant variety 3 lamp
		swing	horizontal (auto/manual)	Mauley move	Mauley move	Mauley move	Mauley move
			vertical (auto/manual)	oneself	oneself	oneself	oneself
		Health function (anion/cold catalyst/light cataly/Plasma/air cleaner)					
		Special function(soft start/power cut memory/hard start/other)					
certification	Safety certification	CE/CB/GS/SAA/UL/SASO/EMC/					
	Energy consumption	Australian energy consumption/European energy consumption/DOE/other					
RoHs							

Table 6-3

Model			HFR-25GW/Ec	CS-25H3-U27AB	HF-32GW/Ac	HF-32GW/Ec
pattern		NO.				
Power supply		Ph-V-Hz	220-240/50	220-240/50	220-240/50	220-240/50
Cooling	Capacity	W	2403/2500	2431/2500	3149/3200	3113/3200
	Input	W	980/940	941/900	1254/1230	1189/1140
	Rated current	A	4.4/4.3	4.2/4.0	5.7/5.6	5.3/5.1
	EER	w/w.	2.45/2.67	2.58/2.78	2.51/2.6	2.62/2.81
Heating	Capacity	W	2552/2750	2579/2700		
	Input	W	905/900	840/820		
	Rated current	A	4.0/4.0	3.7/3.6		
	COP	w/w	2.82/3.05	3.07/3.29		
Additional electrical heater power input		W				
Additional electrical heater current input		A				
Moisture Removal		Kg/h	1.059	0.873	1.205	1.2
Max. input consumption		W	1300	1300	1430	1140
Max. current		A	6.5	6.7	7.8	5.1
Compressor	Model		PH160X1C-8DZD3	PH160X1C-8DZD3	RS221VDDC	PH215X2C-8FTC1
	Type		Circumvolve model	Circumvolve model	Circumvolve model	Circumvolve model
	Brand		toshiba	toshiba	mitsubislshl	toshiba
	Capacity	W	2730±5%	2730±5%	3850/3880±7.5%	3720±5%
	Input	W	1180±5%	1180±5%	1210/1240±7.5%	1180±5%
	Start electric current	A	25.3±5%	25.3±5%		25.3±10%
	Rated current(RLA)/Locked rotor Amp(LRA)	A	5.40±5%	5.40±5%	5.7/5.5-27/30	5.40±5%

		Thermal protector		MAR13430-9087 OR B163-135-241E OR EQUIVALENT/ oute rinstall	MAR13430-9087 OR B163-135-241E OR EQUIVALENT/ oute rinstall	Inner rinstall	UP3RE0591-T56 OR EQUIVALENT/ Inner rinstall
		Capacitor	uF	30	30	30	35
		Refrigerant oil	ml	SUNISO 4GSD/ATMOS NM56EP/400	SUNISO 4GSD/ATMOS NM56EP/400	NAPHTHENE(SU NISO 4GSI)/440	SUNIDO 4GSD/ATMOS NM56EP/480
Indoor unit	Fan motor	Model		YDK-14-4	YDK-16-4	YDK-16-4	YDK-14-4
		Brand	W	40	40	40	40
		Capacitor	uF	1.2	1.2	1.2	1.2
		Speed(hi/mi/lo)	r/min	1020/950/850	1100/950/850	1150/950/850	1100/950/850
	Fan motor	diameter×height	mm	φ97×583	93×633	93×633	φ97×583
	Evaporator	Number of rows×Number of circuits×Number of circuits		2×12×2	2×12×2	2×12×2	2×12×2
		Tube pitch× row pitch× Fin spacing	mm	21×13×1.6	21×12.7×1.6	17.6×12.3×1.4	21×13×1.6
		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe
		Coil length x height x width	mm	579×249	645×230	647×197	579×249
	Air flow		m3/h	384.5/450	474/450	714/500	430/500
	Noise level		dB(A)	38.5/41	36.6/39	42.5/42	39.7/42
	Dimension (W*H*D)		mm	747.2×250.5×197	747.2×250.5×197	795×270×200	747.2×250.5×197
	Packing (W*H*D)		mm	820×325×255	820×325×255	860×350×260	820×325×255
	Net/Gross weight		Kg	8.5/10	10/10.5	10/10.5	8.5/10
Outdoor unit				YDK-30-6	YDK-30-6	YDK-35-6A H	YDK-35-6A H
			W	60	60	65	65
			uF	2	2	2	2
			r/min	890/ /	890/ /	900	900
			mm	φ384×136	φ384×136	φ401×115	φ401×115
	Condenser	Number of rows × Number of circuits×Number of circuits		1×11×2	1×11×1	1×12×1	1×12×1
		Tube pitch× row pitch× Fin spacing	mm	21×13.4×1.4	21×13.4×1.4	21×12.7×1.56	21×12.7×1.56
		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Light foilkarat window finned	Light foilkarat window finned
		Tube outside dia.and type	mm	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe
		Coil length x height x width	mm	525×185×441	525×185×441	610×230×505	610×230×505

	Air flow		m3/h				
	Noise level		dB(A)	49.2/55	50.8/49	53.8/54	53.8/58
	Dimension (W*H*D)		mm	700×256×500	700×256×500	795×255×510	795×255×510
	Packing (W*H*D)		mm	825×320×535	825×320×535	920×330×575	920×330×575
	Net/Gross weight		Kg	30/32	30/32	31/33	31/33
	Refrigerant type		g	R22/680	R22/690	R22/630	R22/630
	Design pressure		MPa	2.45/0.7	2.45/0.7	2.45/0.7	2.45/0.7
Qty'per 40'HQ			set				
use temperature range			℃- ℃				
setting temperature range			℃- ℃				
connecting pipe/cable	Liquid pipe/ gas pipe dia./length		mm	6.35 /9.52 /3500	6.35 /9.52 /3500	6.35 /12.7 /3500	6.35 /12.7 /3500
	Max pipe length/ Max pipe high		m	4	4	4	4
	cable spec.(dia./quantity/length)		mm/ /	1.0 / 5 /4000	1.0 / 5 /4000	1.0 / 3 /4000	1.0 / 3 /4000
Experiment parameter	discharge gas temperature/suction gas temperature		℃	75.4/8.9	75.0/8.4	89.7/11.2	81.8/4.1
	Temperature of condenser middle/exit		℃	50.3	49.4	48.5	47.7
	Evaporator of condenser middle		℃				
	high pressure/low pressure		MPa				
Electric fittings	PCB model			ZHFR-25GW/E 72-F	ZHFR-25GW/A 27/1	ZGCA-77-3E	ZHF-35GW/E 72-F
	Transformer model			EI-41	EI-41	EI-41	EI-41
	Fuse model/fuse current		A	50CT/3.15	50CT/3.15	50CT/3.15	50CT/3.15
function	Remote controller type			Eidolon currency	Eidolon 1 mark	Eidolon currency	Eidolon currency
		Display mode		More variety	More variety	Brilliant variety 3 lamp	More variety
		swing	horizontal(auto/man ual)	Mauley move	Mauley move	Mauley move	Mauley move
			vertical(auto/manual)	oneself	oneself	oneself	oneself
		Health function (anion/cold catalyst/light cataly/Plasma/air cleaner)					
		Special function(soft start/power cut memory/hard start/other)					
		certification	Safety certification	CE/CB/GS/SAA/UL/SASO/EMC/			
Energy consumption	Australian consumption/European consumption/DOE/other		energy energy				
RoHs							

Table 6-4

Model			HFR-32GW/Ac	HFR-32GW/Ec	HF-35GW/Ac	CS-35C3-U27AH1B
款式		NO.				27
Power supply		Ph-V-Hz	220-240/50	220-240/50	220-240/50	220-240/50
Cooling	Capacity	W	3159/3200	3113/3200	3329/3500	3493/3500
	Input	W	1181/1100	1179/1150	1275/1200	1326/1250
	Rated current	A	4.9/5.5	5.1/5.1	6.0/5.7	5.8/5.6
	EER	w/w.	2.67/2.91	2.64/2.78	2.60/2.92	2.64/2.8
Heating	Capacity	W	3541/3600	3576/3500		
	Input	W	1199/1120	1348/1230		
	Rated current	A	5.3/5.6	6.0/5.5		
	COP	w/w	2.95/3.21	2.65/2.65		
Additional electrical heater power input		W				
Additional electrical heater current input		A				
Moisture Removal		Kg/h	1.195	1.189	1.304	1.51
Max. input consumption		W	1350	2250	1500	1600/1500
Max. current		A	7.9	11.2	8	8.6/8.0
Compressor	Model		RS221VDDC	PH225X2C-8FTC3	RS221VDDC	PH230X2C-8FTC1
	Type		Circumvolve model	Circumvolve model	Circumvolve model	Circumvolve model
	Brand		mitsubislshl	toshiba	mitsubislshl	toshiba
	Capacity	W	3850/3880±7.5%	3720±5%	3850/3880±7.5%	3990±5%
	Input	W	1210/1240±7.5%	1180±5%	1210/1240±7.5%	1270±5%
	Start electric current	A		25.3±10%		25.3±10%
	Rated current(RLA)/Locked rotor Amp(LRA)	A	5.7/5.5-27/30	5.40±5%	5.7/5.5-27/30	5.80±5%
	Thermal protector		Inner rinstall	UP3RE0591-T56 OR EQUIVALENT/ Inner rinstall	Inner rinstall	UP3RE0591-T56/ Inner rinstall
	Capacitor	uF	30	35	30	35
	Refrigerant oil	ml	NAPHTHENE(SUN ISO 4GSI)/440	SUNIDO 4GSD/ATMOS NM56EP/480	NAPHTHENE(SUNISO 4GSI)/440	SUNISO 4GSD/ATMOS NM56EP/480
Indoor unit	Fan motor	Model	YDK-16-4	YDK-14-4	YDK-16-4	YDK-16-4
		Brand	W	40	40	35
		Capacitor	uF	1.2	1.2	1.2
		Speed(hi/mi/lo)	r/min	1150/950/850	1100/950/850	1150/950/850 1250/1050 /850
	Fan motor	diameter×height	mm	93X633	φ97×583	93X633
	Evaporator	Number of rows×Number of circuits ×Number of circuits		2X 12 X2	2X12X2	2X16X3 2X 16 X2
		Tube pitch× row pitch× Fin spacing	mm	17.6X12.3X1.4	21X13X1.6	17.6X13.7X1.56 21X12.7X1.6

		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe	φ 7/ inner groove copper pipe	φ7/ inner groove copper pipe
		Coil length x height x width	mm	647X 197	579X 249	645X281	645X 230
	Air flow		m3/h	393/500	435/500	466/600	515/600
	Noise level		dB(A)	42.8/42	39.3/42	41.5/42	40.4/42
	Dimension (W*H*D)		mm	795×270×200	747.2×250.5×197	795×270×200	747.2×250.5×197
	Packing (W*H*D)		mm	860×350×260	820×325×255	860×350×260	820×325×255
	Net/Gross weight		Kg	10/10.5	8.5/10	10/10.5	10/10.5
Outdoor uni		Model		YDK-35-6A H	YDK-35-6A H	YDK-35-6A H	YDK-35-6
		Input	W	65	65	65	60
		Capacitor	uF	2	2	2	2
		Speed	r/min	900	900	900	890/ /
	Fan motor	diameter×height	mm	φ401×115	φ401×115	φ401×115	φ401X 115
	Condenser	Number of rows×Number of circuits ×Number of circuits		1X 12 X2	1X 2 X2	1X 12 X1	1X 12 X1
		Tube pitch× row pitch×Fin spacing	mm	25X 22 X1.47	25X 22 X1.47	21X 12.7 X1.56	21X 12.7 X1.56
		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Light foilkarat window finned	Light foilkarat window finned
		Tube outside dia.and type	mm	φ9/ inner groove copper pipe	φ9/ inner groove copper pipe	φ7/ inner groove copper pipe	φ7/ inner groove copper pipe
		Coil length x height x width	mm	610X 228 X505	610X 228 X505	610X 230 X505	610X 230 X505
	Air flow		m3/h				
	Noise level		dB(A)	53.5/54	53.3/54	53.2/52	53.1/52
	Dimension (W*H*D)		mm	795×255×510	795×255×510	795×255×510	795×255×510
	Packing (W*H*D)		mm	920×330×575	920×330×575	920×330×575	920×330×575
	Net/Gross weight		Kg	31/33	31/33	31/33	31/33
	Refrigerant type		g	R22/820	R22/810	R22/710	R22/670
	Design pressure		MPa	2.45/0.7	2.45/0.7	2.45/0.7	2.45/0.7
	Qty'per 40'HQ		set				
	use temperature range		℃-℃				
	setting temperature range		℃-℃				
	connecting pipe/cable	Liquid pipe/ gas pipe dia./length	mm	6.35/12.7 /3500	6.35/12.7 /3500	6.35/12.7 /3500	6.35/12.7 /3500
		Max pipe length/ Max pipe high	m	4	4	4	4
		cable spec.(dia./quantity/length)	mm/ /m	1.0/5 /4000	1.0/5 /4000	1.5/3 /4000	1.5 /3 /4000
	Experiment parameter	discharge gas temperature/suction gas temperature	℃	80.1/7.7	83.4/12.1	78.7/7.5	84/10.5
		Temperature of condenser middle/exit	℃	47.1	47.1	48.5	50.1
		Evaporator of condenser middle	℃				

		high pressure/low pressure		MPa				
Electric fittings		PCB model			ZGHA-77-3E	ZHFR-25G/EK 72	ZGCA-77-3E	ZHF-36GW/E 47/1
		Transformer model			EI-41	EI-41	EI-41	EI-41
		Fuse model/fuse current		A	50CT/3.15	50CT/3.15	50CT/3.15	50CT/3.15
function	Remote controller type				Eidolon currency	Eidolon currency	Eidolon currency	Eidolon 1 mark
	units	Display mode			Brilliant variety 3 lamp	More variety	Brilliant variety 3 lamp	More variety
		swing	horizontal(auto/manual)		Mauley move	Mauley move	Mauley move	Mauley move
			vertical(auto/manual)		oneself	oneself	oneself	oneself
		Health function (anion/cold catalyst/light cataly/Plasma/air cleaner)						
		Special function(soft start/power cut memory/hard start/other)						
certification	Safety certification	CE/CB/GS/SAA/UL/SASO/EMC/						
	Energy consumption	Australian energy consumption/European energy consumption/DOE/other						
RoHs								

Table 6-5

Model			HFR-35GW/Ac	CS-35H3-U27AH1A	HF-51GW/Bc	HF-51GW/c
pattern		NO.		27		
Power supply		Ph-V-Hz	220-240/50	230/50	220-240/50	220-240/50
Cooling	Capacity	W	3295/3500	3480/3500	5012/5100	5141/5100
	Input	W	1242/1220	1294/1250	1860/1895	1905/1895
	Rated current	A	5. 5/5. 4	5. 7/5. 6	8. 8/8. 9	9. 0/8. 9
	EER	w/w.	2. 63/2. 87	2. 69/2. 8	2. 70/2. 69	2. 70/2. 69
Heating	Capacity	W	3708/3700	3857/3700		
	Input	W	1253/1150	1286/1200		
	Rated current	A	5. 5/5. 1	5. 6/5. 4		
	COP	w/w	2. 96/3. 22	3. 01/3. 08		
Additional electrical heater power input		W				
Additional electrical heater current input		A				
Moisture Removal		Kg/h	1. 269		1. 753	1. 879
Max. input consumption		W	1500	1500	2500	2500
Max. current		A	8	8	13. 4	13. 4
Compressor	Model		RS221VDDC	PH240X2C-8FTC1	TS33VDEC	TS33VDEC
	Type		Circumvolve model	Circumvolve model	Circumvolve model	Circumvolve model
	Brand		mitsubislshl	toshiba	mitsubislshl	mitsubislshl
	Capacity	W	3850/3880±7. 5%	4100	5790/5820±7. 5%	5790/5820±7. 5%
	Input	W	1210/1240±7. 5%	1280±5 %	1800/1880±7. 5%	1800/1880±7. 5%

			Start electric current	A		27. 2±10 %		
			Rated current(RLA)/Locked rotor Amp(LRA)	A	5. 7/5. 5-27/30	6. 0±5 %	8. 3/8. 2-38/41	8. 3/8. 2-38/41
			Thermal protector		Inner rinstall	UP3RE0591-T56/ Inner rinstall	Inner rinstall	Inner rinstall
			Capacitor	uF	30	35	50	50
			Refrigerant oil	ml	NAPHTHENE (SUNISO 4GSI) /440	SUNISO 4GSD/480	NAPHTHENE (SUNISO 4GSI) /520	NAPHTHENE (SUNISO 4GSI) /520
Indoor unit	Fan motor		Model		YDK-16-4	YDK-16-4	YDK-16-4	YDK-26-4 A6
			Brand	W	40	35	40	56
			Capacitor	uF	1. 2	1. 2	1. 2	1. 8
			Speed (hi/mi/lo)	r/min	1150/950/850	1250/1050 /850	1150/950/850	1300/1200/1080
	Fan motor		diameter×height	mm	93X633	93X633	φ 95×772	φ 101. 5 × 762
	Evaporator		Number of rows×Number of circuits×Number of circuits		2X16X3	2X 12 X2	2X18X4	2X18X6
			Tube pitch× row pitch×Fin spacing	mm	17. 6X13. 7X1. 56	21X 13. 7X1. 6	17. 6X13X1. 56	20. 4X12. 7X1. 45
			Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned
			Tube outside dia. and type	mm	φ 7×0. 25+0. 18/ inner groove copper pipe	φ 7×0. 25+0. 18/ inner groove copper pipe	φ 7/ inner groove copper pipe	φ 7/ inner groove copper pipe
			Coil length x height x width	mm	645×281	645×230	783×280	768×365
	Air flow			m3/h	498/600	(576 /450 / 350) (600/ /)	744/680	/750
	Noise level			dB (A)	41. 8/42	(38. 8/31. 1/29) (37/ 42 /)	44. 6/45	48. 1/47
	Dimension (W*H*D)			mm	795×270×200	848×341×250	940×270×180	1000×320×200
	Packing (W*H*D)			mm	860×350×260	860×350×265	1005×335×260	1085×380×285
	Net/Gross weight			Kg	10/10. 5	10/10. 5	12. 3/14	15/18
Outdoor unit		Model			YDK-35-6A H	YDK-35-6A H	YDK-38-6B	YDK-38-6B
		Input	W		65	50	80	80
		Capacitor	uF		2	2	2. 5	2. 5
		Speed	r/min		900	/ /	920	920
	Fan motor		diameter×height	mm	φ 401×115	φ 401×115	φ 401×115	φ 401×115
	Condenser		Number of rows × Number of circuits×Number of circuits		1×12×2	1×10×2	2×24×2	2×24×2
			Tube pitch× row pitch×Fin spacing	mm	25×22×1. 47	21×13. 4×1. 6	21×13. 4×1. 6	21×13. 4×1. 6
			Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Light foilkarat window finned	Light foilkarat window finned

		Tube outside dia.and type		mm	φ 9/ inner groove copper pipe	9. 5/ inner groove copper pipe	φ 7/ inner groove copper pipe	φ 7/ inner groove copper pipe
		Coil length x height x width		mm	610×228×505	615×228×500	610×228×505	610×228×505
	Air flow			m3/h				
	Noise level			dB (A)	54/52	52. 8/52	53. 2/54	53. 5/54
	Dimension (W*H*D)			mm	795×255×510	905×323×573	795×255×510	795×255×510
	Packing (W*H*D)			mm	920×330×575	920×335×585	920×330×575	920×330×575
	Net/Gross weight			Kg	31/33	31/33	35/37	35/37
	Refrigerant type			g	R22/980	R22/830	R22/1050	R22/950
	Design pressure			MPa	2. 45/0. 7	2. 45/0. 7	2. 7/0. 7	2. 7/0. 7
	Qty’ per 40’ HQ							
use temperature range								
setting temperature range								
connecting pipe/cable	Liquid pipe/ gas pipe dia. /length			mm	6. 35/12. 7/3500	6. 35/ 9. 52/3500	6. 35/12. 7 /4000	6. 35/12. 7/4000
	Max pipe length/ Max pipe high			m	4	4	4	4
	cable spec. (dia. /quantity/length)			mm/ /m	1. 5 /5 /4000	/ /	1. 5 /3 /4500	1. 5/3 /4500
Experiment parameter	discharge gas temperature/suction gas temperature			℃	87. 5/11. 2	84. 7/11. 9	86. 0/8. 8	82. 4/9. 3
	Temperature of condenser middle/exit			℃	48. 2	48. 7/41. 5	50. 1	50. 1
	Evaporator of condenser middle			℃		12		
	high pressure/low pressure			MPa				
Electric fittings	PCB model				ZGHA-77-3E	ZHFR-36GW/E 47/1	ZGCA-77-3E	ZGCN-77-4E2
	Transformer model				EI-41	EI-41	EI-41	EI-41
	Fuse model/fuse current			A	50CT/3. 15	50CT/3. 15	50CT/3. 15	50CT/3. 15
function	Remote controller type				Eidolon currency	Eidolon 1 mark	Eidolon currency	Eidolon currency
	units	Display mode			Brilliant variety 3 lamp	More variety	Brilliant variety 3 lamp	Brilliant variety 3 lamp
		swing	horizontal (auto/ma nual)		Mauley move	Mauley move	Mauley move	Mauley move
			vertical (auto/manu al)		Oneself	Oneself	Oneself	Oneself
		Health function (anion/cold catalyst/light cataly/Plasma/air cleaner)						
		Special function(soft start/power cut memory/hard start/other)						
certifi cation	Safety certifica tion	CE/CB/GS/SAA/UL/SASO/EMC/						

	Energy consumption	Australian energy consumption/European energy consumption/DOE/other				
RoHs						

Table 6-6

Model			HFR-51GW/Bc	HFR-51GW/c	HF-61GW/c	HFR-61GW/c
Pattern		NO.				
Power supply		Ph-V-Hz	220-240/50	220-240/50	220-240/50	220-240/50
Cooling	Capacity	W	4687/5100	5100	6035/6100	5870/6100
	Input	W	1939/1895	1700	2134/2090	2057/2190
	Rated current	A	9. 1/8. 9	7. 5	9. 6/9. 4	9. 1/9. 5
	EER	w/w.	2. 42/2. 69	3. 0	2. 83/2. 92	2. 85/2. 76
Heating	Capacity	W	5428/5610	5300		6301/6600
	Input	W	1886/2030	1600		2144/2090
	Rated current	A	8. 9/9. 5	7. 2		9. 6/9. 3
	COP	w/w	2. 88/2. 77	3. 31		
Additional electrical heater power input		W				
Additional electrical heater current input		A				
Moisture Removal		Kg/h	1. 741	1. 857	2. 154	2. 065
Max. input consumption		W	2500	2300	2700	2700
Max. current		A	13. 4	12. 5	14. 3	14. 3
Compressor	Model		TS33VDEC	SHY33MC4-S	PH370X3CS-4MU1	PH370X3CS-4MU1
	Type		Circumvolve model	Circumvolve model	Circumvolve model	Circumvolve model
	Brand		mitsubisishl	hitach	toshiba	toshiba
	Capacity	W	5790/5820±7. 5%	5200/5270	6560/6600±5%	6560/6600±5%
	Input	W	1800/1880±7. 5%	1650/1690	2095/2150±5%	2095/2150±5%
	Start electric current	A			48. 75±10%	48. 75±10%
	Rated current (RLA) /Locked rotor Amp (LRA)	A	8. 3/8. 2-38/41	7. 60/7. 20-45	9. 85/9. 90±5%	9. 85/9. 90±5%
	Thermal protector		Inner rinstall	Inner rinstall	UP3SE0391-T09 OR EQUILAENT	UP3SE0391-T09 OR EQUILAENT
	Capacitor	uF	50	50	45	45
	Refrigerant oil	ml	NAPHTHENE (SUNISO 4GSI) /520	SUNISO-4GSI, FREOL-K5GJ OR EQUIVALENT/600	SUNISO 4GSD/ATMOS NM56EP\950	SUNISO 4GSD/ATMOS NM56EP\950
Indoor unit	Fan motor	Model	YDK-16-4	YDK-26-4	YDK-26-4 A6	YDK-26-4 A6
		Brand	W	40	56	56
		Capacitor	uF	1. 2	1. 8	1. 8
		Speed(hi/mi/lo)	r/min	1150/950/850	1300/1200/1080	1300/1200/1080
	Fan motor	diameter×height	mm	φ 95×772	φ 101. 5 × 762	φ 101. 5 × 762
	Evaporator	Number of rows×Number of circuits×Number of circuits		2X18X4	2X18X6	2X18X6

		Tube pitch× row pitch×Fin spacing	mm	17.6X13X1.56	20.4X12.7X1.45	20.4X12.7X1.45	20.4X12.7X1.45
		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ 7/ inner groove copper pipe	φ 7/ inner groove copper pipe	φ 7/ inner groove copper pipe	φ 7/ inner groove copper pipe
		Coil length x height x width	mm	783X280	768X365	768X365	768X365
	Air flow		m3/h	686/680	/750	900/750	960/750
	Noise level		dB(A)	43.9/45	/49	48.4/47	48.2/47
	Dimension (W×H×D)		mm	940×270×180	1000×320×200	1000×320×200	1000×320×200
	Packing (W×H×D)		mm	1005×335×260	1085×380×285	1085×380×285	1085×380×285
	Net/Gross weight		Kg	12.3/14	15/18	15/18	15/18
Outdoor uni		Model		YDK-38-6B	YDK-38-6B	YDK-60-6A	YDK-60-6A
		Input	W	80	80	134	134
		Capacitor	uF	2.5	2.5	4	4
		Speed	r/min	920	920	850	850
	Fan motor	diameter×height	mm	φ 401×115	φ 401×115	Φ 420×145	Φ 420×145
	Condenser	Number of rows×Number of circuits×Number of circuits		2X24X2	2X20X2	2X24X4	2X24X4
		Tube pitch× row pitch×Fin spacing	mm	21X13.4X1.6	25X21.5X1.7	22X19.05X1.6	22X19.05X1.6
		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Light foilkarat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ 7/ inner groove copper pipe	φ 9/ inner groove copper pipe	φ 8/ inner groove copper pipe	φ 8/ inner groove copper pipe
		Coil length x height x width	mm	610×228×505	610×214×500	650×219×550	650×219×550
	Air flow		m3/h				
	Noise level		dB(A)	53.5/54	/57	58/56	55.8/56
	Dimension (W×H×D)		mm	795×255×510	795×255×510	850×295×605	850×295×605
	Packing (W×H×D)		mm	920×330×575	920×330×575	995×410×680	995×410×680
	Net/Gross weight		Kg	35/37	35/37	44/50	44/50
	Refrigerant type		g	R22/1200	R22/1450	R22/1500	R22/1500
	Design pressure		MPa	2.7/0.7	2.7/0.7	2.7/0.7	2.7/0.7
	Qty' per 40' HQ		set				
	use temperature range		℃-℃				
	setting temperature range		℃-℃				
	connecting pipe/cable	Liquid pipe/ gas pipe dia./length	mm	6.35/12.7 /4000	6.35/12.7/4000	9.52/16 /5000	9.52/16 /5000
		Max pipe length/ Max pipe high	m	4	4	5	5

		cable spec. (dia. /quantity/length)		mm/ /m	1. 5/5 /4500	1. 5X5X4500	2. 5/3/6000	2. 5/3/6000
Experiment parameter		discharge gas temperature/suction gas temperature		℃	90. 6/5. 2		90. 7/12. 4	86. 1/9. 5
		Temperature of condenser middle/exit		℃	52. 5		50. 0	47. 2
		Evaporator of condenser middle		℃				
		high pressure/low pressure		MPa				
Electric fittings		PCB model			ZGHA-77-3E	ZGHN-77-4E2	ZGCN-77-4E2	ZGHN-77-4E2
		Transformer model						
		Fuse model/fuse current		A				
function	Remote controller type				Eidolon currency	Eidolon currency	Eidolon currency	Eidolon currency
	units	Display mode			Brilliant variety 3 lamp	Brilliant variety 3 lamp	Brilliant variety 3 lamp	Brilliant variety 3 lamp
		swing	horizontal (auto/m anual)		Mauley move	Mauley move	Mauley move	Mauley move
			vertical (auto/man ual)		Oneself	Oneself	Oneself	Oneself
		Health function (anion/cold catalyst/light cataly/Plasma/air cleaner)						
		Special function(soft start/power cut memory/hard start/other)						
	certification	Safety certifica tion	CE/CB/GS/SAA/UL/SAS0/EMC/					
Energy consumpti on		Australian energy consumption/European energy consumption/DOE/other						
RoHs								

Table 6-7

Model			CS-66C3-N**AS	CS-66H3-N**AS	HF-70GW/c	HFR-70GW/c
pattern		NO.				
Power supply		Ph-V-Hz	220-240/50	220-240/50	220-240/50	220-240/50
Cooling	Capacity	W	6329/6600	6187/6600	6424/7000	6876/7000
	Input	W	2459/2390	2426/2300	2485/2900	2595/2400
	Rated current	A	11. 6/11. 3	10. 8/10. 0	11. 7/13. 7	11. 5/11. 0
	EER	w/w.	2. 57/2. 76	2. 55/2. 87	2. 59/2. 41	2. 652. 92
Heating	Capacity	W		7118/7200		7016/7300
	Input	W		2516/2400		2430/2300
	Rated current	A		11. 2/10. 5		11. 3/10. 8

		COP	w/w		2. 83/3. 00		2. 89/3. 17
Additional electrical heater power input		W					
Additional electrical heater current input		A					
Moisture Removal		Kg/h	2. 485	2. 419	2. 477	2. 564	
Max. input consumption		W	3020	3000	3500	3500	
Max. current		A	11. 3	15	16	16	
Compressor	Model		PH420X3CS-4KU1	PH420X3CS-4KU1	PH420X3CS-4KU1	PH420X3CS-4KU1	
	Type		Circumvolve model	Circumvolve model	Circumvolve model	Circumvolve model	
	Brand		toshiba	toshiba	toshiba	toshiba	
	Capacity	W	7300/7350±5%	7300/7350±5%	7300/7350±5%	7300/7350±5%	
	Input	W	2380/2480±5%	2380/2480±5%	2380/2480±5%	2380/2480±5%	
	Start electric current	A	61/66±10%	61/66±10%	61/66±10%	61/66±10%	
	Rated current (RLA) /Locked rotor Amp (LRA)	A	11. 1/11. 4±5%	11. 1/11. 4±5%	11. 1/11. 4±5%	11. 1/11. 4±5%	
	Thermal protector		UP14RE5245 OR HPD-862 OR EPUIVALENT\ Inner rinstall	UP14RE5245 OR HPD-862 OR EPUIVALENT\ Inner rinstall	UP14RE5245 OR HPD-862 OR EPUIVALENT\ Inner rinstall	UP14RE5245 OR HPD-862 OR EPUIVALENT\ Inner rinstall	
	Capacitor	uF	50	50	50	50	
	Refrigerant oil	ml	SUNISO 4GSD/ATMOS NM56EP\950	SUNISO 4GSD/ATMOS NM56EP\950	SUNISO 4GSD/ATMOS NM56EP\950	SUNISO 4GSD/ATMOS NM56EP\950	
Indoor unit	Fan motor	Model		YDK-26-4 A6	YDK-26-4 A6	YDK-38-4	YDK-38-4
		Brand	W	56	56	70	70
		Capacitor	uF	1. 8	1. 8	3. 5	3. 5
		Speed(hi/mi/lo)	r/min	1300/1200/1080	1300/1200/1080	1230/1100/950	1230/1100/950
	Fan motor	diameter×height	mm	φ 101. 5 × 762	φ 101. 5 × 762	φ 108×811	φ 108×811
	Evaporator	Number of rows×Number of circuits×Number of circuits		2X18X6	2X18X6	2X20X8	2X20X8
		Tube pitch× row pitch×Fin spacing	mm	20. 4X12. 7X1. 45	20. 4X12. 7X1. 45	20. 4X12. 7X1. 4	20. 4X12. 7X1. 4
		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ 7/ inner groove copper pipe	φ 7/ inner groove copper pipe	φ 7/ inner groove copper pipe	φ 7/ inner groove copper pipe
		Coil length x height x width	mm	768X365	768X365	815X367. 2	815X367. 2
	Air flow		m3/h	913/900	919/900	1078/1070	1134/1050
	Noise level		dB (A)	47. 9/47	48. 1/47	49. 6/52	49. 4/50
	Dimension (W*H*D)		mm	1000×320×200	1000×320×200	1070×325×250	1070×325×250
	Packing (W*H*D)		mm	1085×380×285	1085×380×285	1280×400×305	1280×400×305
	Net/Gross weight		Kg	15/18	15/18	18/21	18/21

Outdoor unit		Model		YDK-60A-6F	YDK-60A-6F	YDK-60A-6F	YDK-60A-6F
		Input	W	160	160	160	160
		Capacitor	uF	4	4	4	4
		Speed	r/min	850	850	850	850
	Fan motor	diameter×height	mm	Φ460×180	Φ460×180	Φ460×180	Φ460×180
	Condenser	Number of rows×Number of circuits×Number of circuits		1X13X1	1. 7X26X3	1X13X1	1. 7X26X3
		Tube pitch× row pitch×Fin spacing	mm	25X22X1. 4	25X21. 65X1. 8	25X22X1. 4	25X21. 65X1. 8
		Fin type (code)		Light foilkarat window finned	Hydrophile foil karat window finned	Light foilkarat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	φ 8/ inner groove copper pipe	φ 9. 52/ inner groove copper pipe	φ 9. 52/ inner groove copper pipe	φ 9. 52/ inner groove copper pipe
		Coil length x height x width	mm	623X210X650	623X210X650	623X210X650	623X210X650
	Air flow		m3/h				
	Noise level		dB (A)	55. 9/56	56. 6/56	57. 9/59	57/59
	Dimension (W*H*D)		mm	875×315×680	875×315×680	875×315×680	875×315×680
	Packing (W*H*D)		mm	990×410×775	990×410×775	990×410×775	990×410×775
	Net/Gross weight		Kg	58/62	58/62	58/62	58/62
	Refrigerant type		g	R22/1150	R22/1900	R22/1230	R22/2080
	Design pressure		MPa	2. 7/0. 7	2. 7/0. 7	2. 7/0. 7	2. 7/0. 7
	Qty' per 40' HQ		set				
	use temperature range		℃-℃				
	setting temperature range		℃-℃				
	connecting pipe/cable	Liquid pipe/ gas pipe dia./length	mm	9. 52/16 /5000	9. 52/16 /5000	9. 52/16 /5000	9. 52/16 /5000
		Max pipe length/ Max pipe high	m	5	5	5	5
		cable spec. (dia./quantity/length)	mm/ /m	2. 5/3/6000	2. 5/3/6000	1. 0/5/5280	1. 0/3/6200
	Experiment parameter	discharge gas temperature/suction gas temperature	℃	84. 3/6. 1	83. 2/4. 4	88. 1/8. 2	97. 7/16. 4
		Temperature of condenser middle/exit	℃	49. 7	50. 2	49. 1	53. 0
		Evaporator of condenser middle	℃				
		high pressure/low pressure	MPa				
	Electric fittings	PCB model		ZGCN-77-4E2	ZGHN-77-4E2	ZGCS-77-4E	ZGHS-77-4E
		Transformer model					
		Fuse model/fuse current	A				
5	Remote controller type			Eidolon currency	Eidolon currency	Eidolon currency	Eidolon currency

		Display mode		Brilliant variety 3 lamp	Brilliant variety 3 lamp	Brilliant variety 3 lamp	Brilliant variety 3 lamp
		swing	horizontal (auto /manual)	Mauley move	Mauley move	Mauley move	Mauley move
			vertical (auto/m anual)	Oneself	Oneself	Oneself	Oneself
		Health function (anion/cold catalyst/light cataly/Plasma/air cleaner)					
		Special function(soft start/power cut memory/hard start/other)					
certification	Safety certification	CE/CB/GS/SAA/UL/SASO/EMC/					
	Energy consumption	Australian energy consumption/European energy consumption/DOE/other					
RoHs							

Table 6-8

Model			CS-88C3-Q**AT	CS-88H3-Q**AT
pattern		NO.		
Power supply		Ph-V-Hz	220-240/50	220-240/50
Cooling	Capacity	W	7973/8800	8302/8800
	Input	W	3184/3280	3122/3000
	Rated current	A	14. 1/14. 6	14. 2/13. 6
	EER	w/w.	2. 50/2. 68	2. 57/2. 93
Heating	Capacity	W		8934/9200
	Input	W		3270/3190
	Rated current	A		14. 9/13. 0
	COP	w/w		2. 73/2. 88
Additional electrical heater power input		W		
Additional electrical heater current input		A		
Moisture Removal		Kg/h	2. 875	2. 895
Max. input consumption		W	3500	3450
Max. current		A	17. 7	17. 5
Compressor	Model		LH53VBDC	LH53VBDC
	Type		Circumvolve model	Circumvolve model
	Brand		mitsubislshl	mitsubislshl
	Capacity	W	9400/9500±5%	9400/9500±5%
	Input	W	2970/3080±5%	2970/3080±5%
	Start electric current	A		
	Rated current (RLA) /Locked rotor Amp (LRA)	A	13. 7/13. 6±5%-66/72	13. 7/13. 6±5%-66/72
	Thermal protector		Inner rinstall	Inner rinstall

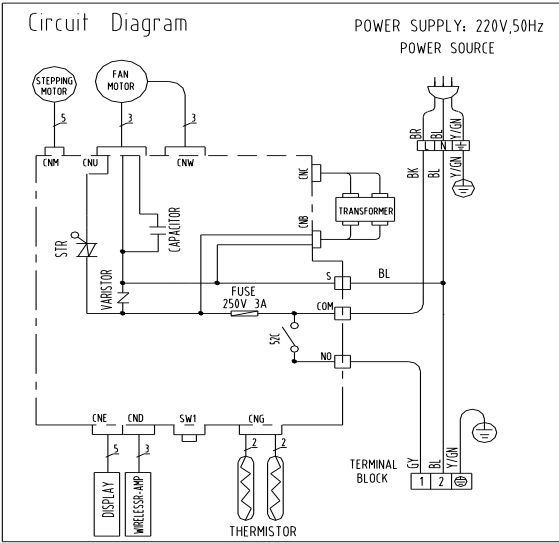
		Capacitor	uF	60	60
		Refrigerant oil	ml	DIAMOND\900	DIAMOND\900
Indoor unit	Fan motor	Model		YDK-40-4A 1	YDK-40-4A 1
		Brand	W	80	80
		Capacitor	uF	3.5	3.5
		Speed (hi/mi/lo)	r/min	1280/1180/1080	1280/1180/1080
	Fan motor	diameter×height	mm	Φ 108 × 955	Φ 108 × 955
	Evaporator	Number of rows×Number of circuits×Number of circuits		2X20X8	2X20X8
		Tube pitch× row pitch×Fin spacing	mm	20.4X12.7X1.5	20.4X12.7X1.5
		Fin type (code)		Hydrophile foil karat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	Φ 7/ inner groove copper pipe	Φ 7/ inner groove copper pipe
		Coil length x height x width	mm	960X367.2	960X367.2
	Air flow		m ³ /h	1304/1250	1304/1250
	Noise level		dB(A)	50.5/49	50.5/49
	Dimension (W×H×D)		mm	1235×325×250	1235×325×250
	Packing (W×H×D)		mm	1460×400×305	1460×400×305
	Net/Gross weight		Kg	19/23	19/23
Outdoor unit		Model		YDK-60C-6F	YDK-60C-6F
		Input	W	162	162
		Capacitor	uF	4	4
		Speed	r/min	850	850
	Fan motor	diameter×height	mm	Φ 460×180	Φ 460×180
	Condenser	Number of rows×Number of circuits×Number of circuits		1.7X32X4	1.7X32X4
		Tube pitch× row pitch×Fin spacing	mm	25X21.65X2.0	25X21.65X2.0
		Fin type (code)		Light foilkarat window finned	Hydrophile foil karat window finned
		Tube outside dia.and type	mm	Φ 9.52/ inner groove copper pipe	Φ 9.52/ inner groove copper pipe
		Coil length x height x width	mm	627X225X800	627X225X800
	Air flow		m ³ /h		
	Noise level		dB(A)	57.5/59	55.8/59
	Dimension (W×H×D)		mm	875×315×680	875×315×680
	Packing (W×H×D)		mm	990×410×775	990×410×775

	Net/Gross weight		Kg	58/62	58/62	
	Refrigerant type		g	R22/2280	R22/2480	
	Design pressure		MPa	2. 7/0. 7	2. 7/0. 7	
Qty’ per 40’ HQ			set			
use temperature range			℃-℃			
setting temperature range			℃-℃			
connecting pipe/cable	Liquid pipe/ gas pipe dia. /length		mm	9. 52/16 /5000	9. 52/16 /5000	
	Max pipe length/ Max pipe high		m	5	5	
	cable spec. (dia. /quantity/length)		mm/ /m	1. 5/5/6000	1. 5/3/6000	
Experiment parameter	discharge gas temperature/suction gas temperature		℃	90. 1/10. 5	79. 9/7. 2	
	Temperature of condenser middle/exit		℃	49. 3	49. 8	
	Evaporator of condenser middle		℃			
	high pressure/low pressure		MPa			
Electric fittings	PCB model			ZGCS-79-4E2	ZGHS-79-4E2	
	Transformer model					
	Fuse model/fuse current		A			
function	Remote controller type			Eidolon currency	Eidolon currency	
	units	Display mode		Brilliant variety 3 lamp	Brilliant variety 3 lamp	
		swing	horizontal (auto/man ual)	Mauley move	Mauley move	
			vertical (auto/manua l)	Oneself	Oneself	
		Health function (anion/cold catalyst/light cataly/Plasma/air cleaner)				
		Special function(soft start/power cut memory/hard start/other)				
Certification	Safety certifica tion	CE/CB/GS/SAA/UL/SASO/EMC/				
	Energy consumpti on	Australian energy consumption/European energy consumption/DOE/other				
RoHs						

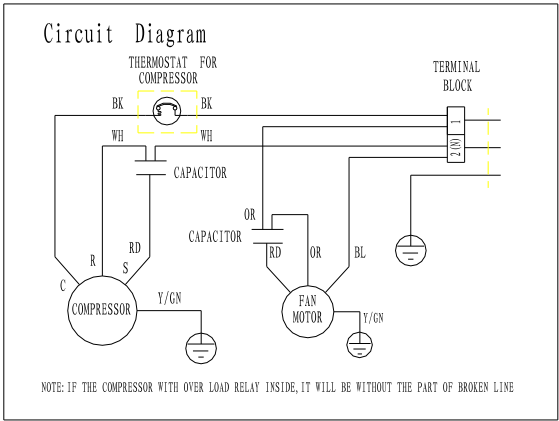
7.Wiring diagrams

7.1 HF-23GW/Ec、HF-25GW/Ec、HF-32GW/Ec、HF-23GW/Ac、HF-25GW/Ac、HF-32GW/Ac、HF-35GW/Ac、HF-51GW/Bc

Indoor unit:



outdoor unit:

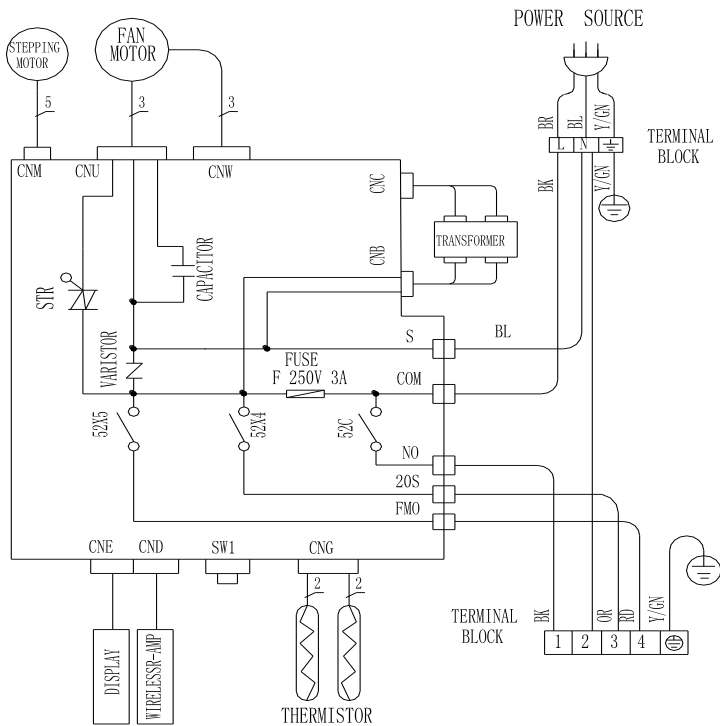


7.2 HFR-23GW/Ec、HFR-25GW/Ec、HFR-32GW/Ec、HFR-23GW/Ac、HFR-25GW/Ac、HFR-32GW/Ac、HFR-35GW/Ac、HFR-51GW/Bc

Indoor unit:

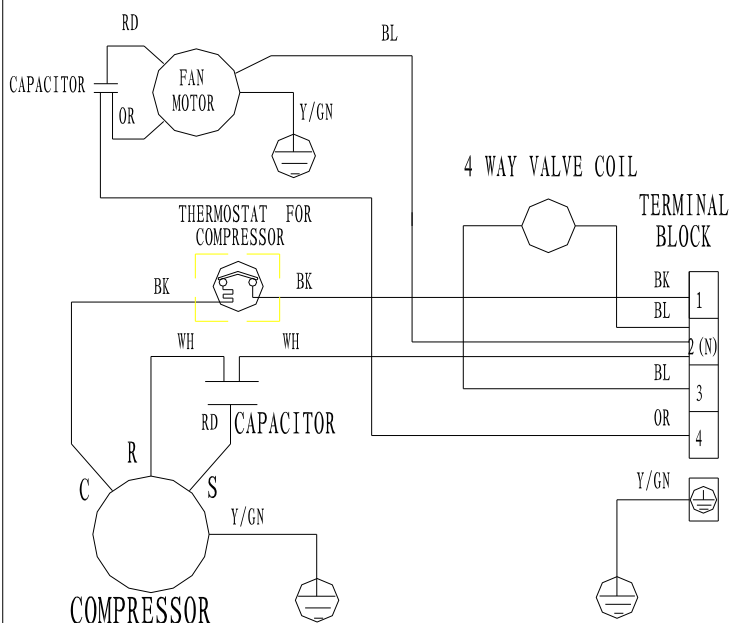
Circuit Diagram

POWER SUPPLY: 220V, 50Hz



outdoor unit:

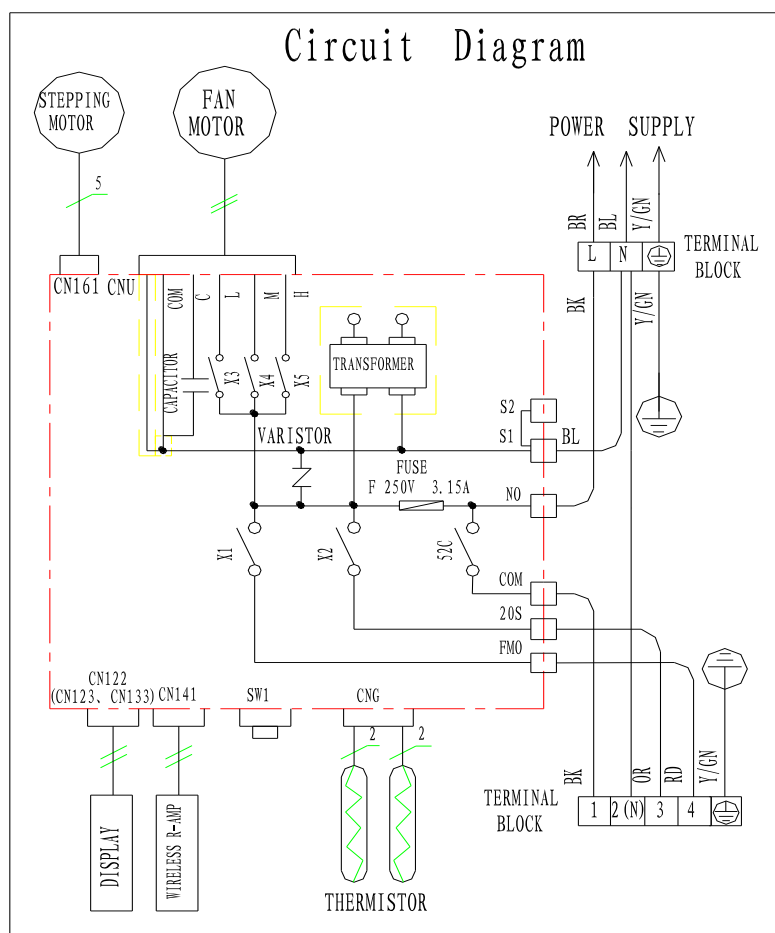
Circuit Diagram



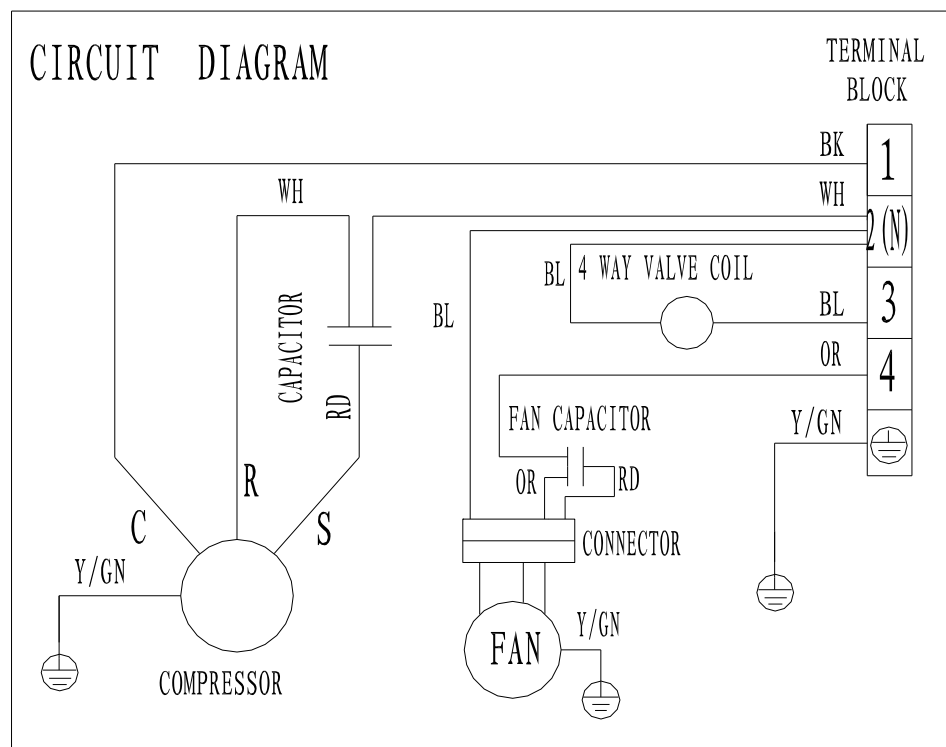
NOTE: IF THE COMPRESSOR WITH OVER LOAD RELAY INSIDE, IT WILL BE WITHOUT THE PART OF BROKEN LINE

7.3 HF-51GW/c、HF-61GW/c

Indoor unit:



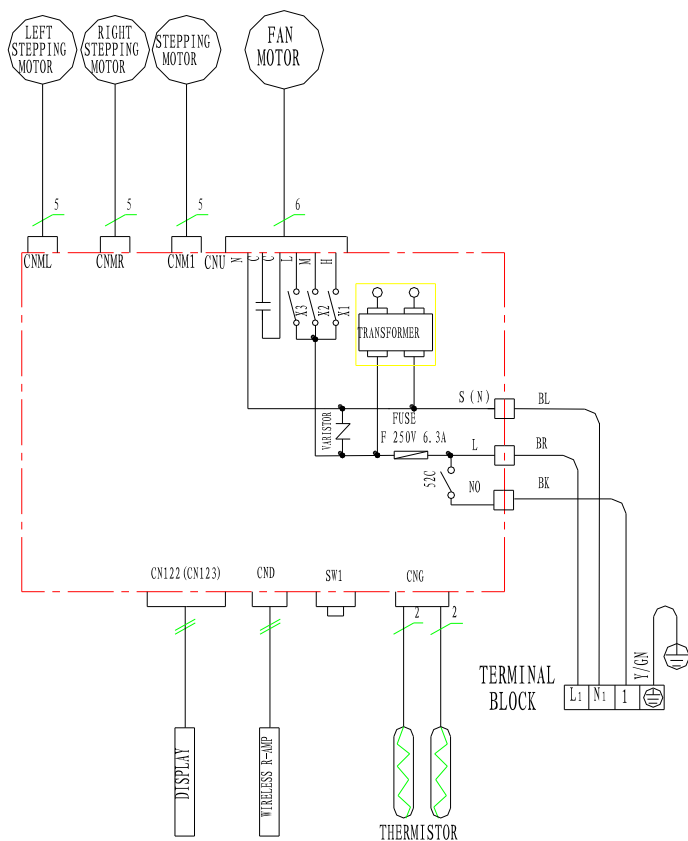
outdoor unit:



7.7 HF-70GW/c

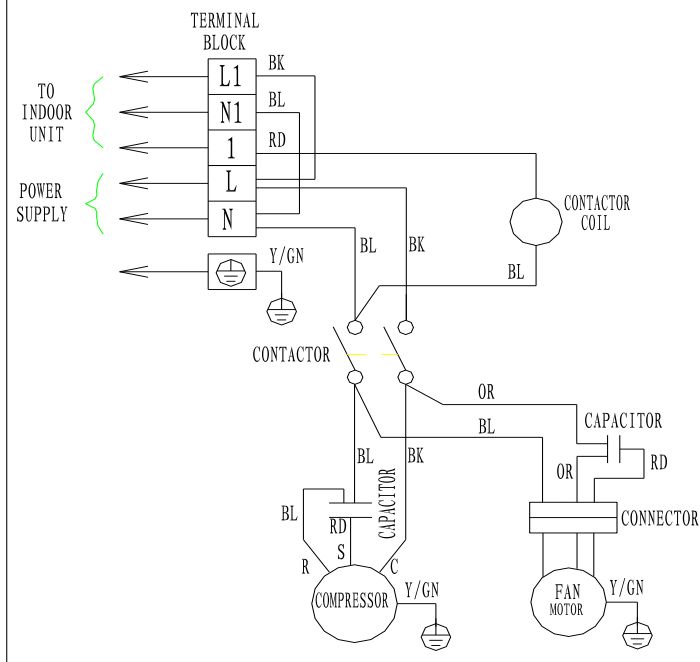
Indoor unit:

Circuit Diagram



outdoor unit:

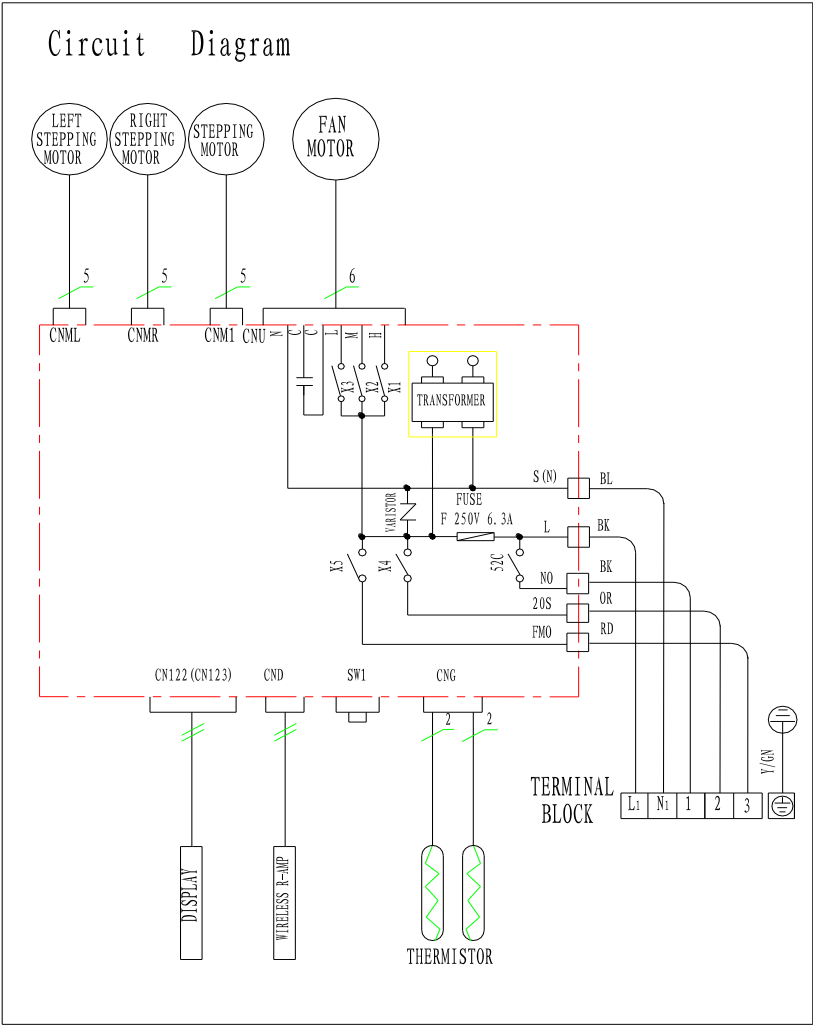
Circuit Diagram



7.8 HFR-70GW/c

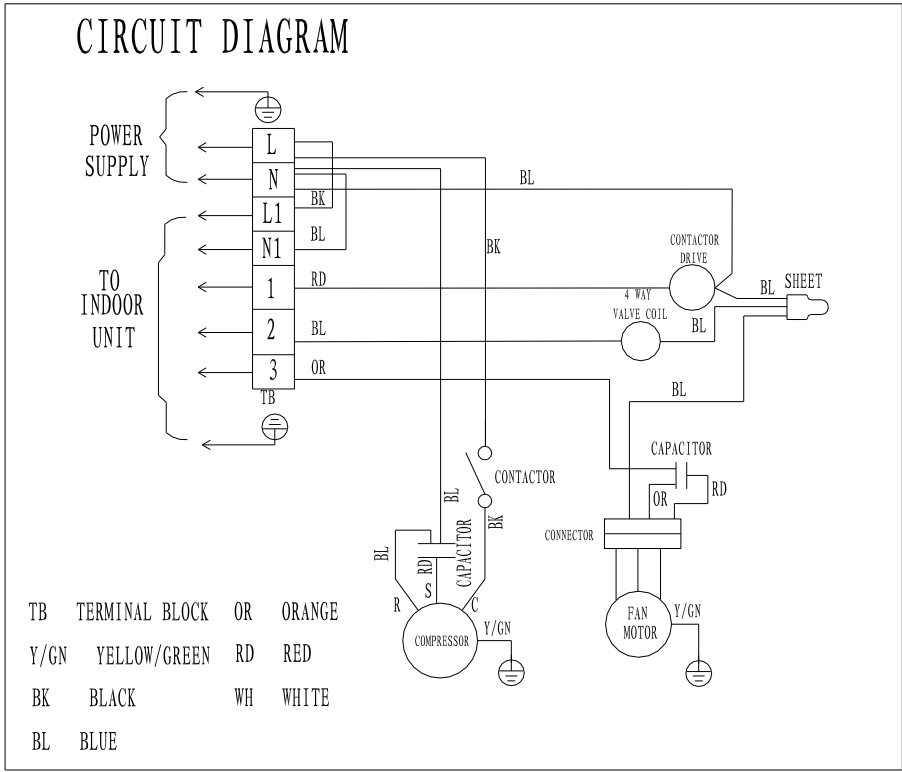
Indoor unit:

Circuit Diagram



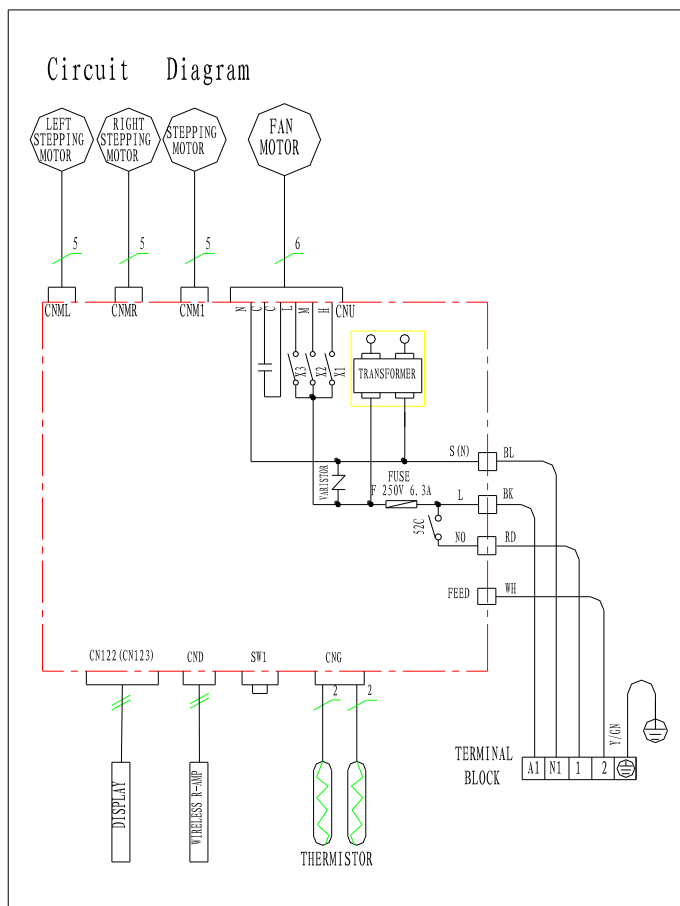
outdoor unit:

CIRCUIT DIAGRAM

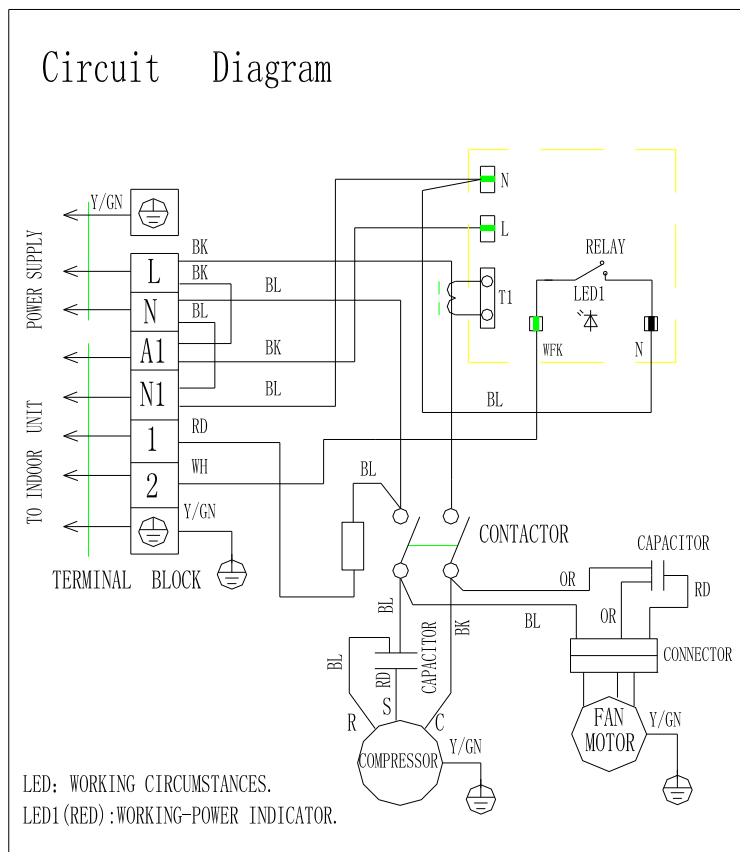


7.9 CS-88C3-Q**AT

Indoor unit:



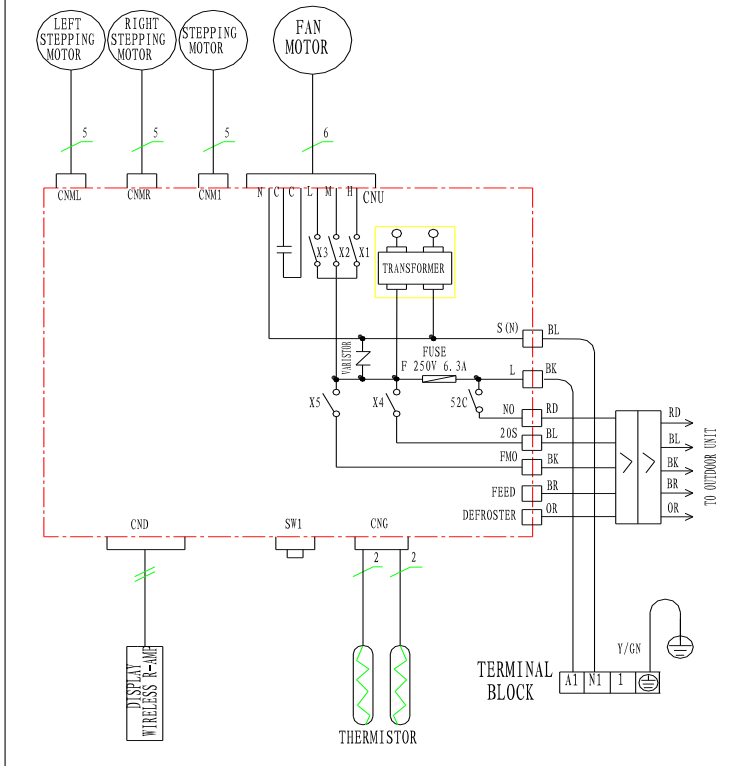
outdoor unit:



7.10 CS-88H3-Q**AT

Indoor unit:

Circuit Diagram

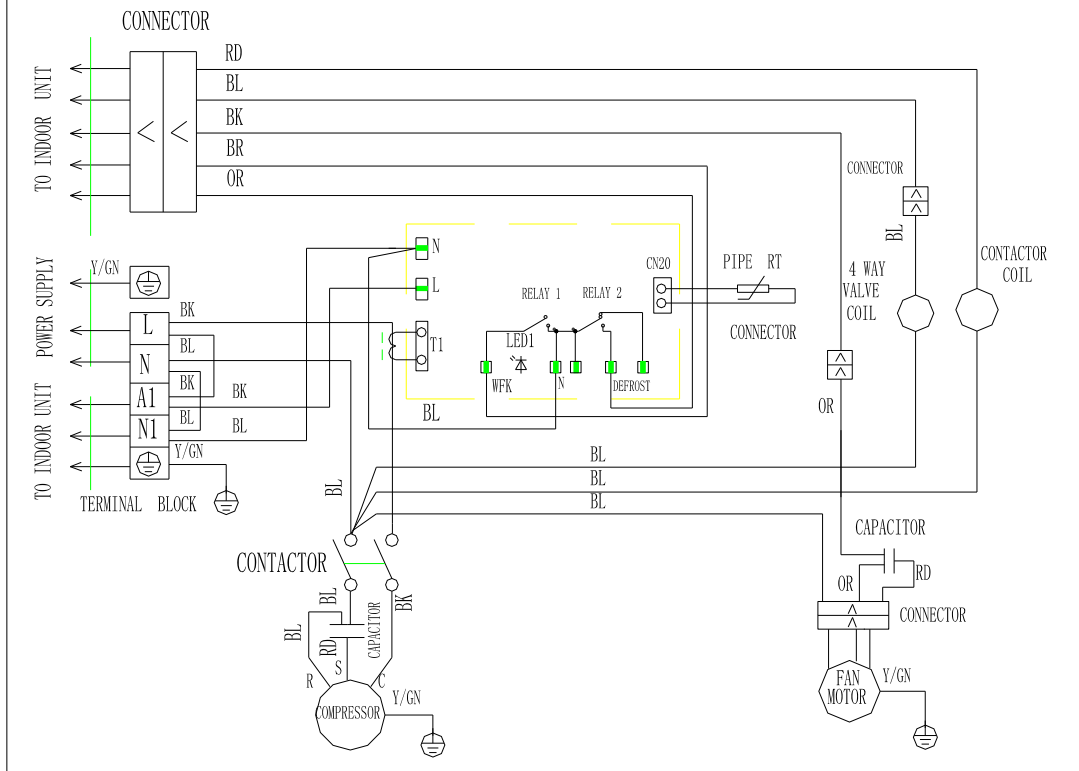


outdoor unit:

Circuit Diagram

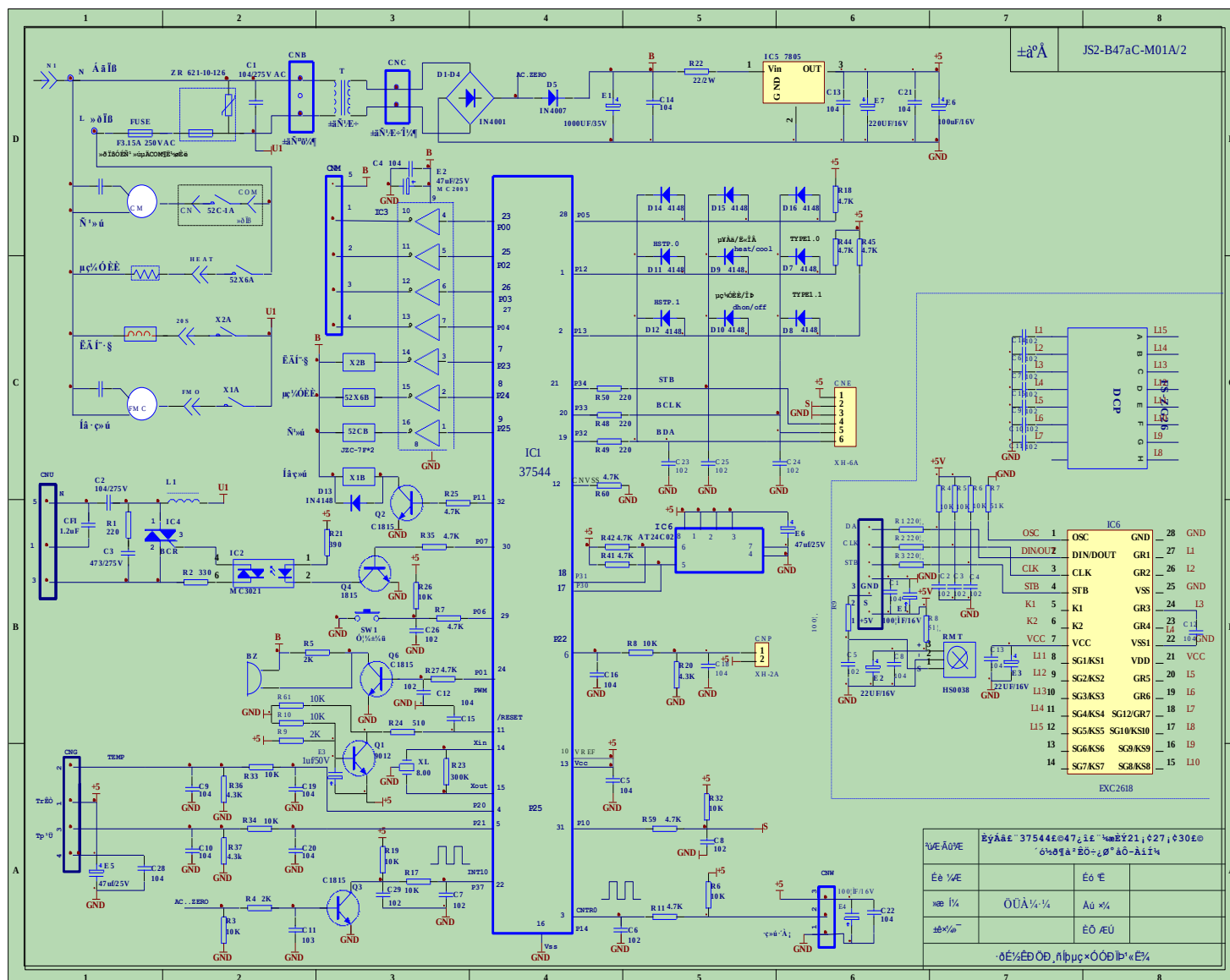
LED: WORKING CIRCUMSTANCES.

LED1 (RED) :WORKING-POWER INDICATOR.

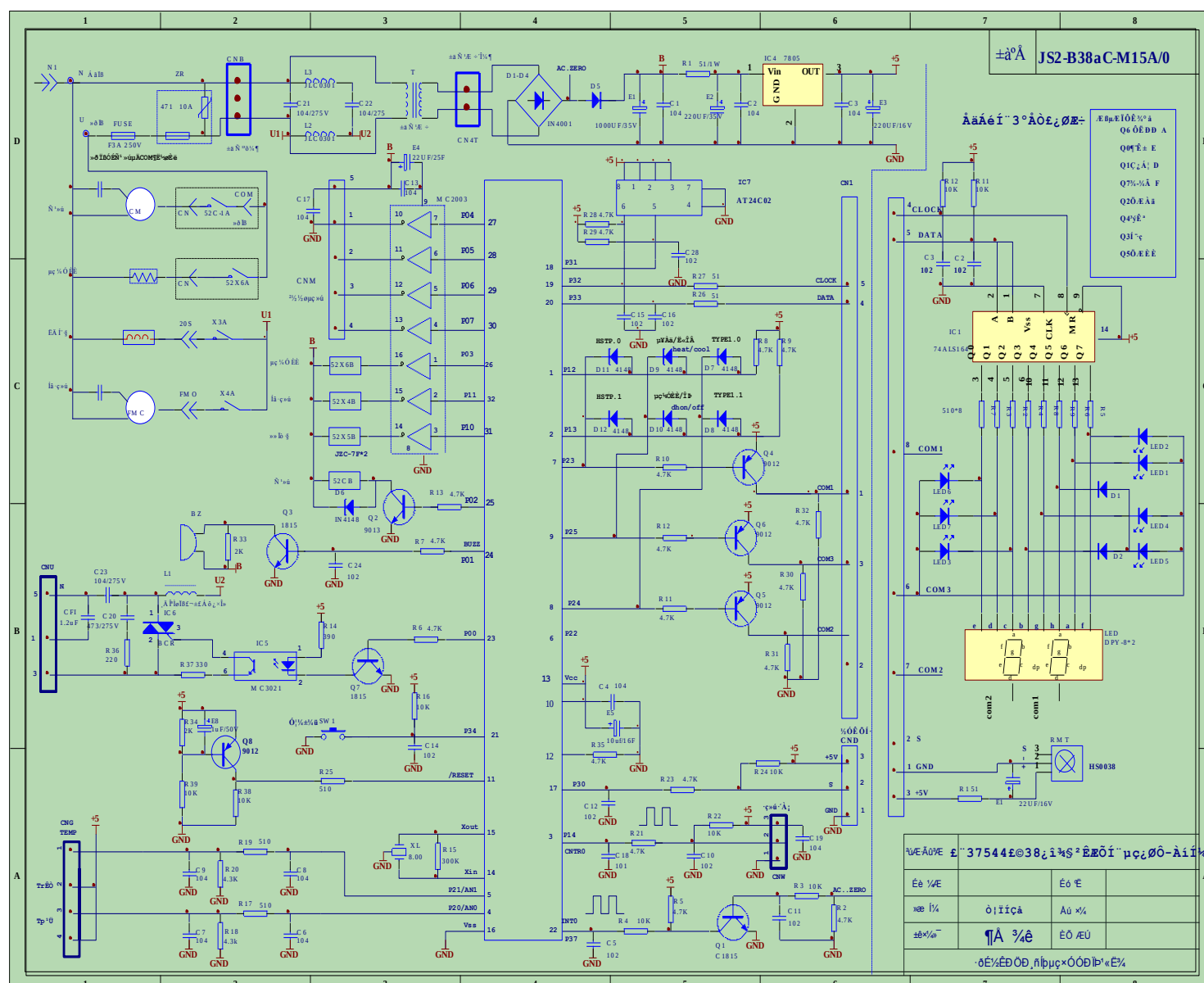


8、PCB principle chart

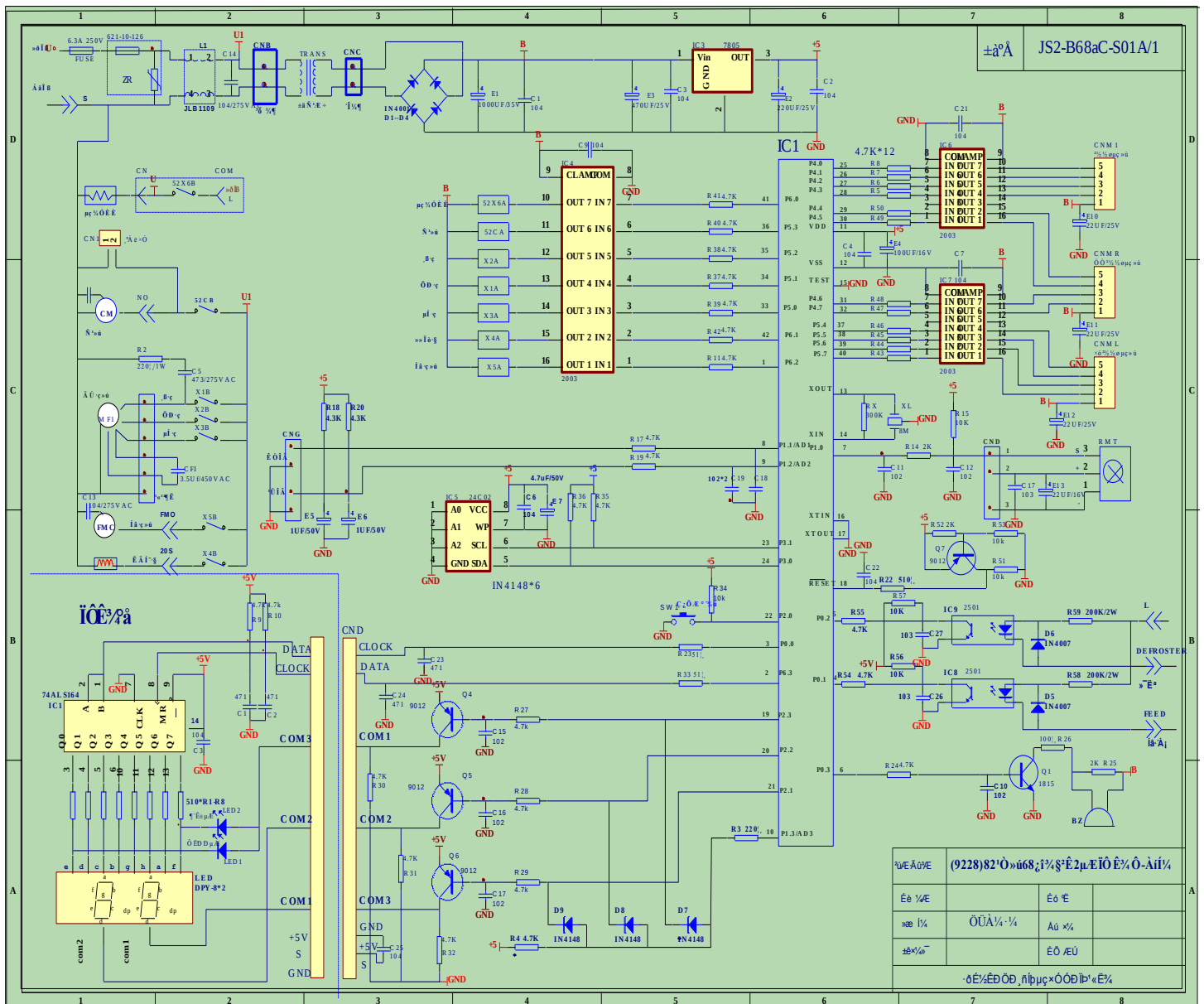
HF(R)-23/25/30/32GW/E(D)、HF(R)-25GW/A(D) MITSUBLSHL(37544) (47、21、27、30、59 style) PCB principle chart



HF(R)-32/51GW/A(D) 38 style MITSUBLSHL (37544) PCB principle chart



HF(R)-82GW/S(D) (9228) 68 style 2 lamp PCB principle chart



9. Part list of PCB

Mitswbishl (37544) (47、21、27、30、59 style) PCB material listing

No.	Part code	Part name	model	Q'ty	description	remark
A01	0107602107	IC	M37544G2SP	1	IC1	
A02	0107503500	IC	MOC3021	1	IC2	
A03	0107500100	IC	MC2003	1	IC3	
A04	0107500202	IC	BT131	1	IC4	
A05	0107200200	IC	MC7805CT	1	IC5	
A06	0107700201	diode	IN4007	5	D1-D4、 D5	
A07	0107100101	audion	9012	1	Q1	
A08	0107100401	audion	C1815	3	Q3、 Q4、 Q6	
A09	0113200601	resonator	CST8.00MTW	1	XL	
A10	0101702201	R carbon film	4.7K RT-1/4W	11	R7、 R11、 R27、 R35、 R41、 R42、 R44、 R45、 R59、 R60、 R18	
A11	0101702601	R carbon film	10K RT-1/4W	10	R3、 R6、 R10、 R17、 R19、 R26、 R32-R34、 R61	
A12	0101701401	R carbon film	510 Ω RT-1/4W	1	R24	
A13	0101701901	R carbon film	2K RT-1/4W	3	R4、 R5、 R9	
A14	0101701001	R carbon film	220 Ω RT-1/4W	3	R48-R50	
A15	0101703401	R carbon film	300K RT-1/4W	1	R23	
A16	0101701201	R carbon film	330 Ω RT-1/4W	1	R2	
A17	0101701301	R carbon film	390 Ω RT-1/4W	1	R21	
A18	0101102201	R aurum film	4.3K RJ-1/4W	2	R36、 R37	
A19	0101200503	R oxidation film	220 Ω RY-1W	1	R1	
A20	0104101102	capacitor	1000 μ F/35V	1	E1	
A21	0104101001	capacitor	220 μ F/16V	3	E2、 E7、 E8	
A22	0104100912	capacitor	100 μ F/16V	1	E4	
A23	0104100713	capacitor	47 μ F/25V	1	E6	
A24	0104100112	capacitor	1 μ F/50V	1	E3	
A25	0104600811	capacitor	102	7	C7、C8、 C12、C23-C26	
A26	0104601111	capacitor	103	2	C11、 C17	
A27	0104601311	capacitor	104	13	C4、 C5、 C9、 C10、 C13、 C14、 C15、 C19-C22、 C27、 C28	
A28	0104200202	Fan Capacitor r	1.2 μ F 450VAC	1	CFI	
A29	0104300401	capacitance	224/275VAC	1	C1	
A30	0104300301	capacitance	104/275V	1	C2	
A31	0104300201	capacitance	473/275V	1	C3	
A32	0101400112	safety	ZGAY-B621-10-126	1	ZR	
A33	0125300100	inductance	0.043mH	1	L1	
A34	1501300600	Compressor relay	HF2160-1A-12DE	1	52C	
	1501100410	Compressor relay	G4A-1A-E-CN	1	52C1	
A35	0701100301	pin	XH-3A	1	CNW	
A36	0701100501	connecter	XH-5A	1	CNM	

A37	0701100201	connector	XH-2A	1	CNC	
A38	0701100401	connector	XH-4A	1	CNG	
A39	0701100601	connector	XH-6A	1	CNE	
A40	0701200401	connector	VH-5A	1	CNU	
A41	0701200301	connector	VH-3A	1	CNB	
A42	0504000100	sensor	GT (3274) -001	1	CNG	
A43	2104000100	safety clip	5×20	2	FUSE	
A44	0116100100	fuse	3.15A/250V	1	FUSE	
A45	0304200600	pin	6.3 KET	1	N	
A46	0119200601	button	A06—(c) 9.5mm	1	SW1	
A47	2903300103	jumper	Φ0.5×10mm	12	J1-J5、J7-J13	
A48	1303000209	Transformer	B03-01A	1	CNB、CNC	
A49	0122100100	buzzet	OBO-15240PB	1	BZ	
A50	0304200500	pin	6.3 KET	1	L	
A51	2101000500	radiator	WS0004	1	IC5	
A52	2102102100	Screw	MB3×6(HO)	1		
A53	1103301552	PCB	J1FY79DCPZ221-L	1	156*113.5*	
B01	0107701301	diode	IN4148	2	D9、 D13	
B02	0101702201	R carbon film	4.7K RT-1/4W	1	R25	
B03	0107100401	audion	C1815	1	Q2	
B04	1501100500	relay	JZC-32F	2	X1、 X2	
B05	0304200500	pin	6.3 KET	2	20S、 FMO	
B06	2903300103	jumper	Φ0.5×10mm	1	J6	
C01	0107701301	diode	IN4148	1	D10	
C02	1501200500	relay	SJ-S-112DM	1	52X6	10A/250VAC
C03	0304200400	pin	4.8 KET	1	HEAT	
D01	0107501000	IC	AT24C02	1	IC6	
H01	0107701301	diode	D12、 D11			
H02		IN4148	D12、 D11			

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No.	Part code	Part name	model	Q'ty	description	remark
A01	0107602107	IC	M37544G2ASP	1	IC1	
A02	0107500100	IC	TD62003AP	1	IC2	
A03	0107503500	IC	MOC3021	1	IC5	
A04	0107500202	IC	BT131	1	IC6	
A05	0107200200	IC	MC7805CT	1	IC3	
A06	0107701301	diode	1N4148	2	D6、 D7	
A07	0107700201	diode	1N4007	5	D1-D5	
A08	0107100101	audion	9012	4	Q4-Q6、 Q8	
A09	0107100201	audion	9013	1	Q2	
A10	0107100401	audion	1815	3	Q1、 Q3、 Q7	
A11	0113200601	resonator	CST8.00MTW	1	XL	3PIN
A12	0122100100	buzzer	OBO-15240PB Φ17	1	BZ	

A13	0504000200	sensor	GT (3274) -002	1	CNG	600mm
A14	0101700801	R carbon film	51 Ω RT-1/4W	2	R26、R27	
A15	0101701201	R carbon film	330 Ω RT-1/4W	1	R37	
A16	0101701301	R carbon film	390 Ω RT-1/4W	1	R14	
A17	0101701401	R carbon film	510 Ω RT-1/4W	3	R17、R19、R25	
A18	0101701901	R carbon film	2K RT-1/4W	2	R33、R34	
A19	0101703401	R carbon film	300K RT-1/4W	1	R15	
A20	0101702201	R carbon film	4.7K RT-1/4W	18	R2、R5-R13、R21、R23、 R28-R32、R35	
A22	0101102201	R aurum film	4.3K RJ-1/4W	2	R18、R20	
A23	0101200503	R oxidation film	220 Ω RY-1W	1	R36	
A24	9803010500	safety	ZGAY-B/621-10-126	1	ZR	
A25	0104101102	capacitance	1000 μ F/35V	1	E1	
A26	0104101002	capacitance	220uF/25V	2	E2、E3	
A27	0104100512	capacitance	22uF/25V	1	E4	
A28	0104100401	capacitance	10uF/25V	1	E5	25V、50V
A29	0104300301	capacitance	104/275VAC	3	C21-C23	
A30	0104300201	capacitance	473/275VAC	1	C20	
A31	0104600302	capacitance	101	1	C18	
A32	0104600811	capacitance	102	8	C5、C10-C12、 C14-C16、C24	
A33	0104601111	capacitance	103	1	C25	
A34	0104601311	capacitance	104	11	C1-C4、C6-C9、C13、 C17、C19	
A35	0104200202	Fan Capacitor	1.2 μ F $\pm$ 5%450V	1	CFI	
A36	2104000100	safety clip	Φ 5 $\times$ 20mm	2	FUSE	
A37	0116100100	fuse	3.15A/250VAC	1	FUSE	
A38	0304200500	Pin	6.3 KET	2	S1、S2	
A39	2903300100	jumper	Φ 0.5 $\times$ 10mm	7	J1、J3-J9	
A40	1303000110	Transformer	B01-01A	1		
A41	0125300100	inductance	0.043mH	1	L1	
A42	0125300200	inductance	JLC0301	2	L2、L3	
A43	1501300600	relay	HF2160-1A-12DE	1	52C	
A44	0119200502	On-off	TSVC-2	1	SW1	
A45	0701200401	connector	VH-5A	1	CNU	
A46	0701200301	connector	VH-3A	1	CNB	
A47	0701100201	connector	XH-2A	1	CNC	
A48	0701100301	connector	XH-3A	1	CNW	
A49	0701100302	connector	XH-3A	1	CND	
A50	0701100501	connector	XH-5A	2	CNM、CNE	
A51	1103301920	PCB	J375F1418317-X	1	212mm*120mm*2	
B01	0701400101	connector	CH6V-2A 白色	1	CN1	
C01	0107501000	IC	24C02	1	IC4	
C02	0104100512	capacitance	22uF/25V	1	E7	
D01	0107701301	diode	1N4148	1	D9	
D02	2903300100	jumper	Φ 0.5 $\times$ 10mm	1	J2	
D03	1501200600	ordinarily relay	JQC-3FF	2	52X4、52X5	

D04	0304200500	pin	6.3 KET	2	FMO、20S	
E01	0107701301	diode	IN4148	2	D9、D10	
E02	1501200600	ordinarily relay	JQC-3FF	2	52X4、52X5	
E03	1501201200	relay	OMIF-S-112LM	1	52X6	
E04	0304200500	pin	6.3 KET	2	FM0、20S	
E05	2903300100	jumper	$\Phi 0.5 \times 10\text{mm}$	1	J2	
E06	0701100203	connector	XH-2A	1	CNH	
F01		D12	D11			
F02		switch on	switch on		0℃	
F03		switch on	disconnection		0.5℃	
F04		disconnection	switch on		1℃	
F05		disconnection	disconnection		1.5℃	

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No.	Part code	Part name	model	Q'ty	description	remark
A01	0107601800	IC	S3P9228	1	IC1	
A02	0107200200	IC	MC7805CT	1	IC3	
A03	0107500100	IC	MC2003	3	IC4、IC6、IC7	
A04	0107700201	diode	IN4007	5	D1-D5	
A05	0107701301	diode	IN4148	1	D7	
A06	0107100401	dynatron	C1815	1	Q1	
A07	0107100101	dynatron	S9012	4	Q4-Q7	
A08	0113200601	resonator	8.00M	1	XL	
A09	0504000100	sensor	GT (3274) -001	1	CNG	
A10	0101200503	R oxidation film	220Ω RY-1W	1	R2	
A11	0101701001	R carbon film	220Ω RT-1/4W	1	R3	
A12	0101700801	R carbon film	51Ω RT-1/4W	2	R23、R33	
A13	0101701401	R carbon film	510Ω RT-1/4W	1	R22	
A14	0101700901	R carbon film	100Ω RT-1/4W	1	R26	
A15	0101701901	R carbon film	2K RT-1/4W	3	R14、R25、R52	
A16	0101102201	R aurum film	4.3k RJ-1/4W	2	R18、R20	
A17	0101702201	R carbon film	4.7k RT-1/4W	28	R4-R8、R17、R19、R24、 R27-R32、R37-R40、 R43-R50、R54、R55	
A18	0101702601	R carbon film	10K RT-1/4W	6	R15、R34、R51、R53、 R56、R57	
A19	0101703401	R carbon film	300K RT-1/4W	1	RX	
A20	0104101102	capacitor	1000μF/35V	1	E1	
A21	0104101002	capacitor	220μF/25V	1	E2	
A22	0104101202	capacitor	470μF/25V	1	E3	
A23	0104100903	capacitor	100μF/25V	1	E4	
A24	0104100512	capacitor	22μF/25V	3	E10-E12	
A25	0104100112	capacitor	1μF/50V	2	E5、E6	
A26	0104600811	capacitor	102	8	C10-C12、C15-C19	

A27	0104601311	capacitor	104	9	C1-C4、C7、C9、C21、C22、C25	
A28	0104601111	capacitor	103	2	C26、C27	
A29	0104300301	capacitor	104 / 275VAC	2	C13、C14	
A30	0104300201	capacitor	473 / 275VAC	1	C5	
A31	0104600603	capacitor	471/50	2	C23、C24	
A32	0104200801	Fan Capacitor	3.5Uf/450VAC	1	CFI	
A33	0701100401	connector	XH-4A	1	CNG	
A34	0125300400	inductance	JLB1109	1	L1	
A35	2104000100	safety clip	5×20	2	FUSE	
A36	0116100200	fuse	6.3A/250V	1	FUSE	
A37	1902200100	fuse jacket	5×20	1	FUSE	
A38	9803010500	safety	ZGAY-B/621-10-126	1	ZR	
A39	0304200500	pin	6.3 KET	4	S、L、NO、FEED	
A40	2903300103	jumper	Φ0.5×10mm	11	J1、J2、J4、J8-J12、J14-J16	
A41	0122100100	buzzer	OBO-15240 (1540)	1	BZ	
A42	2102102100	Screw	MB3×6(HO)	1		
A43	2101000400	radiator	WS0003	1		
A44	0119200502	button	TSVC-2	1	SW1	
A45	1301001300	transformer	B01-02A01	1	TRANS	
A46	1501200600	relay	JQC—3FF	4	X1-X3、52C	
A47	0701201101	connector	VH-11A	1	CNU	
A48	0701100801	connector	XH-8A	1	CND	
A49	0701100501	connector	XH-5A	1	CNM1	
A50	0701100503	connector	XH-5A	1	CNML	
A51	0701100502	connector	XH-5A	1	CNMR	
A52	0101201504	R oxidation film	200K 2W	1	R58	
A53	0107500600	IC	2501	1	IC8	
A54	1102101702	PCB	SF182GJ227-L	1		
B01	0101702201	R carbon film	4.7K RT-1/4W	2	R42、R11	
B02	1501200600	relay	JQC—3FF	2	X4、X5	
B03	0304200500	pin	6.3 KET	3	FMO 、 20S 、 DEFROSTER	
B04	2903300103	jumper	Φ0.5×10mm	1	J5	
B05	0107500600	IC	2501	1	IC9	
B06	0107700201	diode	IN4007	1	D6	
B07	0107701301	diode	IN4148	1	D9	
B08	0101201504	R oxidation film	200K 2W	1	R59	
C01	1501201200	relay	OMIF-S-112LM	1	52X6	
C02	0107701301	diode	IN4148	1	D8	
C03	0101702201	R carbon film	4.7k RT-1/4W	1	R41	
C04	2903300103	jumper	Φ0.5×10mm	2	J3、J17	
D01	0107501000	IC	24C02	1	IC5	
D02	0104100212	capacitor	4.7μF/50V	1	E7	
D03	0104601311	capacitor	104	1	C6	

D04	0101702201	R carbon film	4.7K RT-1/4W	2	R35、R36	
D05	2903300103	jumper	Φ0.5×10mm	3	J6、J7、J13	
E01	0701400101	electrical outlet	CH6V-2A	1	CN1	

10. PCB function:

NOTE: Ts is the set temperature, Tr is indoor room temperature, TP1 is indoor coil pipe temperature, TP2 is outdoor coil pipe temperature.

Display panel

(1)only two LED

- ①running lamp(green): power on light, flash one time/ one second during anti cooled wind.
- ②timer lamp(yellow): only light at timer state.

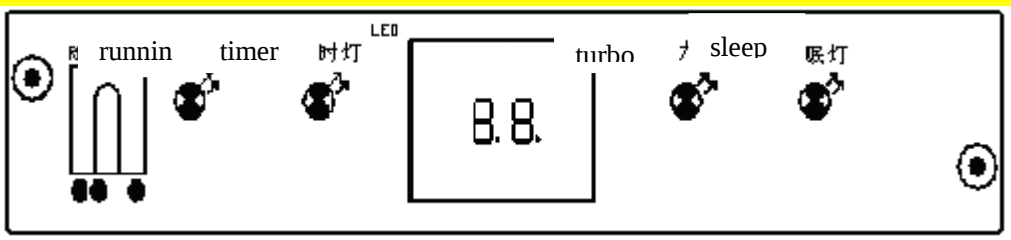
(2)only four LED

- ① running lamp(green): power on light, flash one time/ one second during anti cooled wind.
- ② timer lamp(yellow): only light at timer state.
- ③turbo lamp(red): only light at turbo state.
- ④sleep lamp(yellow): light at sleep state.

(3)eleven LED

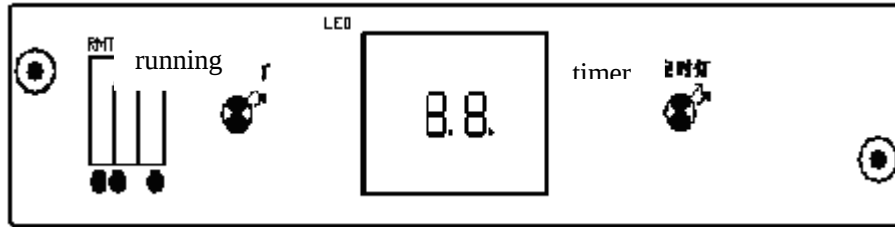
- ① running lamp(green): power on light, flash one time/ one second during anti cooled wind.
- ②temperature lamp(green): 16~31℃ set temp. and room temp. display, light is set temp. flash is set temp.

(4)four LED and two 8LED



- ① running lamp(green): power on light, flash one time/ one second during anti cooled wind.
- ② timer lamp(yellow): only light at timer state.
- ③turbo lamp(red): only light at turbo state.
- ④sleep lamp(yellow): light at sleep state.
- ⑤8LED display set temp., also it can display timer time and failure code.

(5)two LED and two 8LED



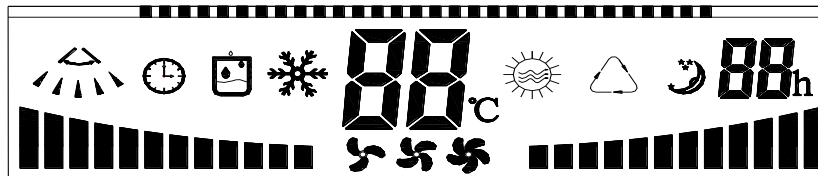
① running lamp(green): power on light, flash one time/ one second during anti cooled wind.

② timer lamp(yellow): only light at timer state.

③ 8LED display set temp., also it can display timer time and failure code.

(6) LED multi-colour panel

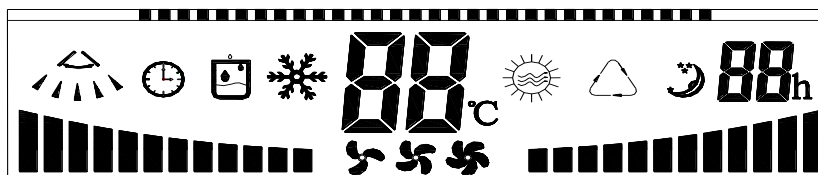
① according to display mode: dehumidification, cooling, ventilation, heating, auto, sleep, fan speed, swing, timer, indoor fan running.



② wind speed indication correspond fan speed of indoor blower fan.

(7) LCD display

① according to display mode: dehumidification, cooling, ventilation, heating, auto, sleep, fan speed, swing, timer, indoor fan running.



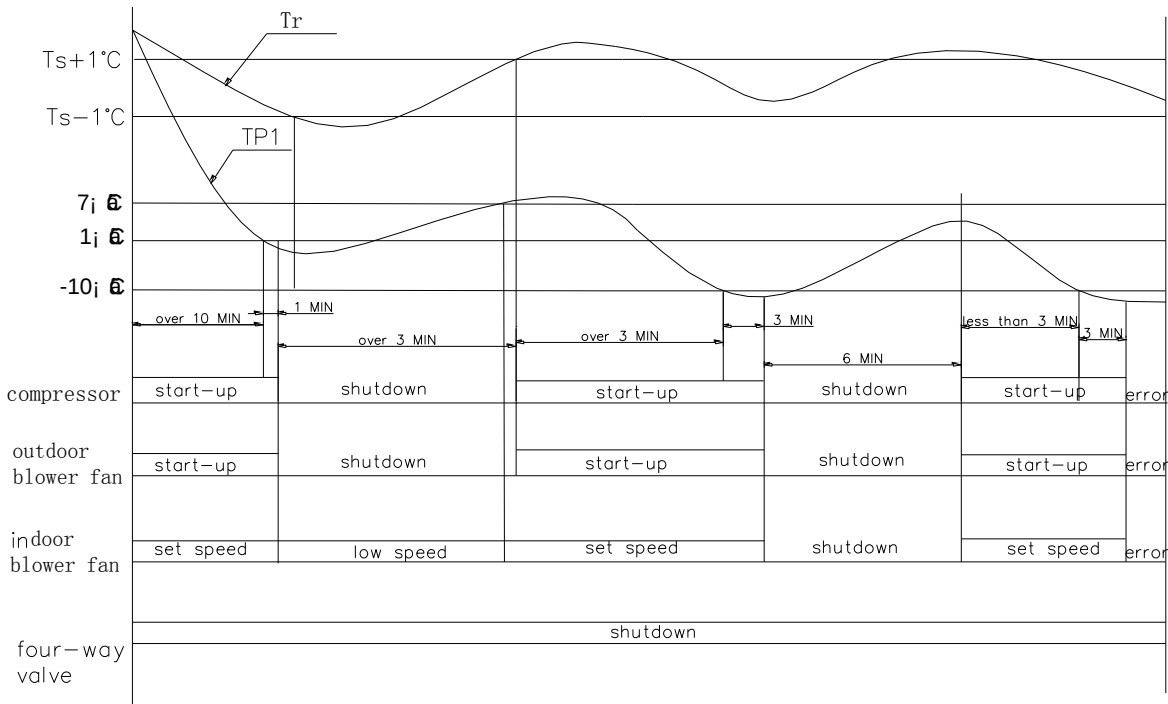
② wind speed indication correspond fan speed of indoor blower fan.

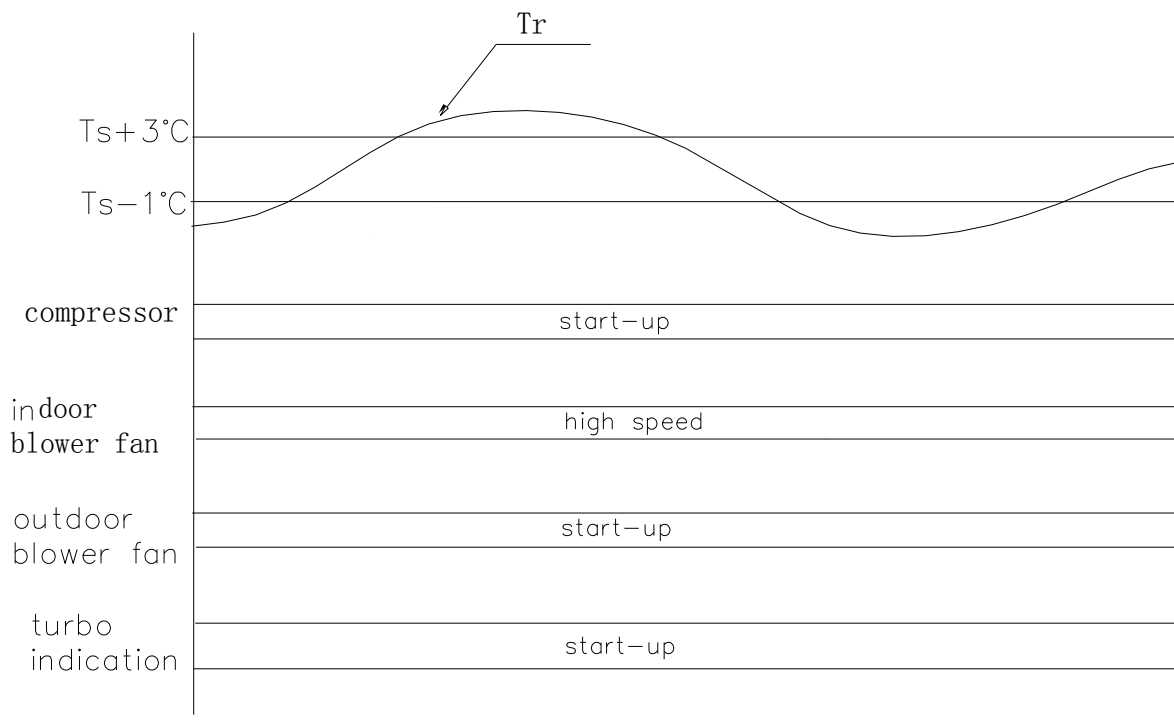
Cooling

- Start up the compressor: when the room temperature is more than $T_s + 1^\circ\text{C}$, compressor $\rightarrow$ start-up
- Shut down the compressor: when the room temperature is less than or equal to the set temperature $T_s - 1^\circ\text{C}$, compressor $\rightarrow$ shutdown
- When the temperature of coil pipe of the indoor units is less than or equal to 1°C for one minute and the compressor has continuous run for more than ten minutes, the compressor and outdoor blower fan shut down through the electric control board and the indoor blower fan is running at low speed.
- When the temperature of coil pipe of the indoor units is more than or equal to 7°C and the compressor has

shutdown for more than three minutes, the compressor and outdoor blower fan start to run and the indoor blower fan is running at set speed.

- When the temperature of coil pipe of the indoor units is equal to or less than -10°C for three minutes in the compressor has continuous run for three minutes, the compressor, indoor and outdoor blower fans and swinging wind shut down. Restart up six minutes later; if the above situations appear again within six minutes, all the outputs are shut down through the electric control board and display failure.
- When you press turbo button of remote, the air conditioner enter turbo running, compressor and outdoor blower fan turn on all along, indoor blower fan run at high speed, turbo indication is light.
- After the compressor runs five minutes, the lamp flashes 4 times per six seconds or display E4 if the temperature of indoor coil pips is more than 25°C in the continuous 20 minutes. The controller will automatically shut down if the temperature of indoor coil pips is more than 25°C in another continuous 20 minutes, that is the abnormality protection of outdoor units and the indicator lamp keeps its former state of flashing. If the temperature of indoor coil pips is less than 25°C in the second 20 minutes or the compressor shuts down, the electric control board will store to the normal display and the time is restarted when starting up the compressor next time.





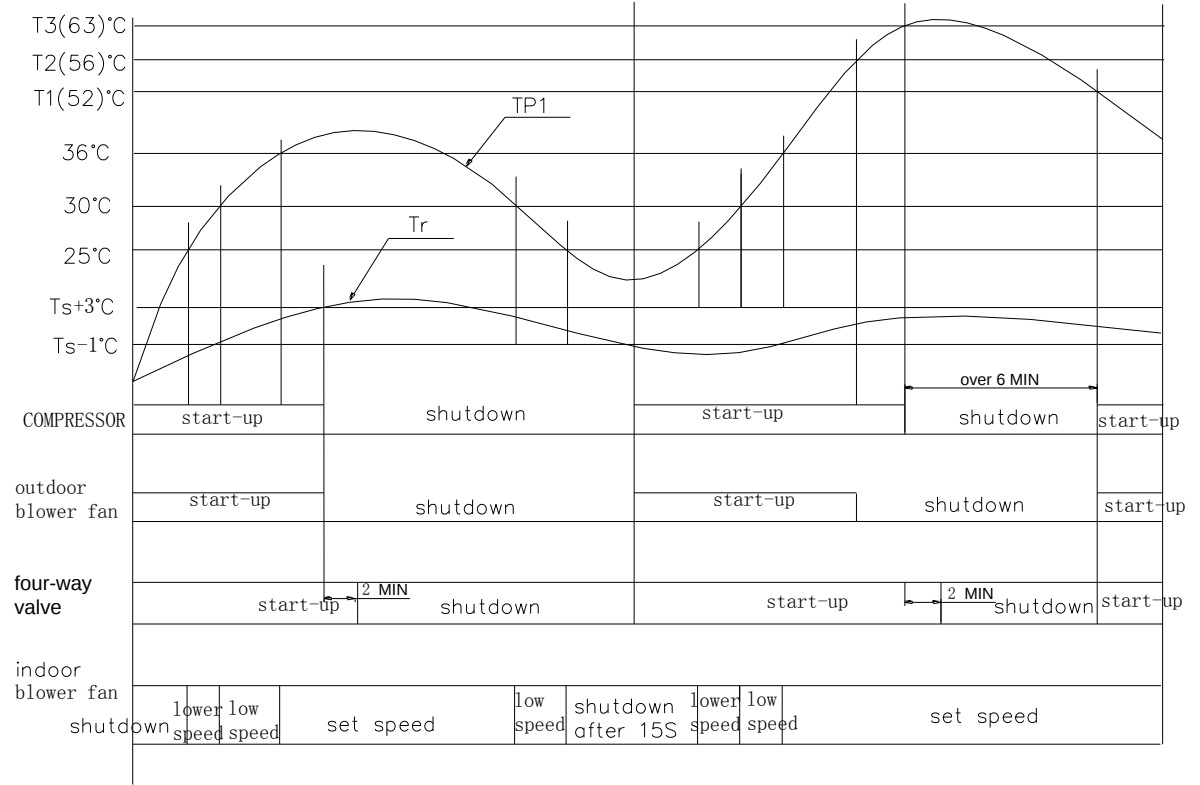
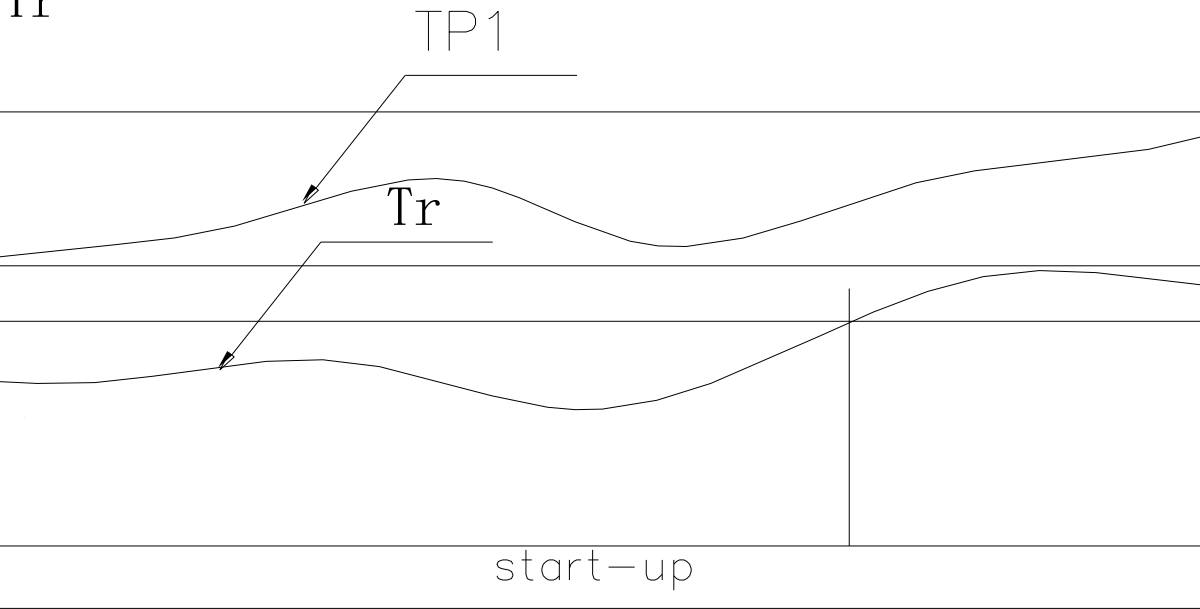
Heating (only applicable to heat pump units)

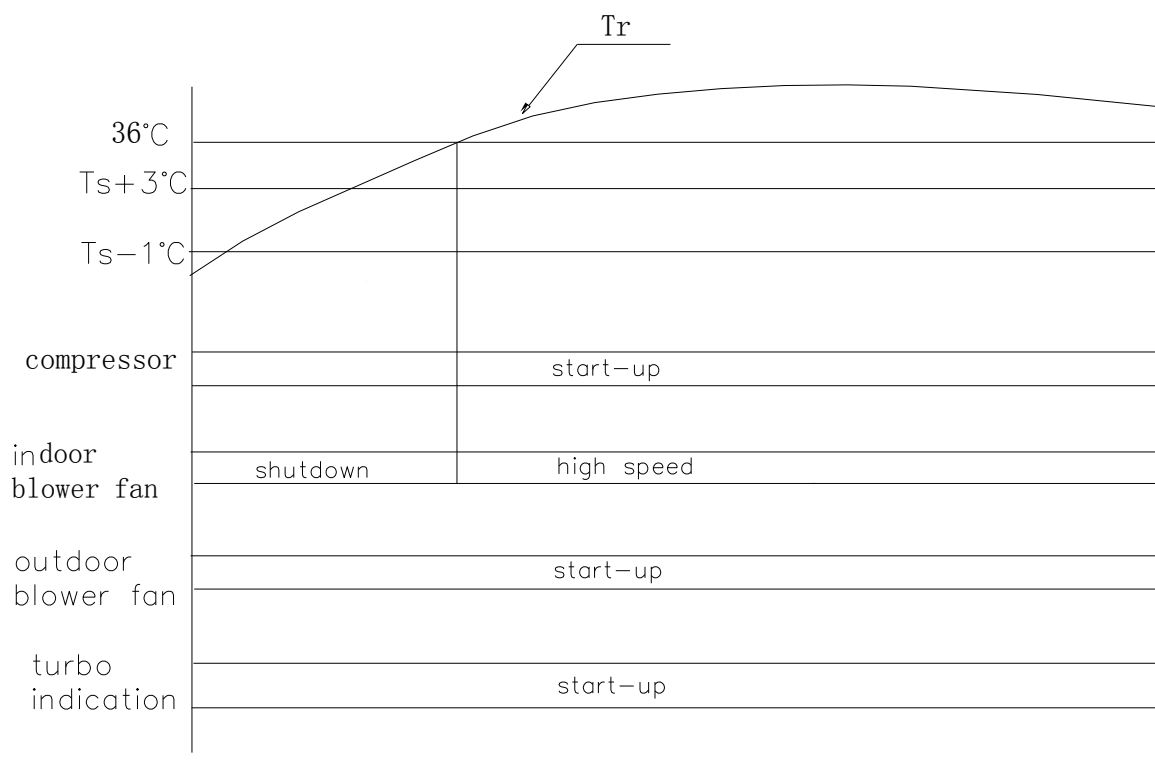
- Start up the compressor: when the room temperature is less than $T_s - 1^\circ\text{C}$, compressor → start-up
- Shut down the compressor: when the room temperature is more than or equal to the set temperature $T_s + 3^\circ\text{C}$, compressor → shutdown
- The electric heating start-up in the heating mode shall meet the following conditions: ① start up the compressor and indoor blower fan ② none defrost ③ $TP1 < 49^\circ\text{C}$ ④ $Tr \leq 20^\circ\text{C}$.
- The electric heating shutdown in the heating mode shall meet one of the following conditions: ① shutdown indoor blower fan ② $Tr \geq 23^\circ\text{C}$ ③ $TP1 \geq 50^\circ\text{C}$.
- In the heating mode, the indoor flower fan can be set as high/ medium/ low /automatic running mode by remote control however the anti cool air function is prior. In the heating mode, the anti cool air control function is to control shutdown of the indoor blower fan by detecting the temperature of coil pipe of evaporator so as to attain the purpose of preventing cold air from blowing.
- For the waste heat emission function in the heating mode, in principle, the indoor blower fan shall be on for fifteen seconds after the electric heating is closed.
- When the temperature of coil pipe of indoor units is more than or equal to 56°C , the outdoor blower fan shuts down and it enters the overload protection; when the temperature of coil pipe of indoor units is less than or equal to 52°C , the outdoor blower fan starts up and it exit the overload protection.
- When the temperature of coil pipe of indoor units rises to 63°C , the compressor and outdoor blower fan are closed and two minutes later, the change valve is closed. The indoor blower fan is running at the set speed. Restart up six minutes later; if the above situations appear again within ten minutes, all the outputs are shut down through the

electric control board and display failure.

- When you press turbo button of remote, the air conditioner enter turbo running, compressor ,outdoor blower fan and four-way valve turn on all along, indoor blower fan run at high speed and it must meet start condition, turbo indication is light.
- After the compressor runs five minutes, the lamp flashes 4 times per six seconds or display E4 if the temperature of indoor coil pips is less than 30°C (heating) in the continuous 20 minutes. The controller will automatically shut down if the temperature of indoor coil pips is less than 30°C in another continuous 20 minutes, that is the abnormality protection of outdoor units and the indicator lamp keeps its former state of flashing.

Tr





Defrost (only applicable to the heating mode)

1. the intelligent defrost

In the heating mode, the electric control board checks and compares the temperature of indoor room and indoor coil pipe after the compressor works for a while; judge whether the outdoor heat exchanger part is frosted or not according to conditions such as the change of indoor coil pipe temperature; if it is judged as frosted, it automatically enters defrosting process. When defrosting, close the indoor and outdoor blower fan and four-way valve.

2. Outdoor PCB for defrost.

In the heating mode, the unit defrost by outdoor control board:

①unit start defrost shall all meet the following conditions:

- a、compressor continuous running over 7 minutes;
- b、defrost relay shut off; (-5°C)
- c、compressor cumulate running time over 50 minutes.;

②first defrost interval time is 50 minutes, later defrost interval time decided by last defrost time.

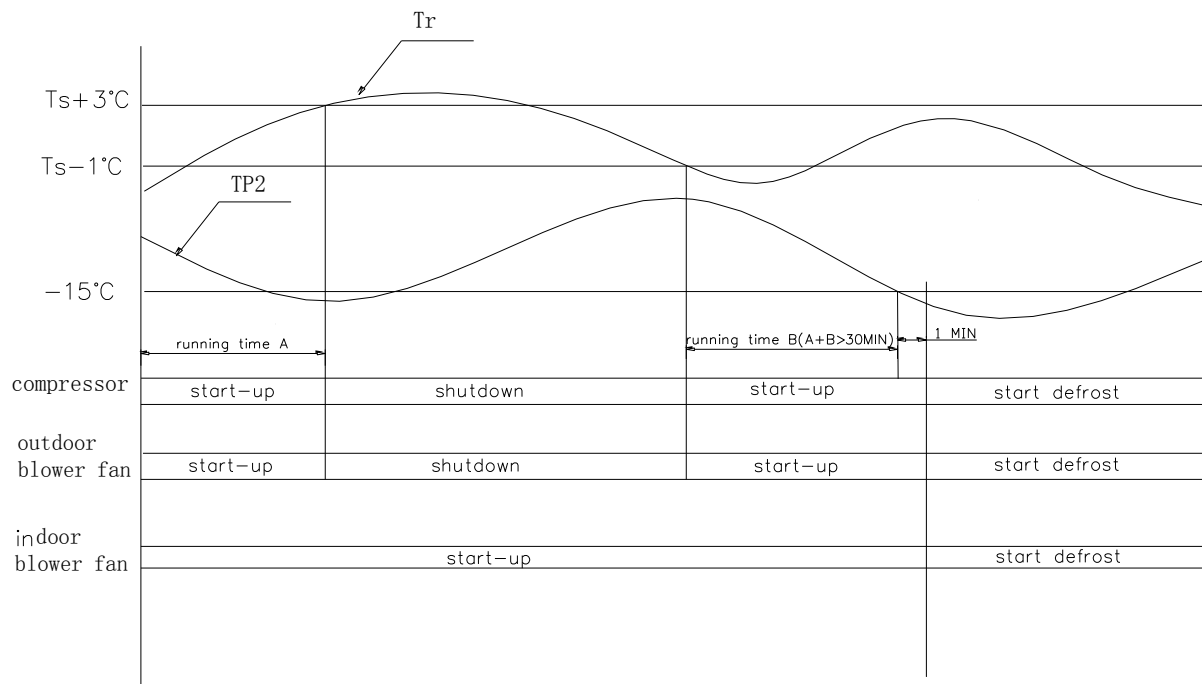
Defrost time(minute)	Next defrost interval time(minute)
15	30
10--15	40
7--10	60
3--7	70
≤ 3	80

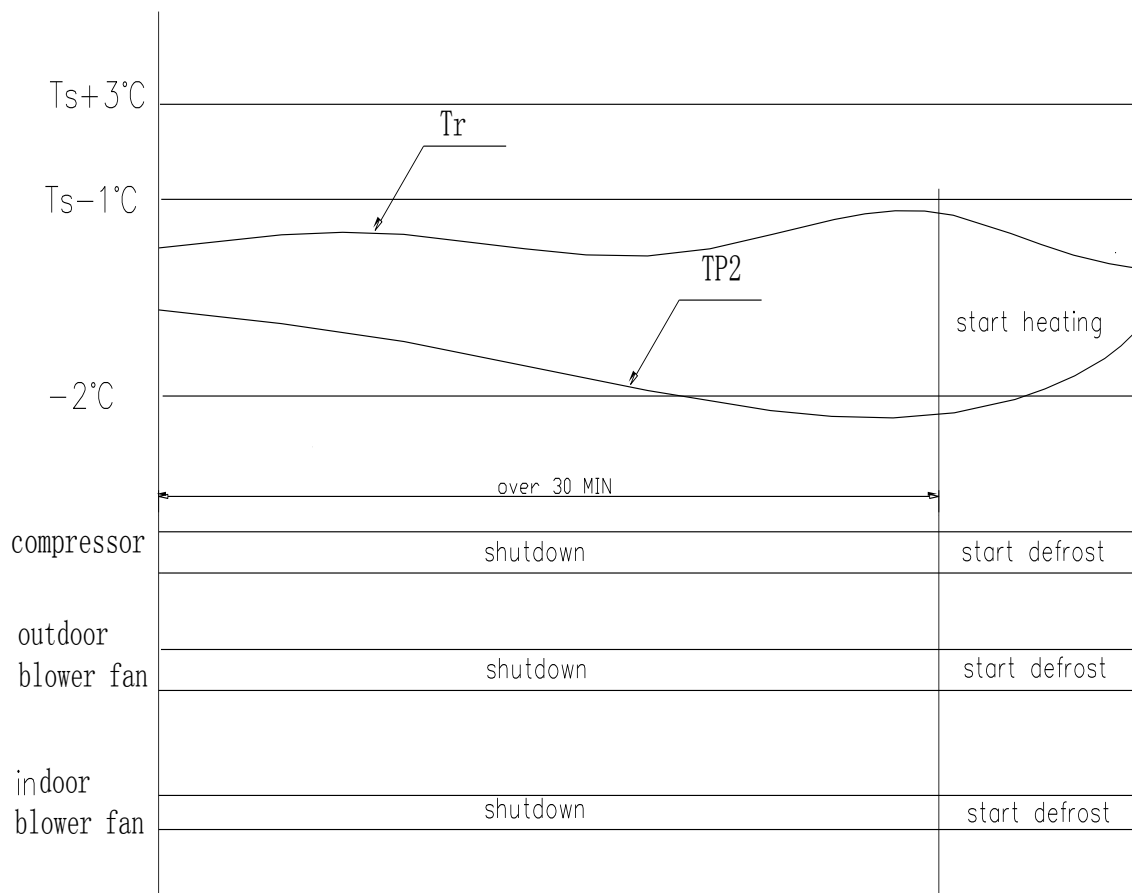
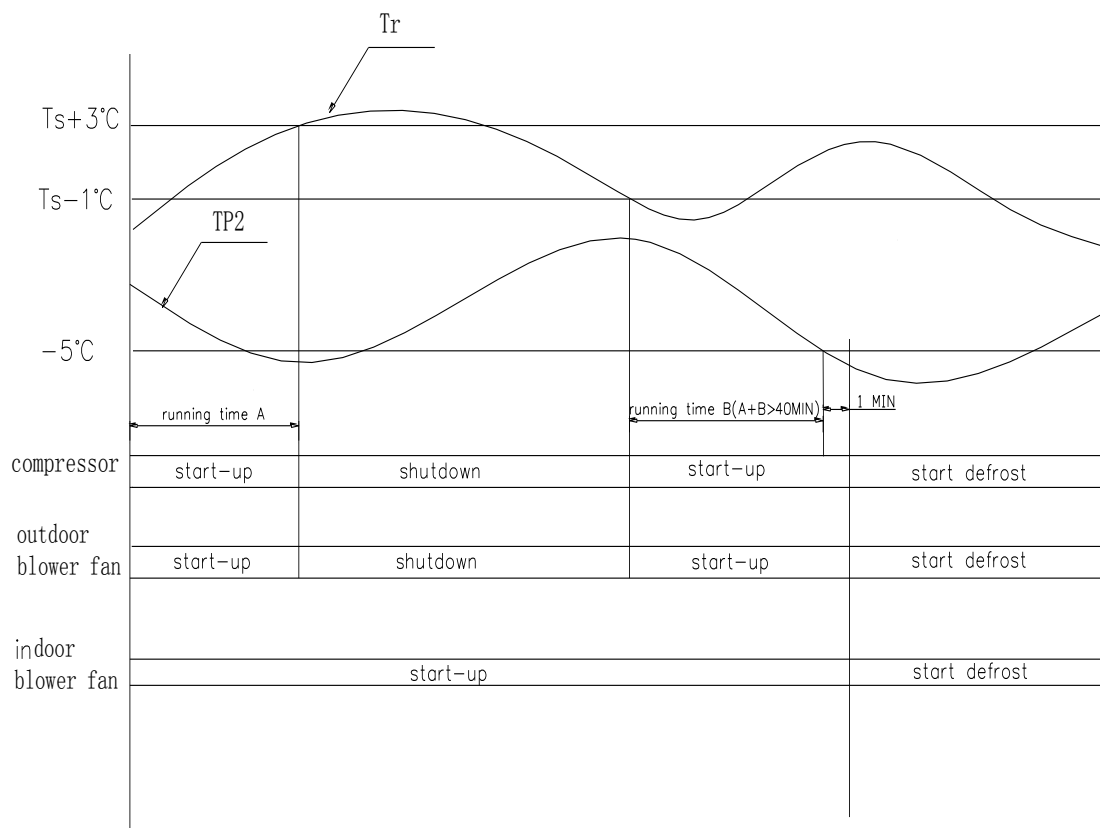
(2) end defrost condition(meet one of follows)

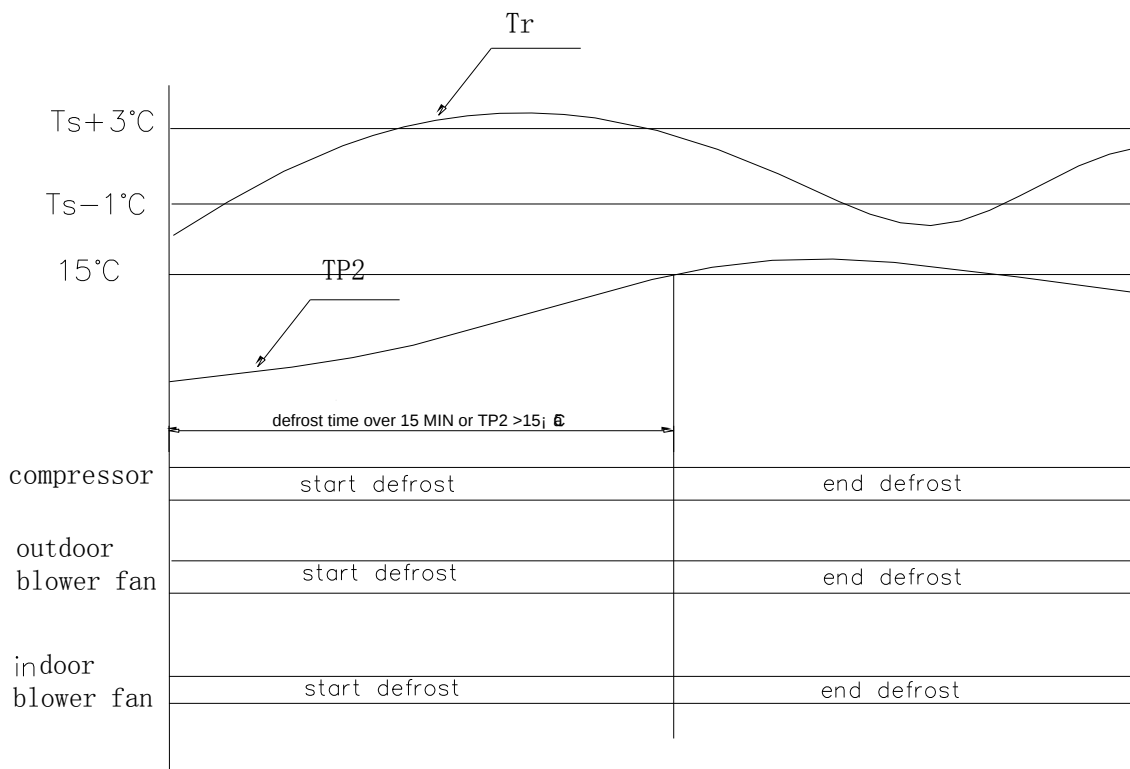
- a、defrost time have fifteen minutes.
- b、defrost relay turn on; ($>8^{\circ}\text{C}$)
- c、press ON/OFF key in defrost process.

3. Outdoor sensor for defrost

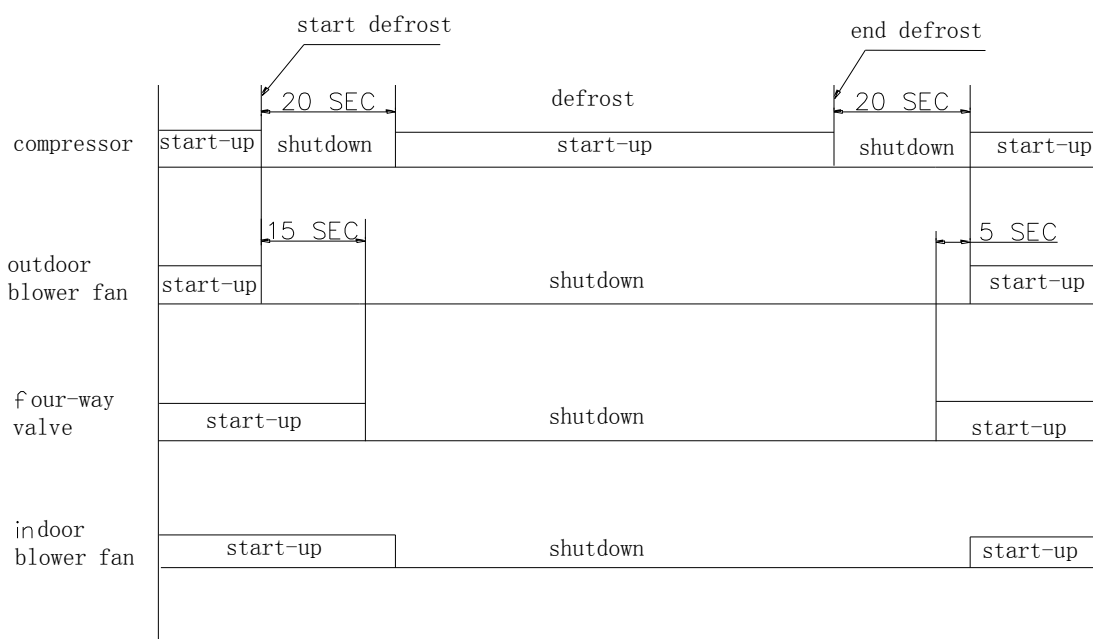
- ① unit start defrost shall meet one of the following conditions:
- compressor cumulate running time over 30 minutes and it continuous running over 3 minutes, the temperature of coil pipe of the outdoor units is equal to or less than -15°C for one minutes ($\text{Tp}_2 \leq -15^{\circ}\text{C}$).
 - compressor cumulate running time over 40 minutes and it continuous running over 3 minutes, the temperature of coil pipe of the outdoor units is equal to or less than -5°C for one minutes ($\text{Tp}_2 \leq -15^{\circ}\text{C}$).
 - Air conditioner first power on or it wait over 30 minutes ,the temperature of coil pipe of the outdoor units is equal to or less than -2°C ($\text{Tp}_2 \leq -15^{\circ}\text{C}$)
- ②end defrost condition(meet one of follows)
- the temperature of coil pipe of the outdoor units is more than 15°C ($\text{Tp}_2 \geq -15^{\circ}\text{C}$).
 - defrost time have fifteen minutes.







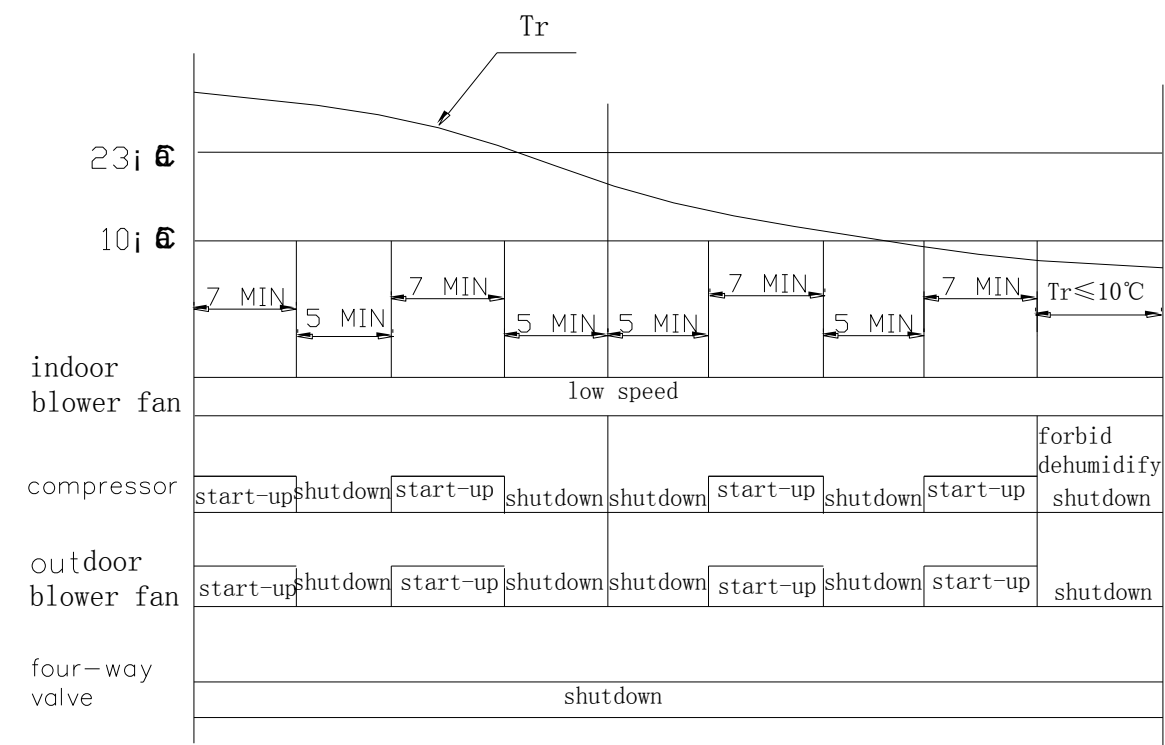
■ Sequence chart in defrosting mode



Dehumidification

Dehumidification running is to eliminate the water vapor in the air by using the cool circulating capacity, but the dehumidification will not decrease the indoor temperature in great deal. The air conditioner automatically repeats on

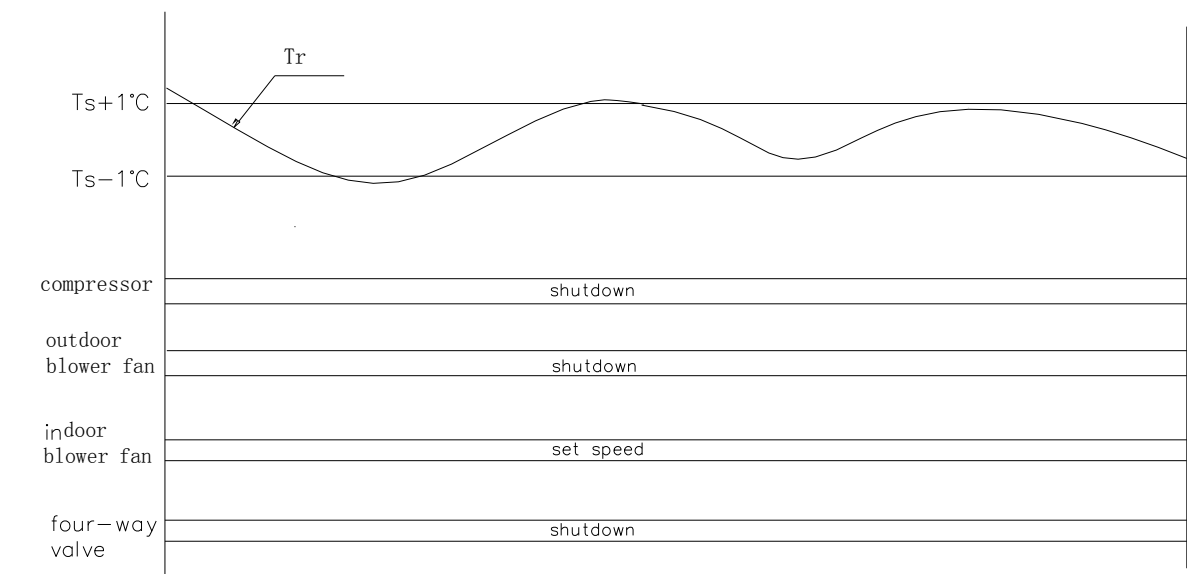
and off circulation according the room temperature, which is shown in the following figure.



- In the dehumidification mode, the indoor fan is running at the low speed for twenty seconds at first, then it select working mode.

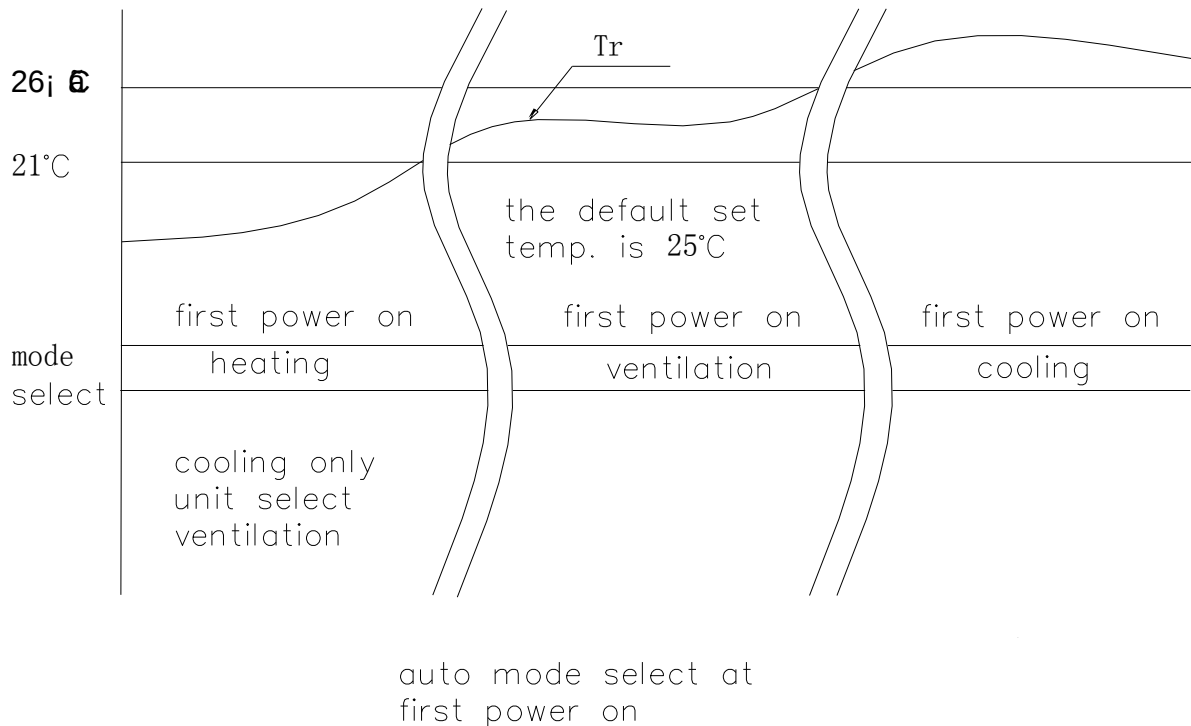
Ventilation working mode (only applicable to single cooling unit)

In the ventilation mode. When ventilating, the compressor, outdoor blower fan, four-way valve and electric heating are all closed and the indoor blower fan is running at the set speed.



Automatic mode

- Conditions for entering the automatic running mode are: After power-up for the first time, start up and select the automatic operating mode of remote or press emergency key, the working mode depends on Tr and if the working mode had set , it doesn't change by Tr and the default set temperature is 25 °C.



Time on and time off

When the time on or time off is used, the clock of remote controller shall be corresponding to the current clock and the timing times is less than or equal to 24 hours, when the timing time is reached, unit will start-up or shutdown.

Sleep function

When the sleep key is press, air conditioner enter sleep state, indoor blower fan running at low speed, only sleep indication display.

Emergency key function

There is a forcible execution key on the panel of indoor units and the air conditioner can run by pressing the key when the remote control is out of work or missing.

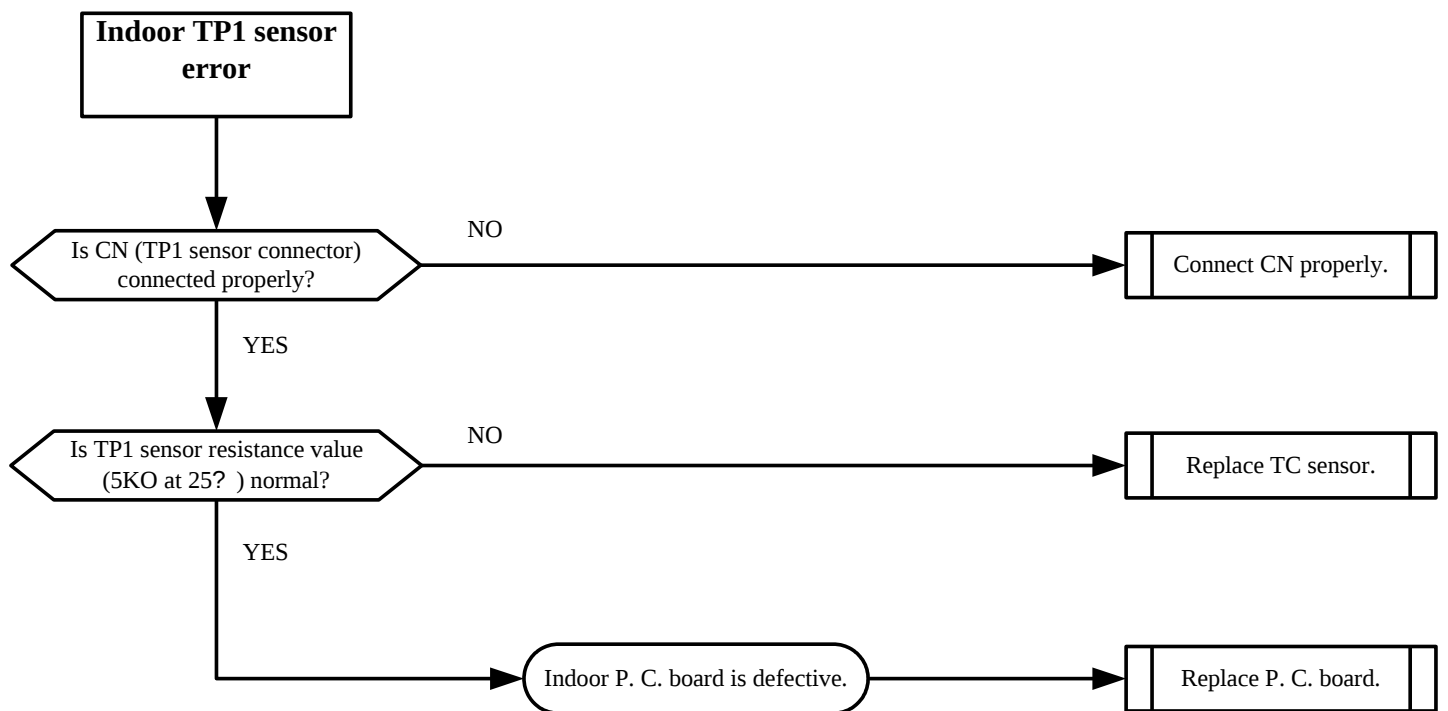
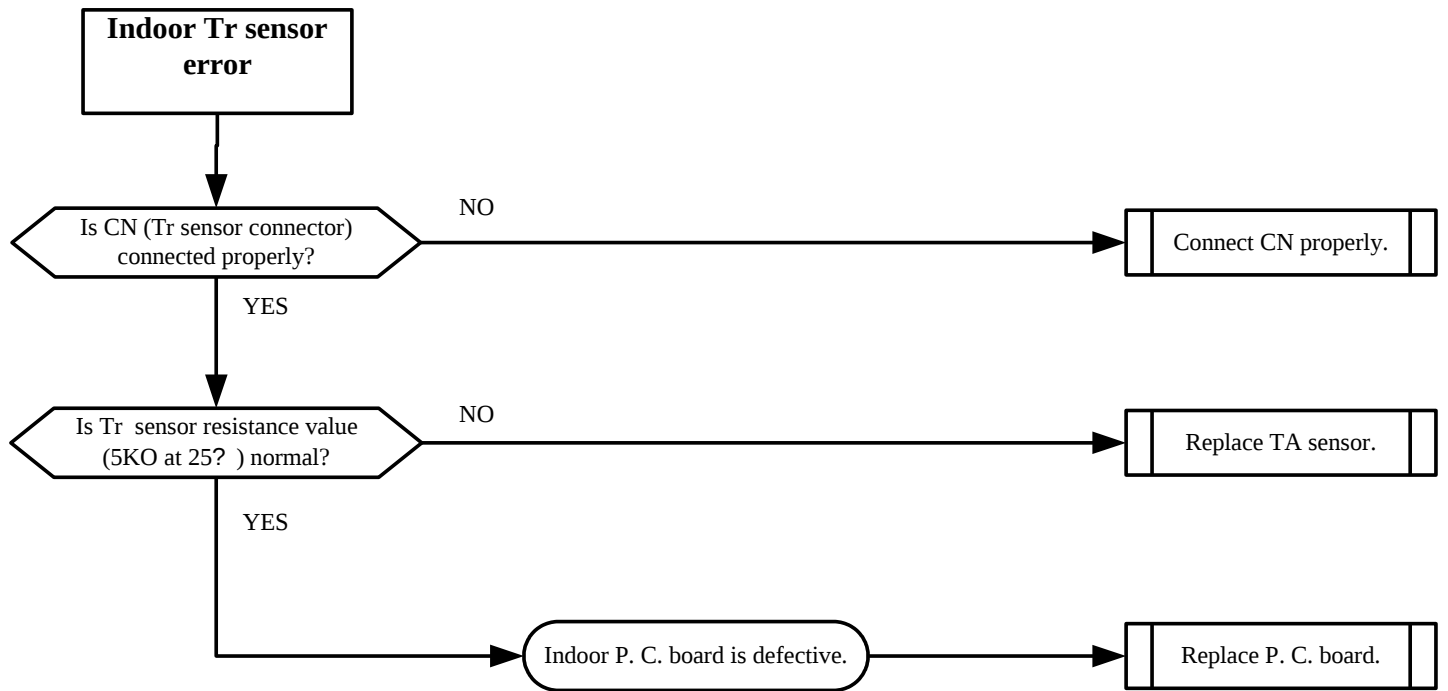
When pressing down the forcible execution key, then power up and enter the self-check program.

Failure display

serial	failure	Display state		
		LED		LCD
		Running lamp	Timer lamp	
Indoor unit				
1	Indoor TEMP. sensor failure	Flash 1 time/8 SEC	light	E2
2	Indoor coil pipe TEMP. sensor failure	Flash 2 time/8 SEC	light	E3
3	Overheat (frost) protection	Flash 3 time/8 SEC	light	E8
4	Pump failure	Flash 4 time/8 SEC	light	E9
5	Indoor blower fan failure	Flash 6 time/8 SEC	light	E5
6	Outdoor feedback failure	Flash 7 time/8 SEC	light	E7
7	Open door failure	light	Flash 3 time/8 SEC	E0
8	Outdoor coil pipe TEMP. sensor failure	light	Flash 4 time/8 SEC	E1
9	(EEPROM) communicate failure	light	Flash 6 time/8 SEC	E6
Outdoor unit				
1	Outdoor TEMP. sensor failure	light	Flash 1 time/8 SEC	E2
2	Outdoor coil pipe TEMP. sensor failure	light	Flash 2 time/8 SEC	E3
3	Over current protect of compressor	light	Flash 3 time/8 SEC	E7
4	TEMP. sensor of exhaust failure	light	Flash 4 time/8 SEC	E1
5	Communicate failure	light	Flash 6 time/8 SEC	E6
6	Module protection	light	Flash 7 time/8 SEC	E5

11. TROUBLE

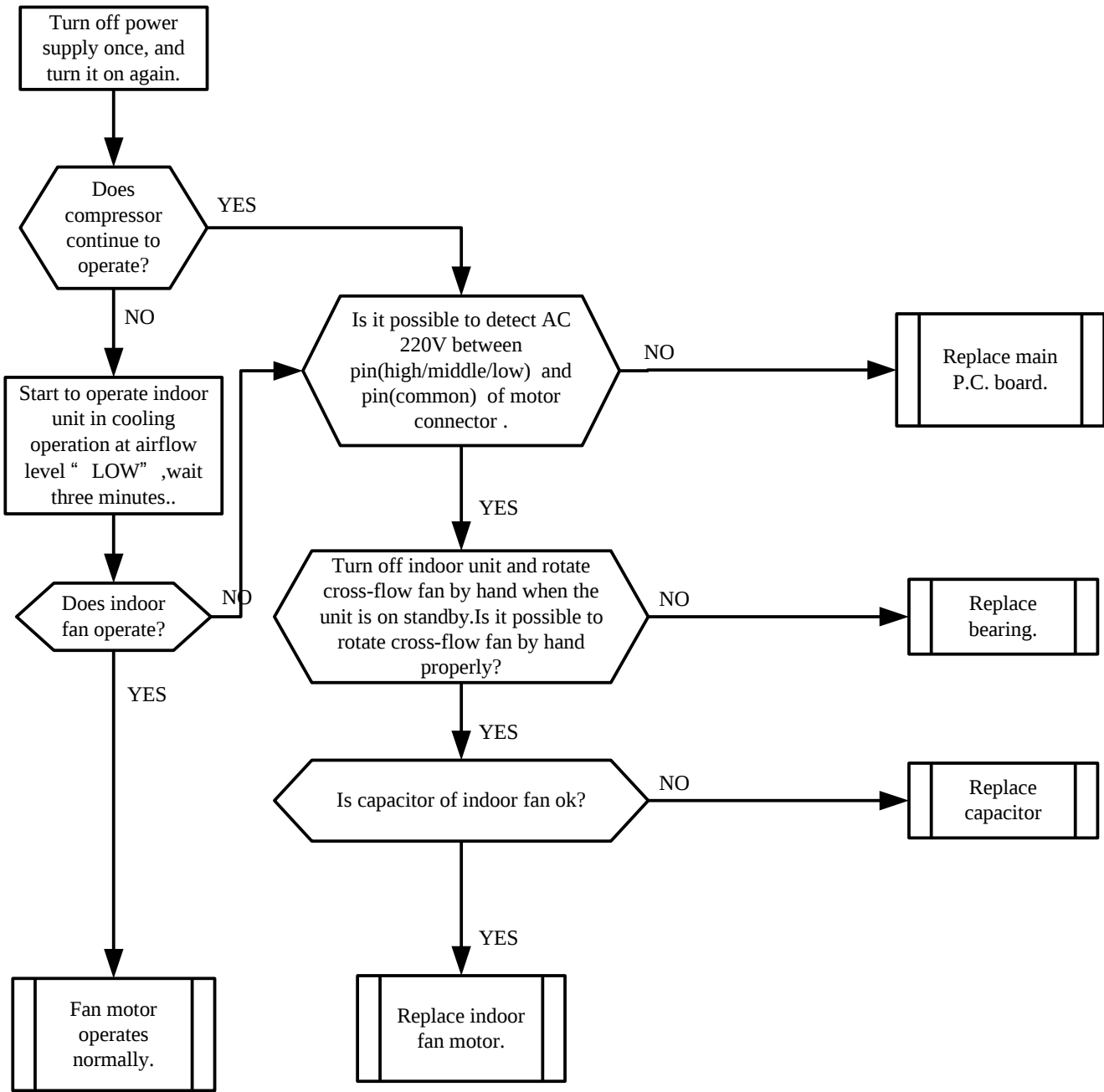
SHOOTING



Only indoor fan motor does not operate.

<Primary check>

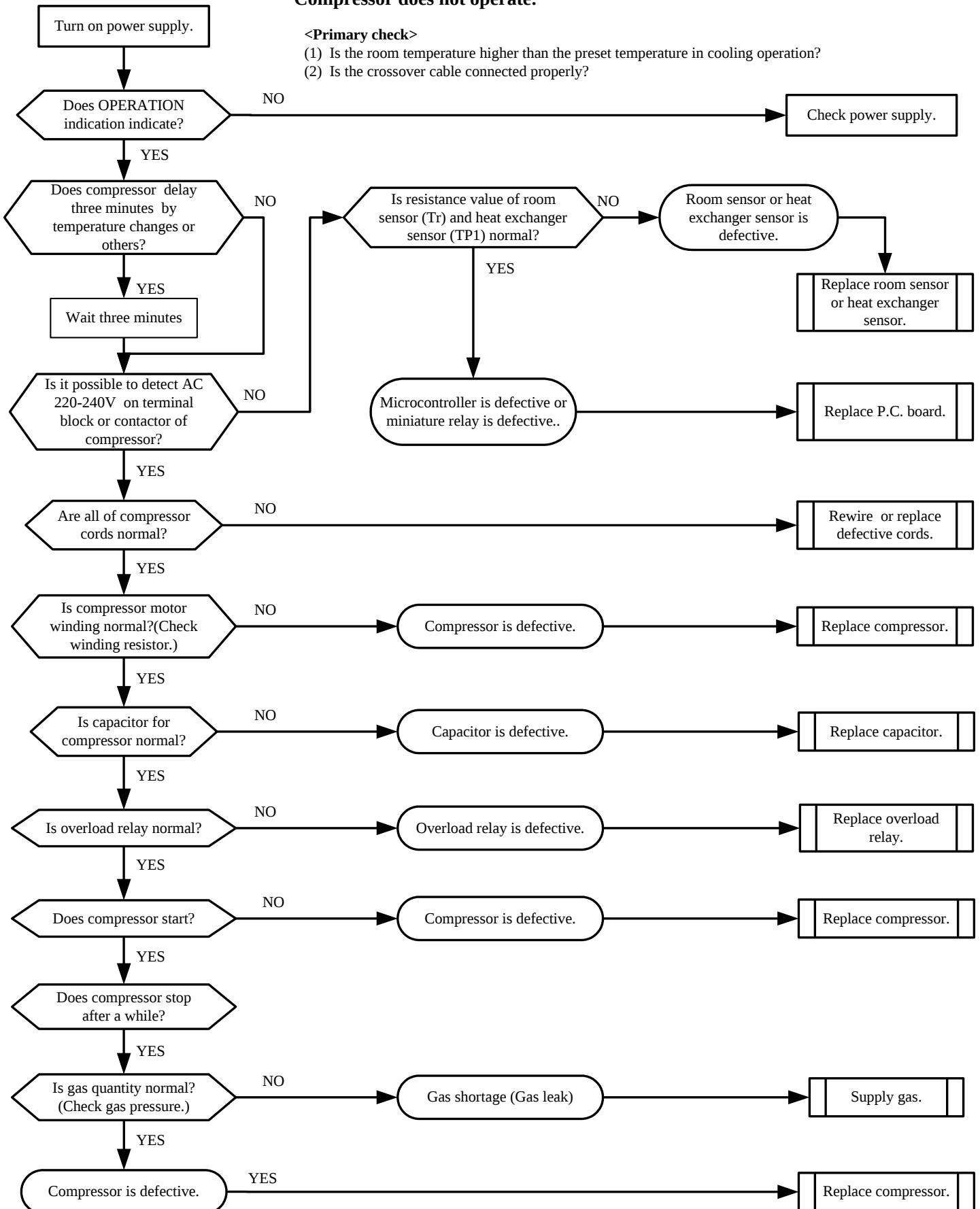
- (1) Is it possible to detect the power supply voltage (200-240V) between L and N on the terminal block?
- (2) Does the indoor fan motor operate in cooling operation?

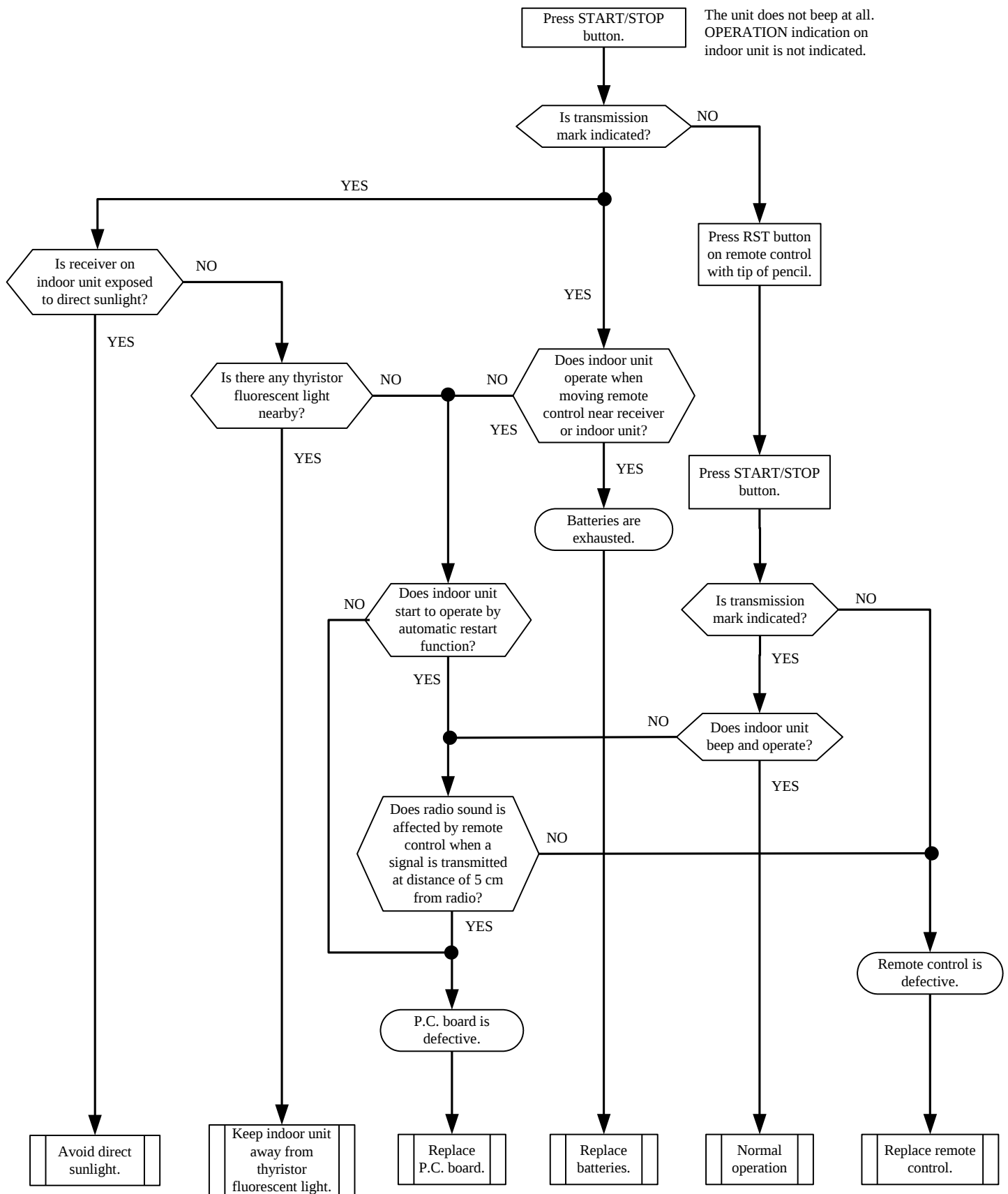


Compressor does not operate.

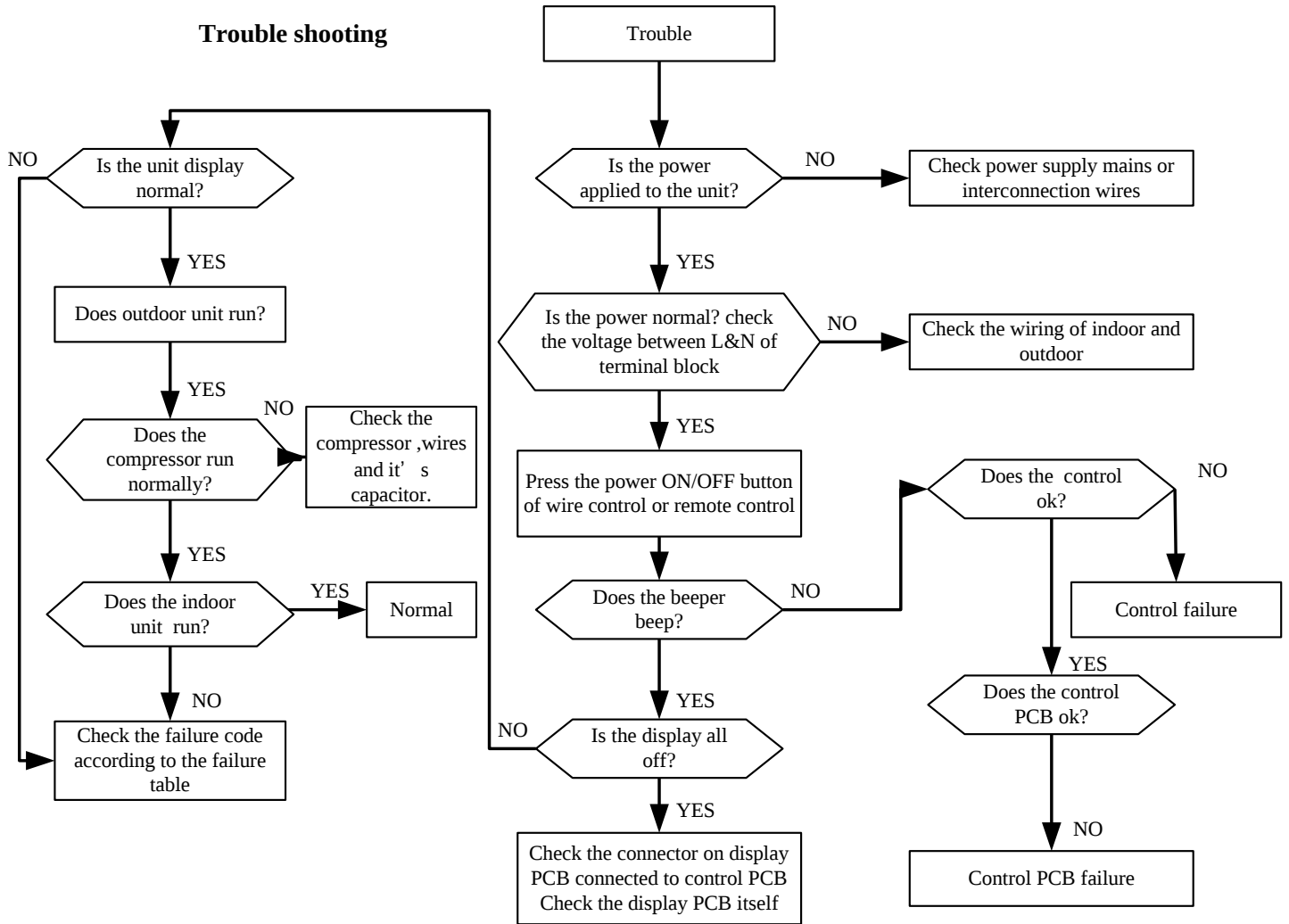
<Primary check>

- (1) Is the room temperature higher than the preset temperature in cooling operation?
- (2) Is the crossover cable connected properly?





Trouble shooting



Indoor unit and outdoor unit don' t operate

