Contents

1. Summary

1.1 indoor unit

Model 77

1.2 outdoor unit

CS-23H3-V77AY1A CS-25H3-V**AY1A

CS-32H3-V**AH4

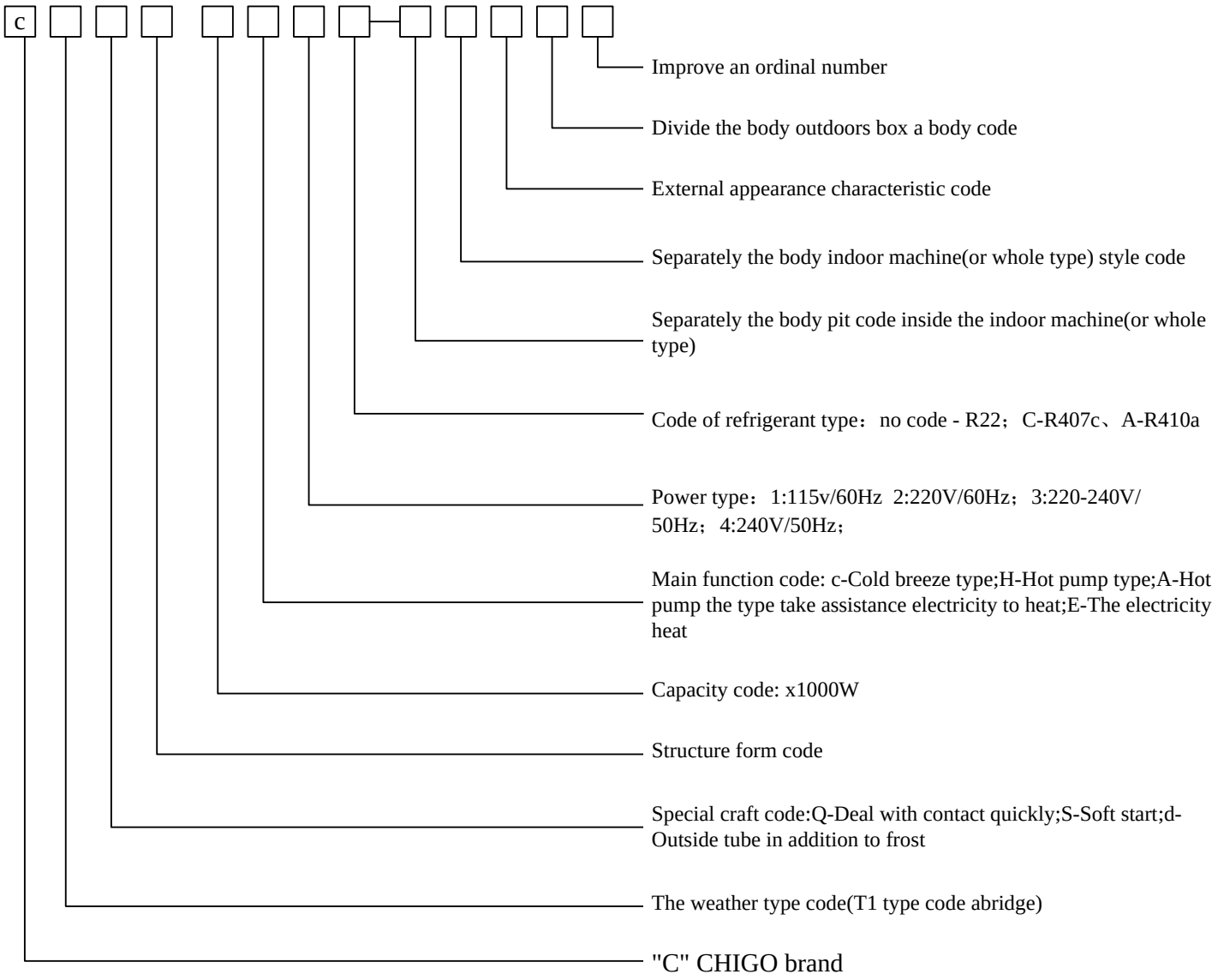
KFR-51GW/Bc

CS-66H3-N**AS

CS-88H3-Q**AT

model		CS-23H3-V77AY1A	CS-25H3-V**AY1A	CS-32H3-V**AH4	KFR-51GW/Bc
Net Dimension	indoor unit	746*245*196	746*245*196	746*245*196	940*270*180
	outdoor unit	700*225*500	700*225*500	795*255*540	795*255*540
model		CS-66H3-N**AS	CS-88H3-Q**AT		
Net Dimension	indoor unit	1000*320*200	1225*330*245		
	outdoor unit	870*310*700	900*330*835		

2、Model explaining



Model ：CS-25C3A-V85AY1

T1 climate type,wall split type air conditioner, cooling capacity is 2500W，power is 220V～/50Hz/1PH，refrigeration is R410A,the kernel of indoor unit is fresh 98，the pattern no. is 85，first time design, outdoor unit is 1HP of 2003 year。

Indoor unit modle is：CS-25C3A-V85A，outdoor unit model is：CS-25C3A-Y1。

3. Attention of installation

3.1 Safety Precaution

■To prevent injury to the user or other people and property damage, the following instructions must be followed.

■Incorrect operation due to ignoring instruction will cause harm or damage.

■Before service unit, be sure to read this service manual at first.

3.2 Warning

> Installation<

■Do not use a defective or underrated circuit breaker. Use this appliance on a dedicated circuit.

There is risk of fire or electric shock.

■For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized service center.

Do not disassemble or repair the product, there is risk of fire or electric shock.

■Always ground the product.

There is risk of fire or electric shock.

■Install the panel and the cover of control box securely.

There is risk of fire of electric shock.

■Always install a dedicated circuit and breaker.

Improper wiring or installation may cause fore or electric shock.

■ Use the correctly rated breaker of fuse.

There is risk of fire or electric shock.

■Do not modify or extend the power cable.

There is risk of fire or electric shock.

■Do not install, remove, or reinstall the unit by yourself (customer).

There is risk of fire, electric shock, explosion, or injury.

■ Be caution when unpacking and installing the product.

Sharp edges could cause injury, be especially careful of the case edges and the fins on the condenser and evaporator.

■ For installation, always contact the dealer or an Authorized service center.

There is risk of fire, electric shock, explosion, or injury.

■Do not install the product on a defective installation stand.

It may cause injury, accident, or damage to the product.

■Be sure the installation area does not deteriorate with age.

If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.

■Do not let the air conditioner run for a long time when the humidity is very high and a door or a windows is left open.

Moisture may condense and wet or damage furniture.

■Take care to ensure that power cable could not be pulled out or damaged during operation.

There is risk of fire or electric shock.

■ Do not place anything on the power cable.

There is risk of fire or electric shock.

■Do not plug or unplug the power supply plug during operation.

There is risk of fire or electric shock.

■Do not touch (operation) the product with wet hands.

There is risk of fire or electric shock.

■Do not place a heater or other appliance near the power cable.

There is risk of fire and electric shock.

■Do not allow water to run into electric parts.

It may cause fire, failure of the product, or electric shock.

■Do not store or use flammable gas or combustible near the product.

There is risk of fire or failure of product.

■ Do not use the product in a tightly closed space for a long time.

Oxygen deficiency could occur.

■When flammable gas leaks, turn off the gas and open a window for ventilation before turn the product on.

Do not use the telephone or turn switches on or off. There is risk of explosion or fire.

■If strange sounds, or small or smoke comes from product. Turn the breaker off or disconnect the power supply cable.

There is risk of electric shock or fire.

■Stop operation and close the window in storm or hurricane. If possible, remove the product from the window before the hurricane arrives.

There is risk of property damage, failure of product, or electric shock.

■Do not open the inlet grill of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)

There is risk of physical injury, electric shock, or product failure.

■When the product is soaked (flooded or submerged), contact an Authorized service center.

There is risk of fire or electric shock.

■Be caution that water could not enter the product.

There is risk of fire, electric shock, or product damage.

■ Ventilate the product from time to time when operating it together with a stove, etc.

There is risk of fire or electric shock.

■Turn the main power off when cleaning or maintaining the product.

There is risk of electric shock.

■When the product is not be used for a long time, disconnect the power supply plug or turn off the breaker.

There is risk of product damage or failure, or unintended operation.

■Take care to ensure that nobody could step on or fall onto the outdoor unit.

This could result in personal injury and product damage.

>CAUTION<

■Always check for gas (refrigerant) leakage after installation or repair of product.

Low refrigerant levels may cause failure of product.

■Install the drain hose to ensure that water is drained away properly.

A bad connection may cause water leakage.

■ Keep level even when installing the product.

To avoid water leakage from vibration。

■Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.

It may cause a problem for your neighbors.

■ Use two or more people to lift and transport the product.

Avoid personal injury.

■Do not install the product where it will be exposed to sea wind (salt spray) directly.

It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.

>Operation <

■Do not expose the skin directly to cool air for long periods of time. (Do not sit in the draft).

This could harm to your health.

■ Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer air conditioner, not a precision refrigerant system.

There is risk of damage or loss of property.

■ Do not block the inlet or outlet of air flow.

It may cause product failure.

■ Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.

There is risk of fire, electric shock, or damage to the plastic parts of the product.

■ Do not touch the metal parts of the product when removing the air filter. They are very sharp.

There is risk of personal injury.

■ Do not step on pr put anything on the product. (outdoor units)

There is risk of personal injury and failure of product.

■Always insert the filter securely. Clean the filter every two weeks or more often if necessary.

A dirty filter reduces the efficiency of the air conditioner and could cause product malfunction or damage.

■Do not insert hands or other object through air inlet or outlet while the product is operated.

There are sharp and moving parts that could cause personal injury.

■ Do not drink the water drained from the product.

It is not sanitary could cause serious health issues.

■ Use a firm stool or ladder when cleaning or maintaining the product.

Be careful and avoid personal injury.

■ Replace the all batteries in the remote control with new ones of the same type. Do not mix old and mew batteries or different types of batteries.

There is risk of fire or explosion.

■ Do not recharge or disassemble the batteries. Do not dispose of batteries in a fire.

They may burn of explode.

■ If the liquid from the batteries gets onto your skin or clothes, wash it well with clean water. Do not use the remote of the batteries have leaked.

The chemical in batteries could cause burns or other health hazards.

3.3 Installation details

■ Wrench torque sheet for installation

Outside diameter		Torque
mm	inch	Kg.m
φ6.35	1/4	1.8
φ9.52	3/8	4.2
φ12.7	1/2	5.5
φ15.88	5/8	6.6
φ19.05	3/4	6.6

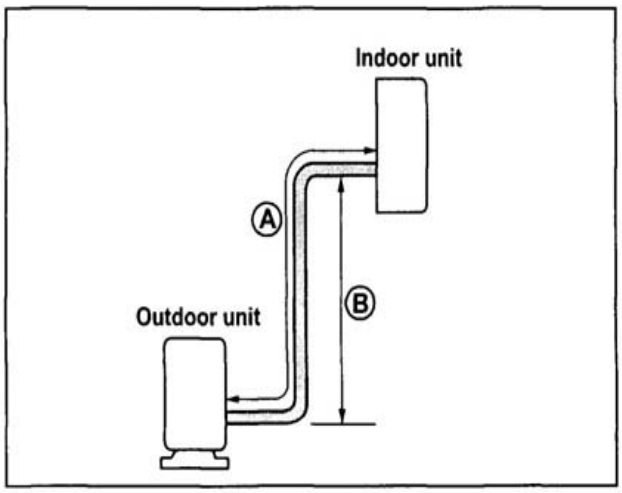
■Connecting the cables

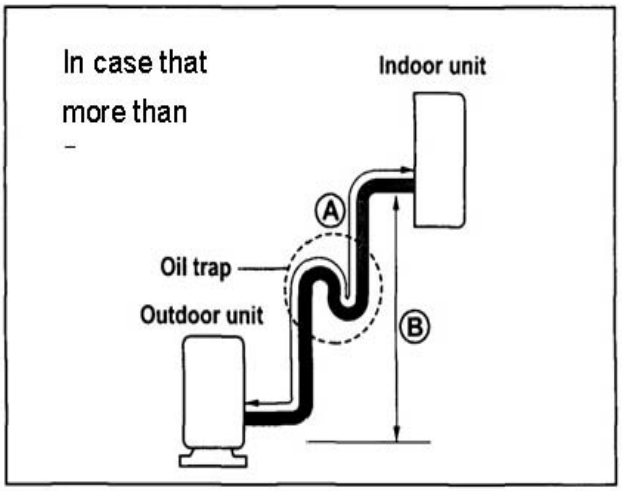
The power cord of connect should be selected according to the following specifications sheet.

	Grade					
Unit	7K	9K	12K	18K	24K	28K
mm2	1.0	1.0	1.5	2.5	2.5	2.5

■ Pipe length and the elevation

Capacity	Pipe size		Standard length (m)	Max. Elevation	Max. Elevation	Additional refrigerant
Btu/h	GAS	LIQUID		B (m)	A (m)	(g/m)
9K-12K	3/8'' (φ9.52)	1/4'' (φ6.35)	3.5	5	10	30
18K-22K	1/2'' (φ12.7)	1/4'' (φ6.35)	4	10	15	30
24K-28K	5/8'' (φ15.88)	3/8'' (φ9.52)	5	15	20	65





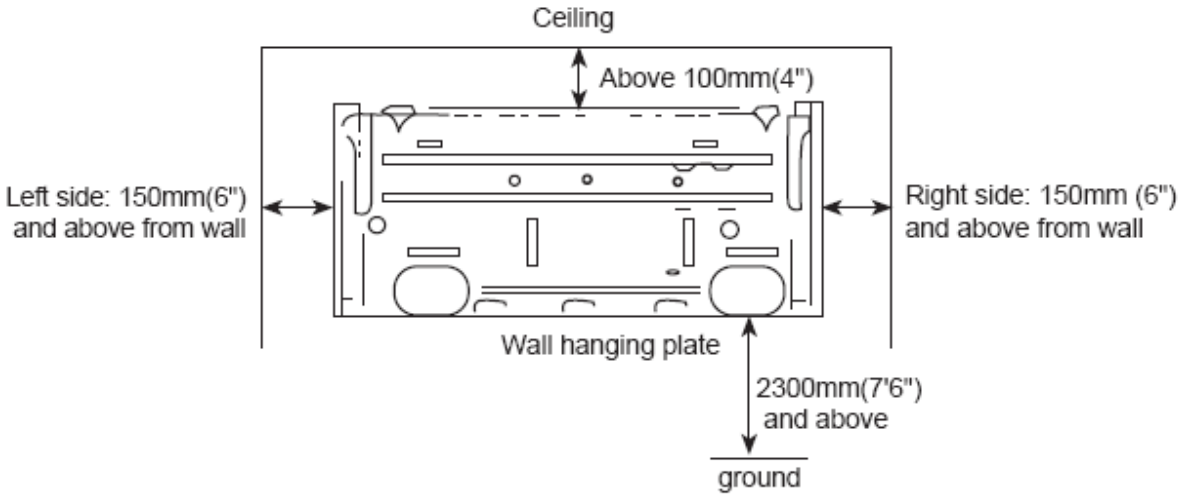
Caution: Capacity is base on standard length and maximum allowance length is base of reliability .Oil trap should be installed per 5-7 meters.

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.

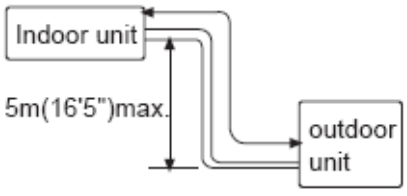
* To take into consideration the operational convenience and safety in installation, it is recommende to ensure enough space between the unit and the walls.



Attention:If there are some additional function devices to install on the air conditioner,Be sure 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 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.

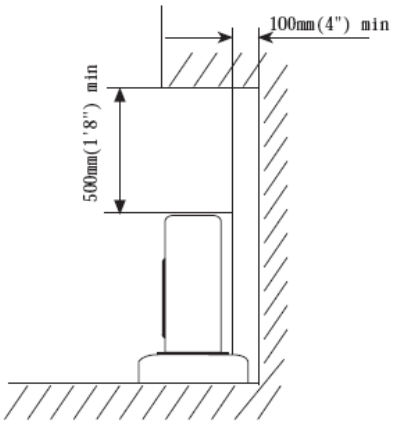


Selection of installation positions for outdoor unit

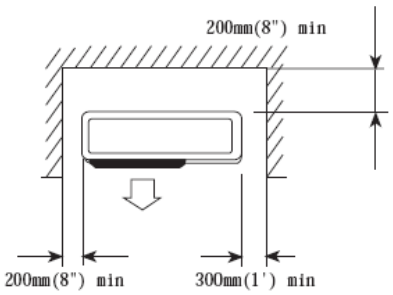
- To install the outdoor unit at the places which can stand the load of the machine weight and will not cause big vibrations and noises;
- To install the unit at the places not to be exposed to rain or direct sunshine, and the places with good ventilation;
- The noises generated from the unit will not affect the neighboring places;
- Do not install the unit on 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

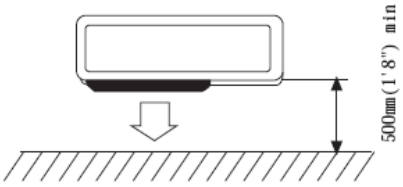
1. When there are obstacles above the unit



2. When the front (air outlet) is open

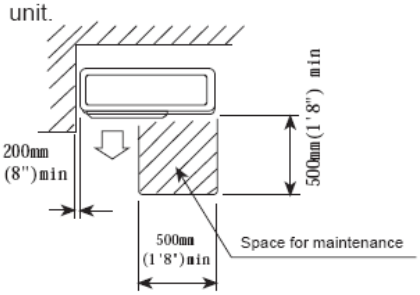


3. When there are

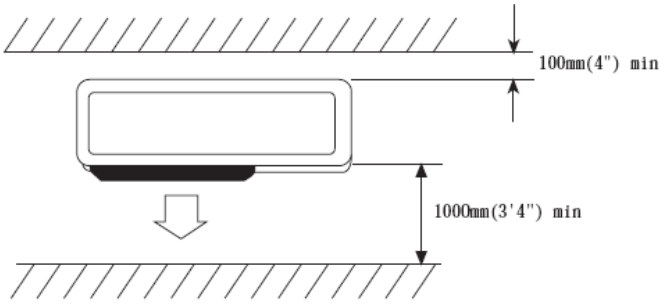


Space for maintenance

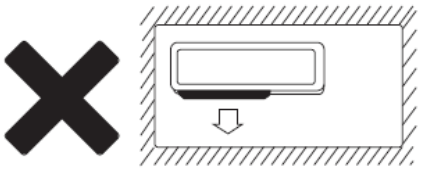
Shown as in the following figure. Keep the maintenance space in front of the unit.



4. When there are obstacles at the front and rear sides.



5. When there are obstacles all around the unit on four sides.
Although the top side is open, the installation is not to be done if there are obstacles all around.

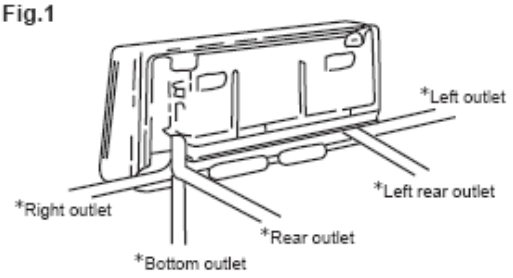


* At least two sides should be kept open.

Installation fixture of indoor unit

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

Fig.1



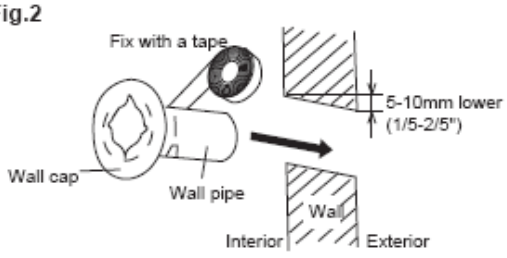
1.Installation of wall-mounting plate

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.

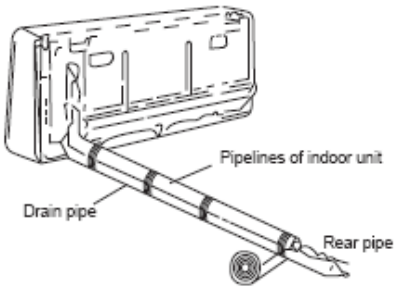
Fig.2



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).

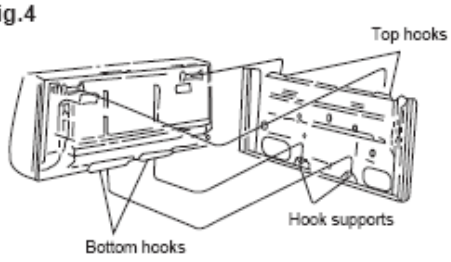
Fig.3



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)

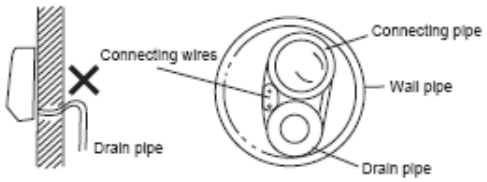
Fig.4



Inspections:

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

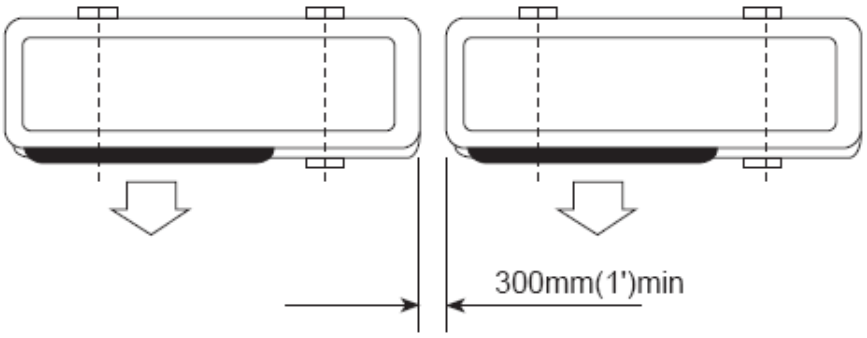
Fig.5



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.

Dimensions for parallel units installations



*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.

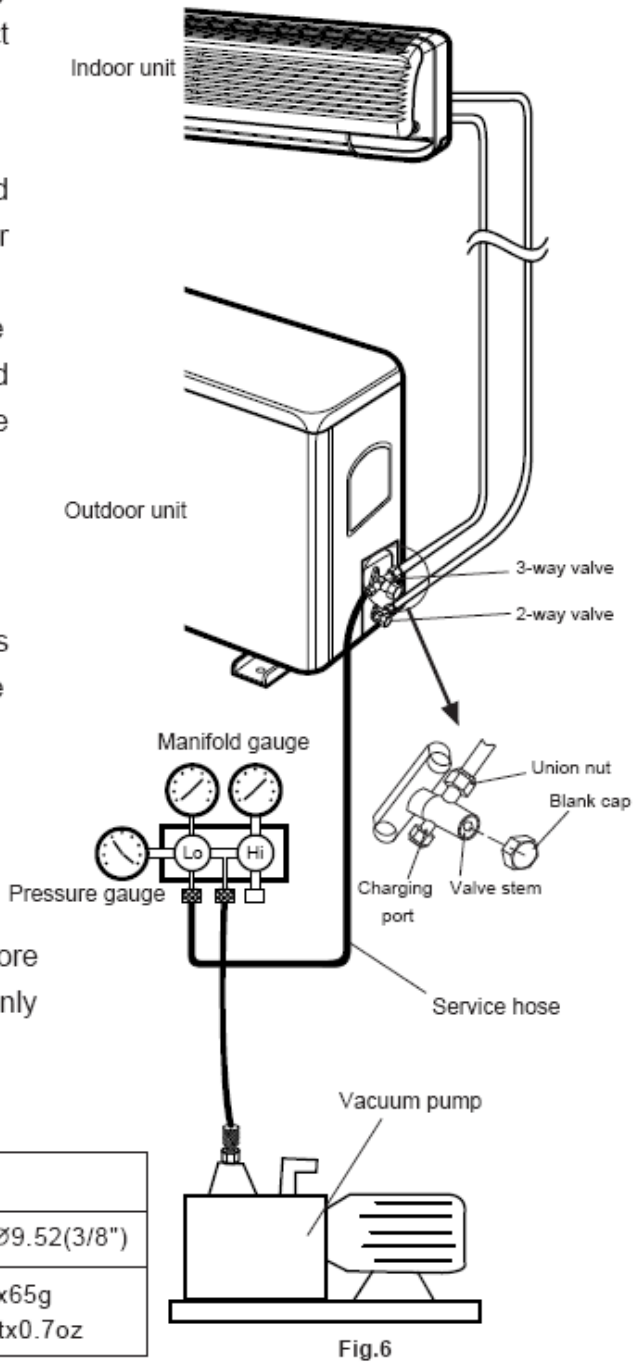


Fig.6

*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)mx30g or (piping length-16)ftx0.3oz	(piping length-5)mx65g or (piping length-16)ftx0.7oz

*Gas leakage inspection

After the pipieline 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 imporant 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 pipeplines 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.

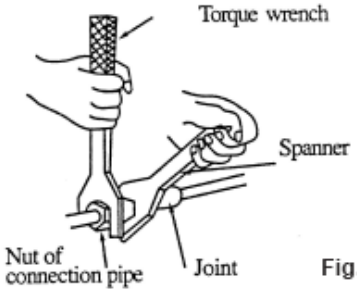


Fig.7

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.

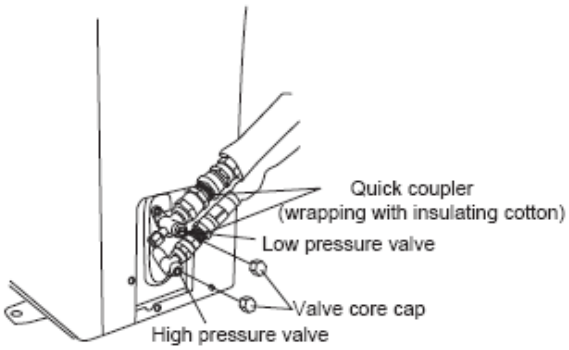


Fig.8

* 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

Normial 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)

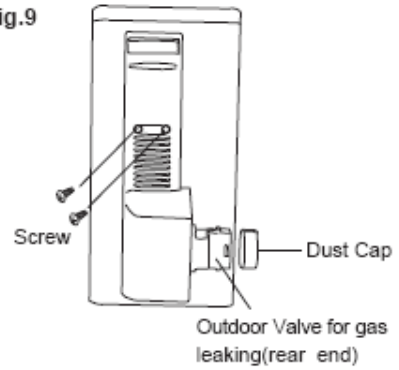
* Pipelines connection for Whole-Unit type quick coupler model *

*** If you purchase the machine for Whole-Unit type quick coupler model,please adopt the following pipeplines connection procedures:**

STEP 1

* Remove two screws on the maintance 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.

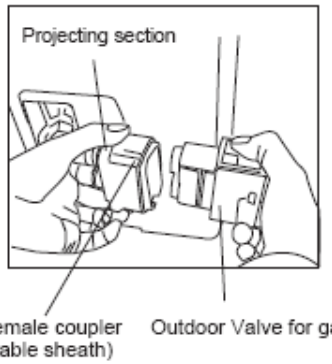
Fig.9



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.

Fig.10



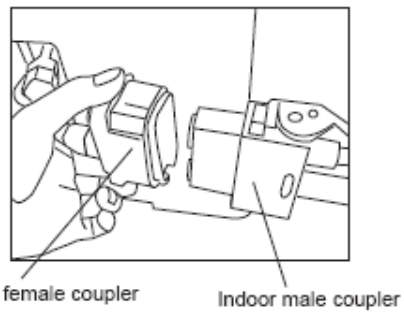
STEP 3

* 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 obvioulsy hear the sound of inner air flowing ,See Fig.12.

Fig.11



STEP 5

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

STEP 6

* Finally,Re-install the mainteance 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.12

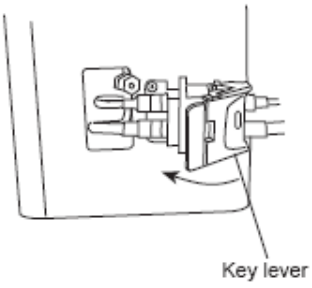
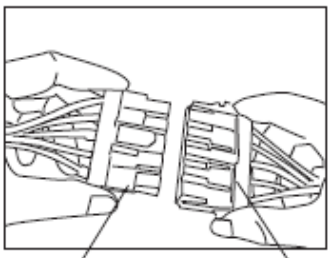
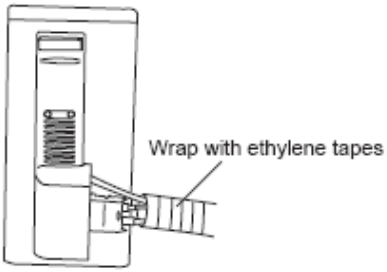


Fig.13



Outdoor quick cable coupler Indoor quick cable coupler

Fig.14



* 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.

4.Optional steps:In some cooling and heating models,you should connect the indoor wire connector with outdoor probe wire connector for defrosting,see Fig.17.

Fig.15

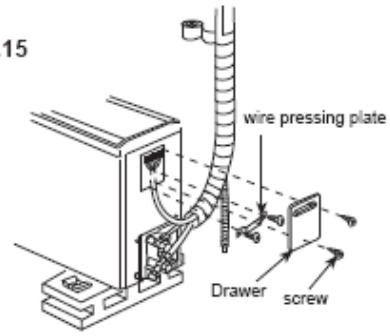


Fig.16

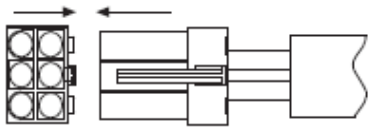
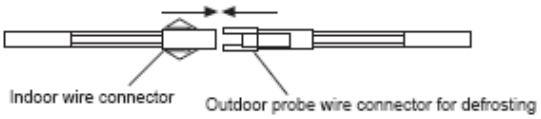


Fig.17



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 shalled be added in fixed wiring.

* Finishing touches *

* wrap the piplines 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 I 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.

*Quick connector installation instruction *

This sheet only guides the requirements of the installation for stainless quick connect pipe.Other installation requirements please refer to the installation guide along with th unit.

*To expand the connecting pipe,please hold one side then expand it following the right direction

*Please insure the angles have a radian at some extent while intalling the stainless soft pipe. Angels need to be around, not bended.(to the quick connecting spot and drilled point of wall.

*Please fix the stainless soft pipe while installing because the connecting pipes are soft, so that prevent them from getting bended or stretched.

*The minimum bending radius are as follows:

Stainless soft pipe	*Model*	*Minimum bending radius(mm)*
**Eight*	Twenty-one,Twenty-five	Eighty(mm)
**Ten*	Thirty-five	One hundred(mm)
**Thirteen*	fifty-one	One hundred and fifteen(mm)

Installation Guide

To keep the allowed bending radius,please make the packed soft pipes vertical for expanding.			Please do not expand only one side of the packed soft pipes.
Please make use of semicircle pulley to keep the allowed bending radius.			Extremely bending could damage the pipes.
Please use twisting wheel to avoid improper bending.			Over length soft pipes will lead to irregular bending.
Please use rigid elbow to keep the bending radius while soft pipes operating.			Undersize bending will damage the soft pipe.
Please Keep the minimum bending radius while installing.			Short soft pipes will have them bending undersize,it's not allowed.

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

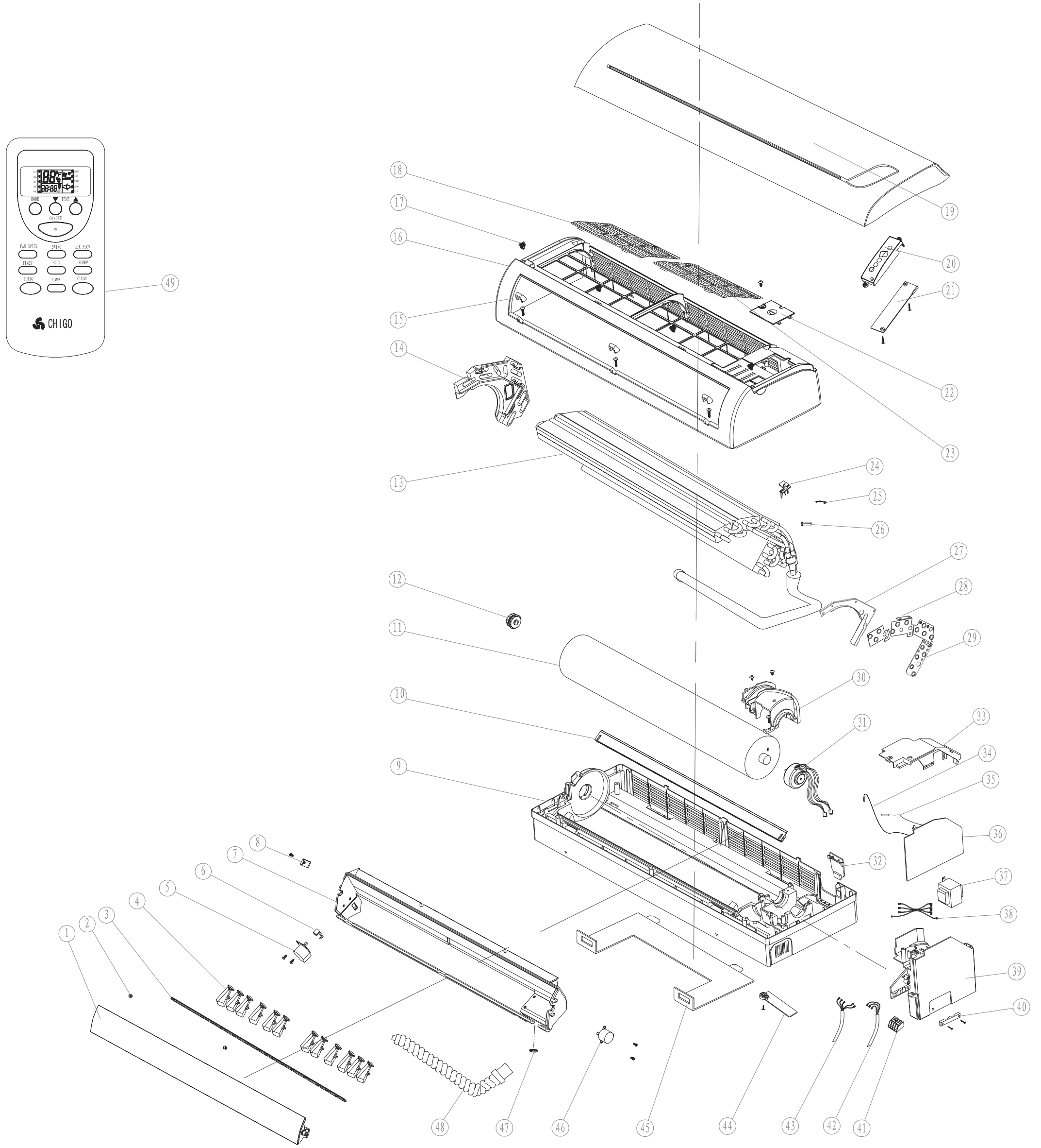
CS-23H3-V77AY1A CS-25H3-V**AY1A CS-32H3-V**AH4 INDOOR UNIT

KFR-35G/VD(V84A).FJT.1

版本状态	0

编制说明:

1、本分解图适用于分体挂壁式空调器大全2007 84款.



序号 (Serial Number)	名称(Part Name)		数量 (Quantity)	备注(Remarks)
49	遥控器	Remote controller	1	
48	保温水管	Thermal insulation pipe	1	
47	排水嘴防水环		1	
46	步进电机	Step motor	1	
45	挂墙板	wall-mounting frame	1	
44	压管板	Pipe Clamp	1	
43	室内外连接电缆线	Connecting Cable	1	
42	电源线	Power Cord	1	
41	端子台	Terminal Board	1	
40	C2压线扣	C2 Wire Clip	1	
39	电器盒	Electric Box	1	
38	连接线	Connecting Wire	1	
37	变压器	Transformer	1	
36	电控板	Electric control plate	1	
35	管温探头	Tube Temp. Sensor	1	
34	室温探头	Room Temp. Sensor	1	
33	电控盒盖	Electric box cover	1	
32	底座镶块	Base accessory	1	
31	电机	Motor	1	
30	电机压盖	Motor platen	1	
29	右端板III	Right plate III	1	
28	右端板II	Right plate II	1	
27	右端板I	Right plate I	1	
26	探头铜管	Copper pipe of sensor	1	
25	探头弹簧片	Sensor insert Block	1	
24	室温探头架	Room temp. Sensor Holder	1	
23	中框盖板	Middle frame coverplate	1	
22	GV右过滤网	GV right air Filter	1	
21	电控显示盒	Display box	1	
20	显示灯板	Display lamp panel	1	
19	面板组件	Front Panel assembly	1	
18	GV左过滤网	GV left air Filter	1	
17	附扣	Clip	4	
16	GV中框	GV middle frame	1	
15	螺钉盖	Screw cover	3	
14	蒸发器左端板	Evaporator left plate	1	
13	蒸发器组件	Evaporator assembly	1	
12	轴承座	Bearing	1	
11	贯流风轮	Cross flow fan	1	
10	导水板	Guide Water Board	1	
9	底 座	Base	1	
8	压线扣	Wire Clip	1	
7	出风主体	Outlet part	1	
6	摇臂	Rocker	1	
5	步进电机	Step motor	1	
4	导风叶片	Swing louver	12	
3	大连杆	Connecting lever	1	
2	轴套	Guide Bearing	2	
1	导风条	Louver	1	

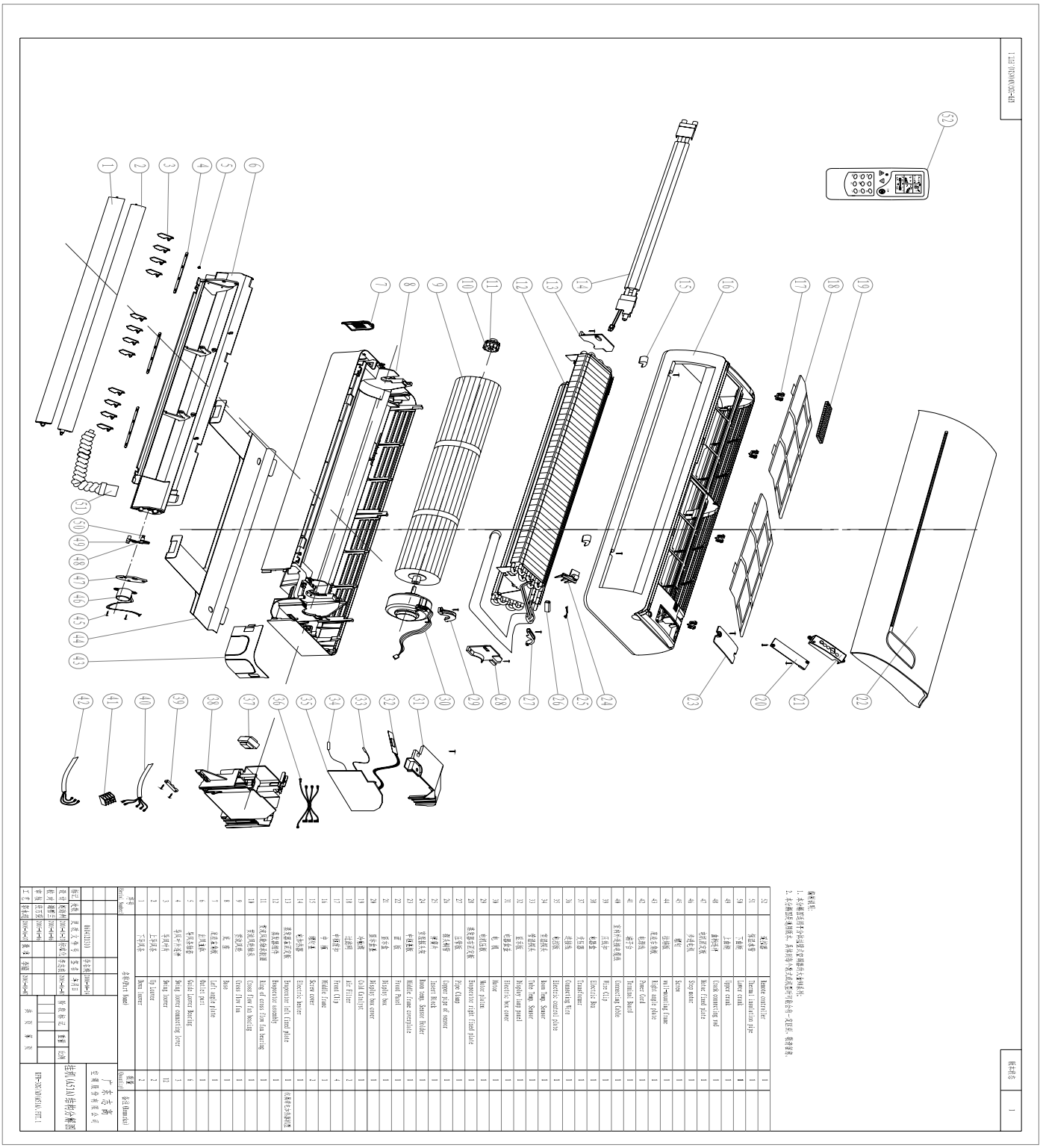
标记	处数	更改文件号	签名	年月日			
设计	吴精强	2007-09-28	标准化	李志良	2007-09-29	阶段标记	重量	比例
校对	罗建成	2007-09-29					
审核	秦小丁	2007-09-29					
工艺	卢柏华	2007-09-29	批准	刘阳	2007-09-29	共 页 第 页	

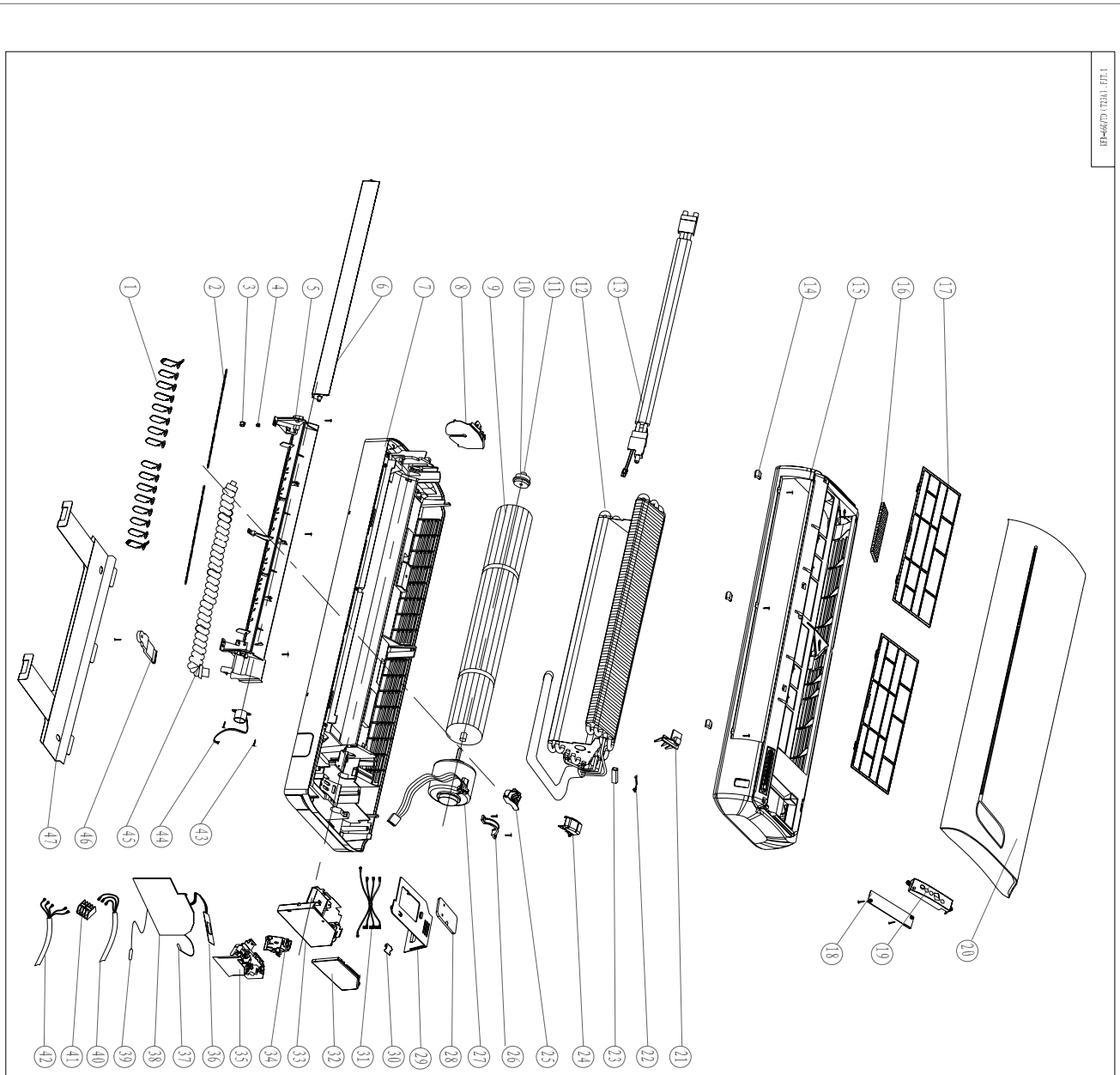
广东志高 空调股份有限公司

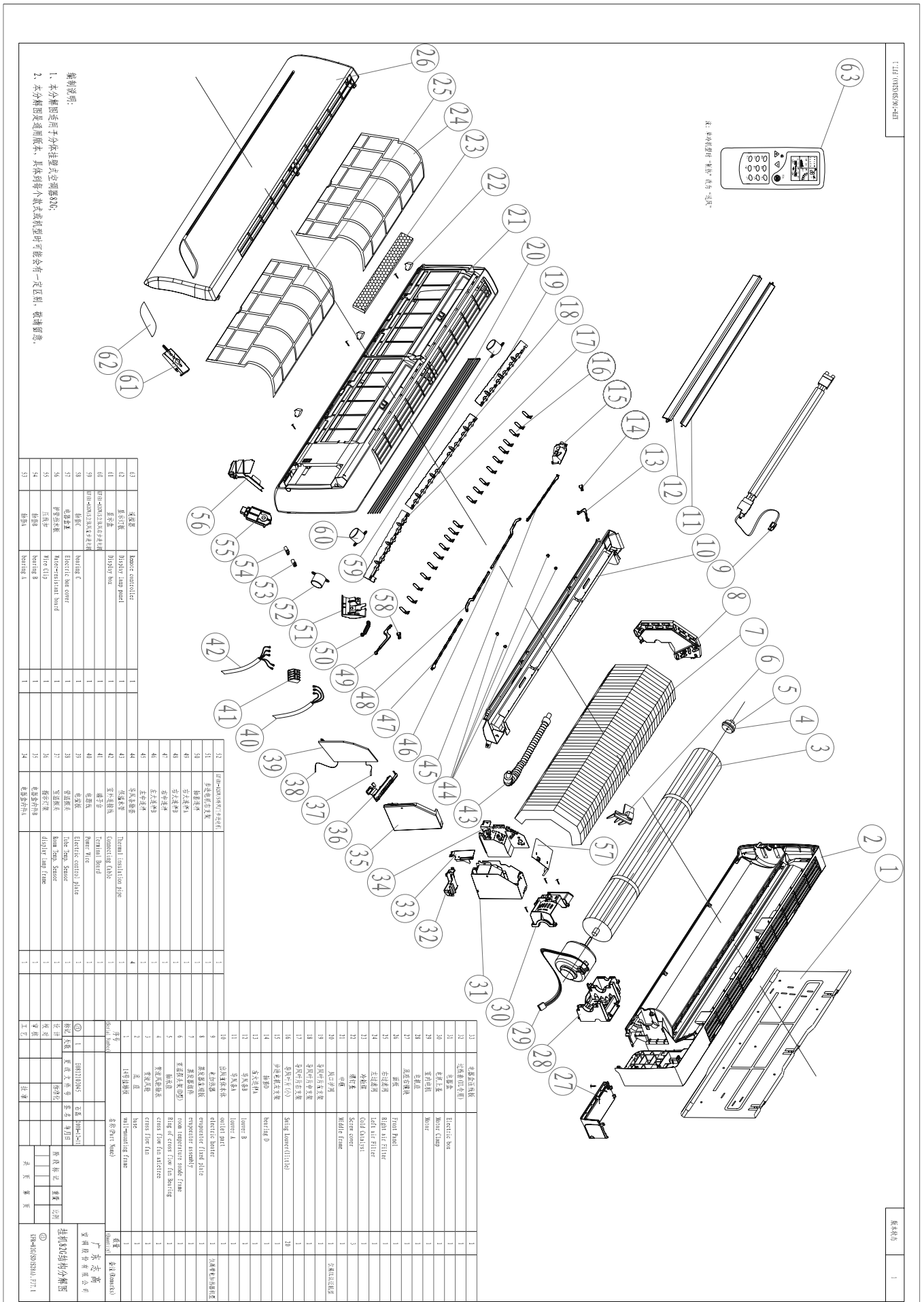
V84结构分解图

KFR-35G/VD(V84A).FJT.1

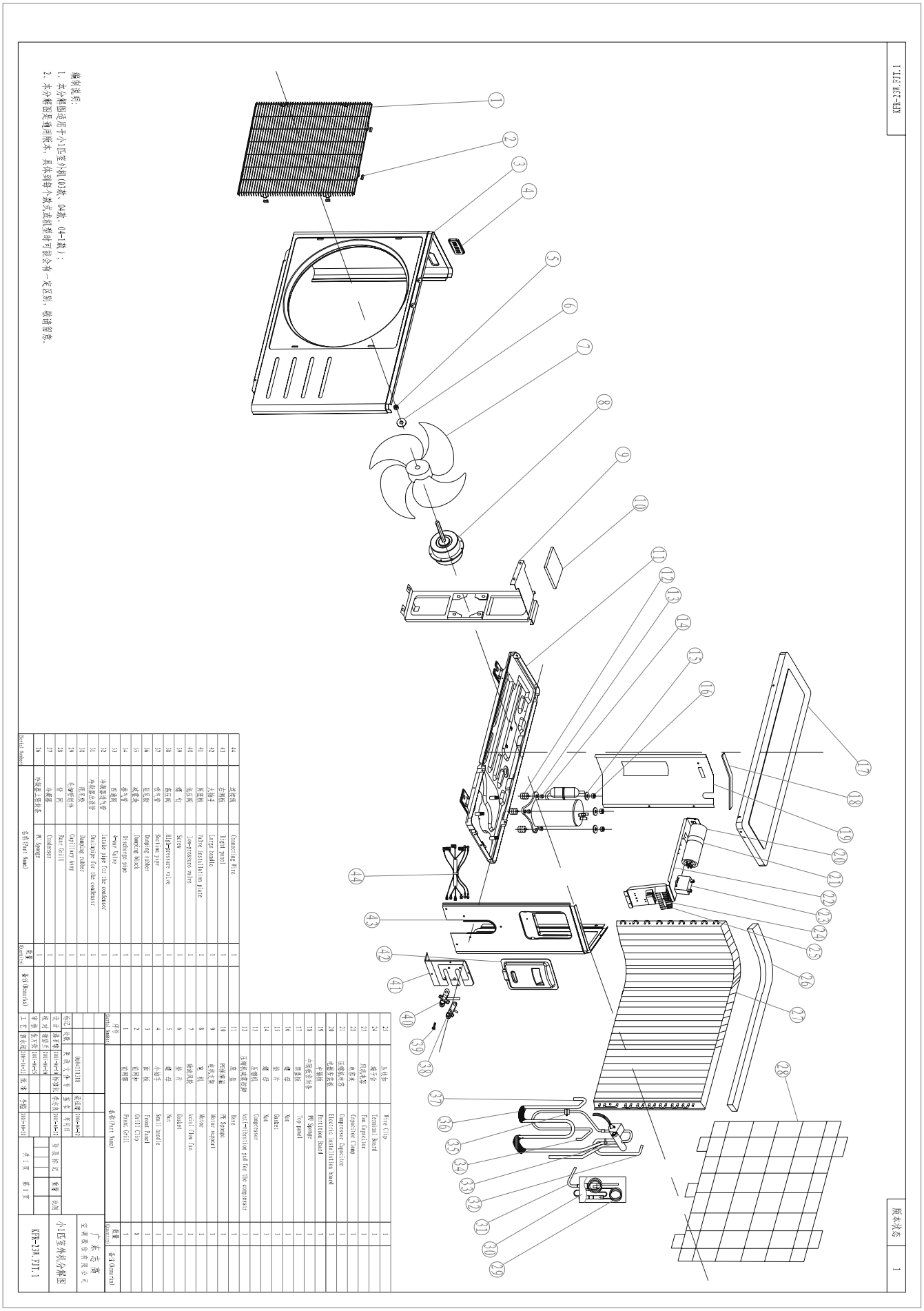
CS-51H3-H**AH1 INDOOR UNIT

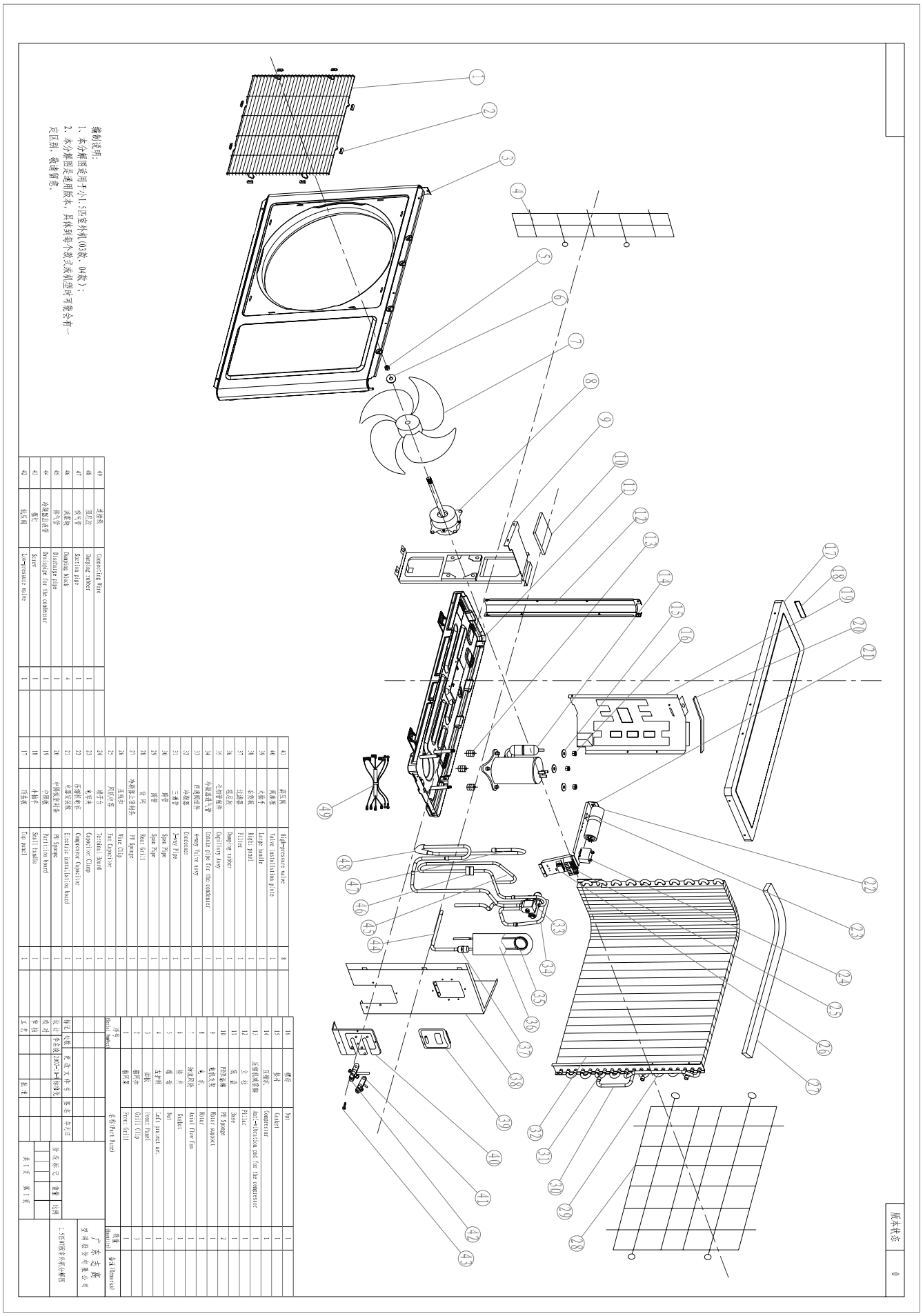


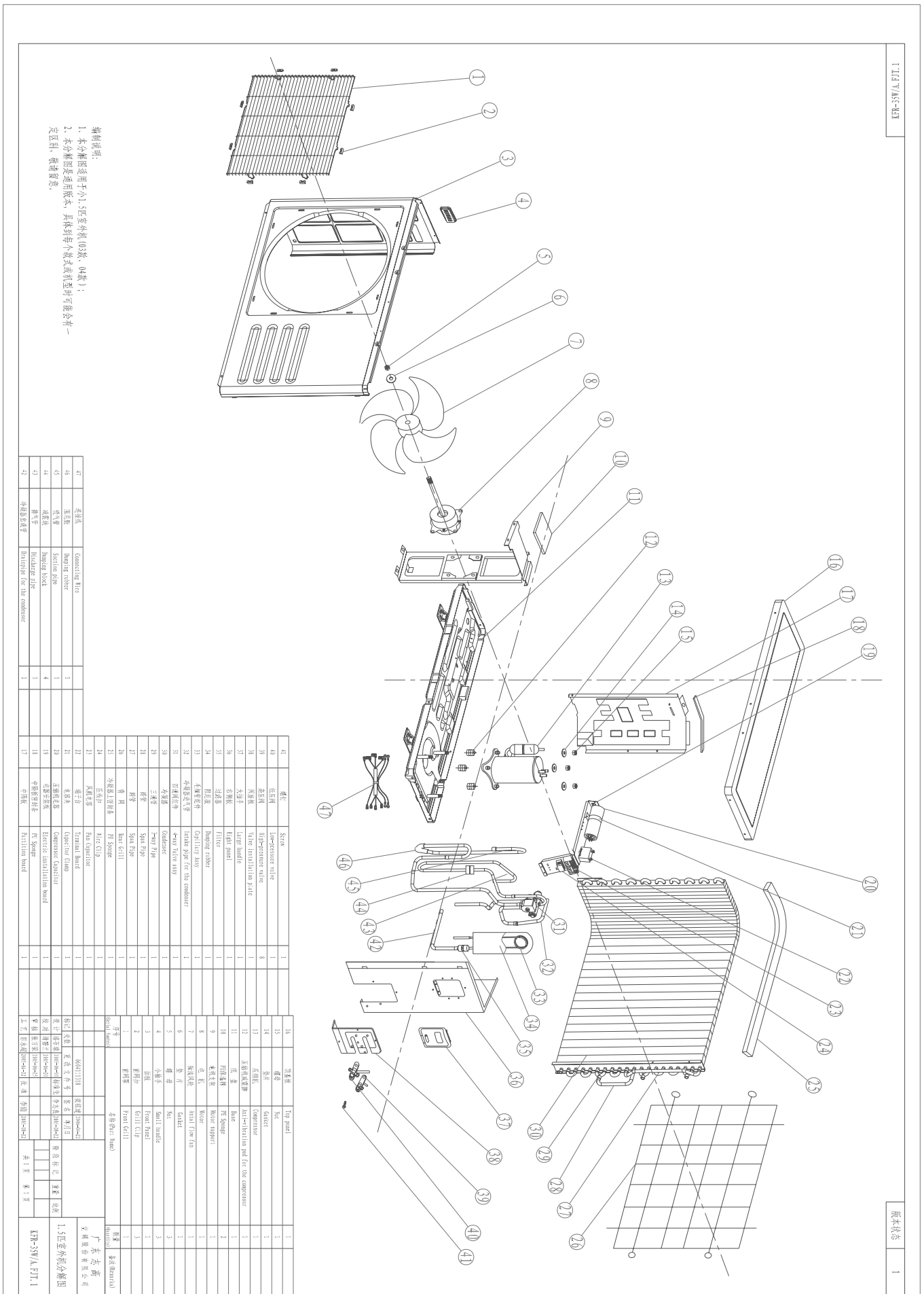




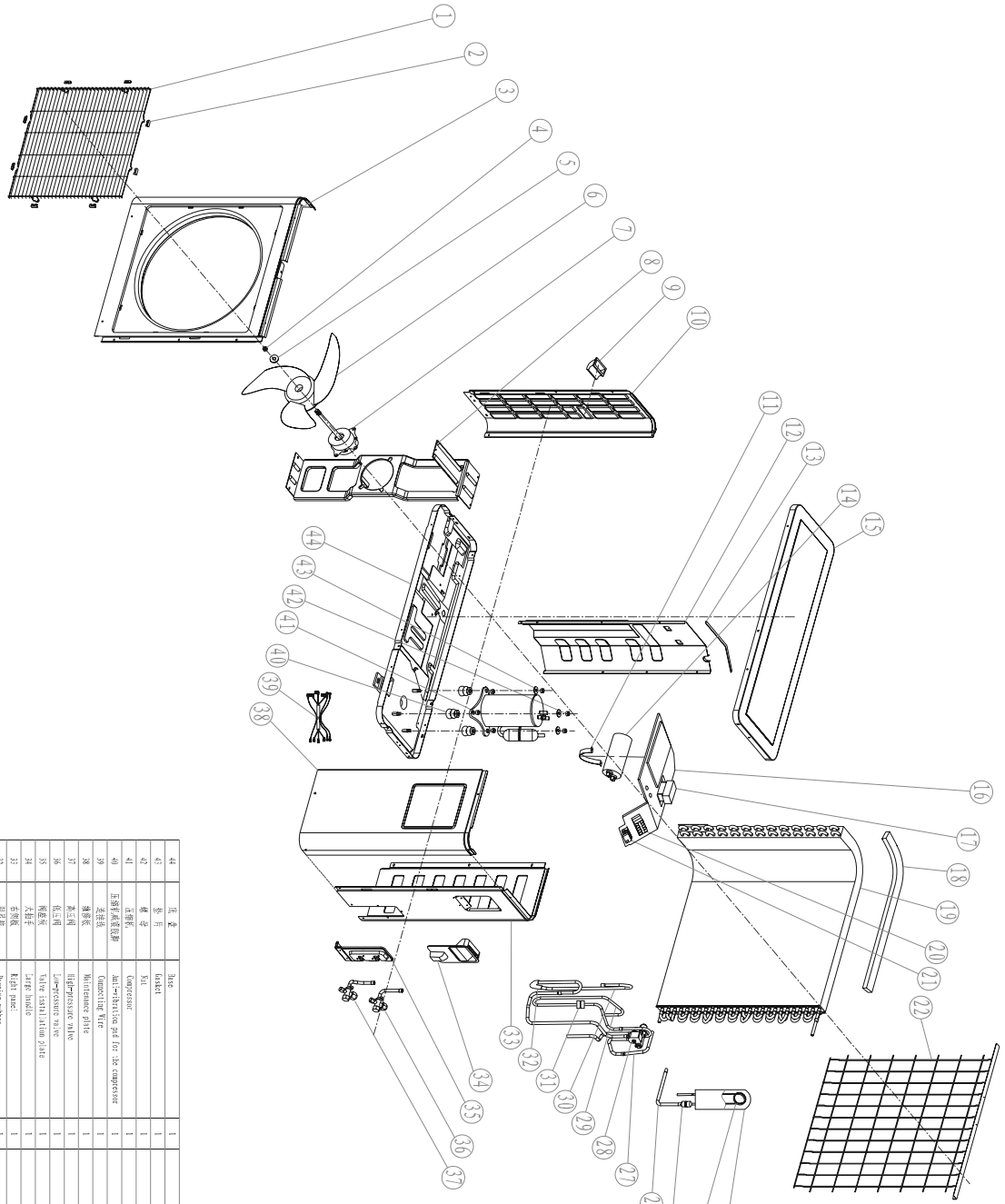
KFR-23GW/AC CS-25H3-V**AY1A OUTDOOR UNIT



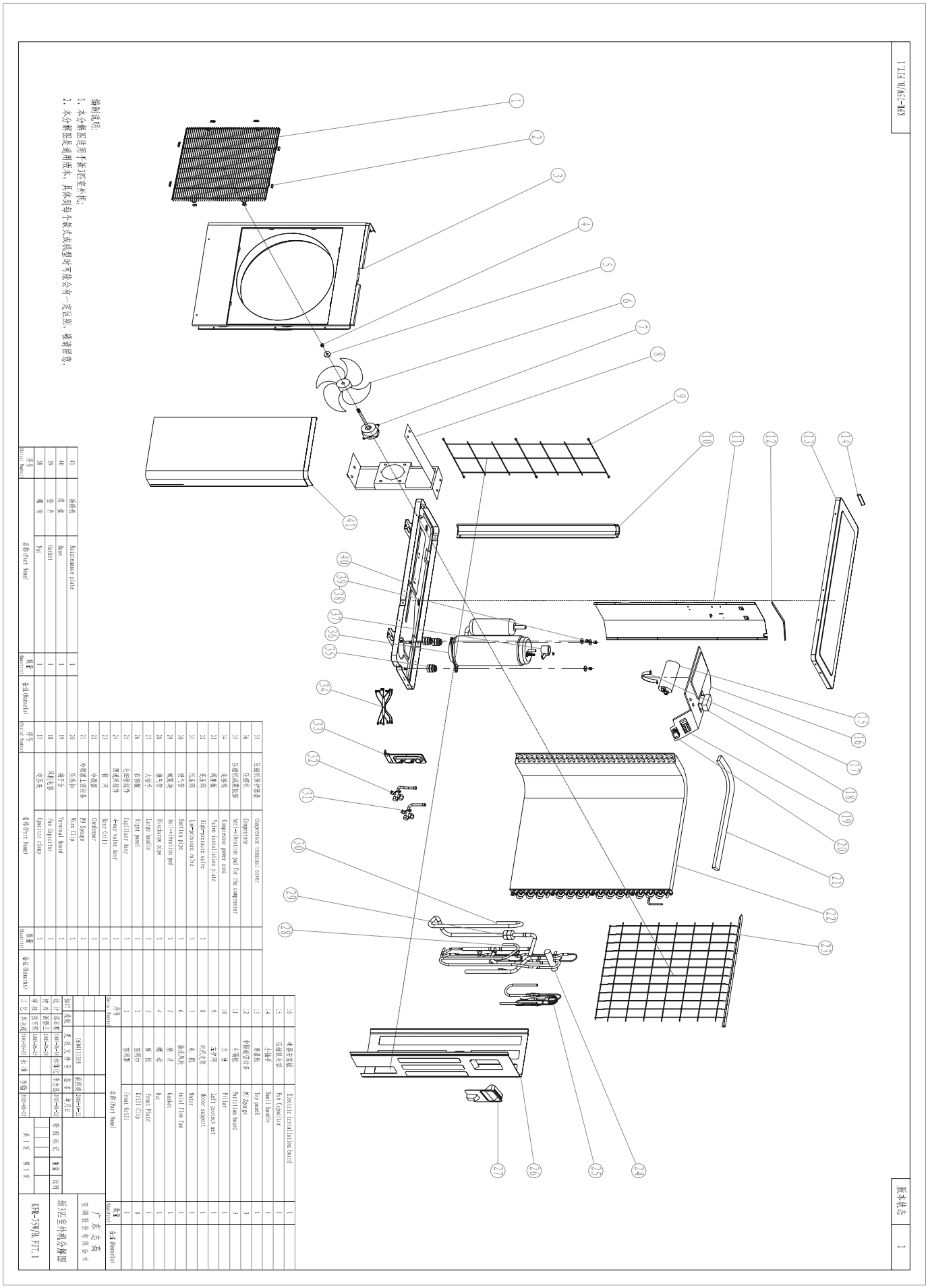




CS-66H3-N**AS OUTDOOR UNIT



CS-88H3-Q**AT OUTDOOR UNIT



PART LIST (INDOOR UNIT)

序号 (Serial Number)	名称 (Part Name)	CS-23H3-V77AY1A
1	导风条 Louver	391190065
2	轴套 Guide Bearing	100420008
3	导风叶片连杆 Connecting Lever	391200128
4	导风叶片 Swing louver	391200136
5	步进电机 Step motor	320273027
6	摆风摇臂 Rocker	391200129
7	出风主体 Outlet part	391200127
8	压线扣 Wire Clip	391110017
9	底座 Base	391250015
10	导水板 Guide Water Board	391990110
11	贯流风轮 Cross flow fan	100010019
12	轴承座 Bearing	110010605
13	蒸发器 Evaporator assembly	371100071
14	蒸发器左端板 Evaporator left plate	391990239
15	螺钉盖 Screw cover	391260014
16	GV 中框 GV middle frame	391260038
17	附扣 Clip	391260009
18	GV 左过滤网 GV left air Filter	391120070
19	面板 Front Panel assembly	391220192
20	显示灯板 Display lamp panel	——
21	显示盒 Display box	391130022
22	GV 右过滤网 GV right air Filter	391120070
23	中框盖板 Middle frame coverplate	391990273
24	室温探头架 Room temp. Sensor Holder	100280105
25	探头弹簧片 Sensor insert Block	079990240
26	探头铜管 Copper pipe of sensor	079990030
27	右端板 I Right plate I	311050040
28	右端板 II Right plate II	311050039
29	右端板 III Right plate III	029993981
30	电机盖 Motor platen	100130024
31	电机 Motor	030020115
32	底座镶块 Base accessory	391990253
33	电器盒盖 Electric box cover	100100039
34	室温探头 Room Temp. Sensor	973311290
35	管温探头 Tube Temp. Sensor	
36	电控板 Electric control plate	
37	变压器 Transformer	030180061
38	连接线 Connecting Wire	——

39	电器盒 Electric Box	100100010
40	压线扣 Wire Clip	391110017
41	端子台 Terminal Board	030090005
42	电源线 Power Cord	050010026
43	室内外连接电缆 Connecting Cable	342100030
44	压管板 Pipe Clamp	100430027
45	挂墙板 wall-mounting frame	020100009
46	步进电机 Step motor	320273012
47	排水嘴防水环	391990202
48	保温水管 Thermal insulation pipe	099990080
49	遥控器 Remote controller	336815018

序号 (Serial Number)	名称 (Part Name)	CS-25H3-V77AY1A	CS-32H3-V77AH4
1	导风条 Louver	391190065	391190065
2	轴套 Guide Bearing	100420008	100420008
3	导风叶片连杆 Connecting Lever	391200128	391200128
4	导风叶片 Swing louver	391200136	391200136
5	步进电机 Step motor	320273027	320273027
6	摆风摇臂 Rocker	391200129	391200129
7	出风主体 Outlet part	391200127	391200127
8	压线扣 Wire Clip	391110017	391110018
9	底座 Base	391250015	391250015
10	导水板 Guide Water Board	391990169	391990169
11	贯流风轮 Cross flow fan	100010019	100010019
12	轴承座 Bearing	401000009	401000009
13	蒸发器 Evaporator assembly	371100071	371100085
14	蒸发器左端板 Evaporator left plate	391990239	109990089
15	螺钉盖 Screw cover	391260014	391260014
16	GV 中框 GV middle frame	391260038	391260038
17	附扣 Clip	391260009	391260009
18	GV 左过滤网 GV left air Filter	391120070	391120070
19	面板 Front Panel assembly	391220192	391220192
20	显示灯板 Display lamp panel	——	——
21	显示盒 Display box	391130022	391130022
22	GV 右过滤网 GV right air Filter	391120070	391120070
23	中框盖板 Middle frame coverplate	391990273	391990238
24	室温探头架 Room temp. Sensor Holder	100280105	100280105
25	探头弹簧片 Sensor insert Block	079990240	079990240
26	探头铜管 Copper pipe of sensor	079990030	079990030
27	右端板 I Right plate I	311050040	311050040

28	右端板 II Right plate II	311050039	311050039
29	右端板 III Right plate III	029993981	029993981
30	电机盖 Motor platen	100130024	100130024
31	电机 Motor	030020115	030020115
32	底座镶块 Base accessory	391990253	391990253
33	电器盒盖 Electric box cover	100100039	100100039
34	室温探头 Room Temp. Sensor	338000155	338000155
35	管温探头 Tube Temp. Sensor	338000076	338000076
36	电控板 Electric control plate	331300361	331300309
37	变压器 Transformer	030180061	030180061
38	连接线 Connecting Wire	——	——
39	电器盒 Electric Box	100100010	100100010
40	压线扣 Wire Clip	391110017	391110018
41	端子台 Terminal Board	030090005	030090005
42	电源线 Power Cord	050010026	050010027
43	室内外连接电缆 Connecting Cable	342100030	342100030
44	压管板 Pipe Clamp	100430027	100430027
45	挂墙板 wall-mounting frame	020100009	020100009
46	步进电机 Step motor	320273012	320273012
47	排水嘴防水环	391990202	391990202
48	保温水管 Thermal insulation pipe	099990080	099990080
49	遥控器 Remote controller	336815018	336815018

序号 (Serial Number)	名称 (Part Name)	KFR-51GW/Bc
1	下导风条 Down louver	100420087
2	上导风条 Up Louver	100420088
3	导风叶片 Swing louver	100420007
4	导风叶片连杆 Swing louver connecting lever	100420048
5	导风条轴套 Guide Louver Bearing	100420008
6	出风主体 Outlet part	391200003
7	底座左角板 Left angle plate	100360002
8	底　座 Base	391060003
9	贯流风轮 Cross flow fan	391050015
10	贯流风轮轴承 Ring of cross flow fan bearing	110010655
11	贯流风轮轴承胶圈 Ring of cross flow fan bearing	
12	蒸发器组件 Evaporator assembly	371100032
13	蒸发器左固定板 Evaporator left fixed plate	029993988
14	电加热器 Electric heater	——
15	螺钉盖 Screw cover	109995908
16	中　框 Middle frame	391070003
17	中框前扣 Front Clip	100080032

18	过滤网 Air Filter	100190139
19	冷触媒 Cold Catalyst	——
20	显示盒盖 Display box cover	391140019
22	显示盒 Display box	391130022
21	面　板 Front Panel	391022252
23	中框盖板 Middle frame coverplate	391990286
24	室温探头架 Room temp. Sensor Holder	100280105
25	弹簧片 Insert Block	079990240
26	探头铜管 Copper pipe of sensor	079990030
27	压管板 Pipe Clamp	029991901
28	蒸发器右固定板 Evaporator right fixed plate	109990109
29	电机压板 Motor platen	100130003
30	电　机 Motor platen	030020173
31	电器盒盖 Electric box cover	100100041
32	显示板 Display lamp panel	331800149
33	管温探头 Tube Temp. Sensor	973300954
34	室温探头 Room Temp. Sensor	
35	电控板 Electric control plate	
36	连接线 Connecting Wire	——
37	变压器 Transformer	030180061
38	电器盒 Electric Box	100100035
39	压线扣 Wire Clip	391110018
40	室内外连接电缆线 Connecting Cable	342200038
41	端子台 Terminal Board	030090005
42	电源线 Power Cord	050010027
43	底座右角板 Right angle plate	100300026
44	挂墙板 wall-mounting frame	020100011
45	螺钉 Screw	150010071
46	步进电机 Step motor	320273001
47	电机固定板 Motor fixed plate	100420002
48	曲柄连杆 Crank connecting rod	100420082
49	上曲柄 Upper crank	
50	下曲柄 Lower crank	
51	保温水管 Thermal insulation pipe	099990080
52	遥控器 Remote controller	336815011

序号 (Serial Number)	名称 (Part Name)	CS-66H3-N77AS
1	导风叶片 Swing Louver	100420012 100420041
2	连　杆 Connecting rod	100420061
3	导风条轴套 A Guide Louver Bearing A	109990468
4	导风条轴套 B Guide Louver Bearing B	109990472

5	出风主体 Outlet part	391200047
6	导风条 Louver	100390005
7	底　座 Base	391060015
8	风轮左端固定板 Fan Left fixed plate	109990310
9	贯流风轮 Cross flow fan	100010003
10	贯流风轮轴承 Fan Bearing	110010202
11	贯流风轮轴承胶圈 Ring of Bearing	
12	蒸发器组件 Evaporator assembly	080020004
13	电加热器 Electric heater	——
14	螺钉盖 Screw cover	109990079
15	中　框 Middle frame	391070030
16	冷触媒 Cold Catalyst	——
17	过滤网 Air Filter	100190118
18	显示盒盖 Display box cover	391140016
19	显示盒 Display box	391130019
20	面　板 Front Panel	391220130
21	室温探头架 Room temp. Sensor Holder	100280105
22	弹簧片 Insert Block	079990240
23	探头铜管 Copper pipe of sensor	079990030
24	挡水板 Water-resistant board	——
25	电机压板 Motor platen	100130026
26	电机右固定板 Motor fixed-board	100130004
27	电　机 Motor	320202015
28	安全盖 Safety cover	020160029
29	电器盒盖 Electric box cover	020160016
30	压线板 Wire Clamp	100430022
31	连接线 Connecting Wire	——
32	电器盒内件 1 Electric box Panel 1	100430014
33	电器盒 Electrical box	020150034
34	电器盒内件 2 Electric box Panel 2	100430015
35	电器盒内件 3 Electric box Panel 3	100430016
36	显示板 Display lamp panel	331800144
37	管温探头 Tube Temp. Sensor	331300322
38	电控板 Electric control plate	
39	室温探头 Room Temp. Sensor	
40	电源线 Power Cord	341220004
41	端子台 Terminal Board	030090007
42	室内外连接电缆线 Connecting Cable	342300006
43	螺钉 Screw	150010018
44	步进电机 Step motor	320273006
45	保温水管 Thermal insulation pipe	099990080
46	压管板 Pipe Clamp	100430026
47	挂墙板 Wall-mounting frame	020100003
48	遥控器 Remote controller	336815011

序号 (Serial Number)	名称 (Part Name)	CS-88H3-Q77AT
1	挂墙板 Wall-mounting frame	311010010
2	底　座 Base	391060109
3	贯流风轮 Cross flow fan	100010018
4	贯流风轮轴承 Fan Bearing	——
5	贯流风轮轴承胶圈 Ring of Bearing	——
6	室温探头架 Room temp. Sensor Holder	100280105
7	蒸发器组件 Evaporator Assy	080020092
8	蒸发器左端板 Evaporator left plate	391990164R
9	电加热器 Electric heater	——
10	出风主体 Outlet part	391800030
11	上导风条 Up Louver	391190050
12	下导风条 Down louver	391190051
13	左大连杆 A　Left Connecting rod A	391200088
14	轴套 D　Guide Louver Bearing D	391200096
15	步进电进左支架 Step motor left support	391200081
16	导风叶片(小)Swing louver	391200095
17	导风叶片右支架 Swing louver right support	391200094
18	导风叶片中支架 Swing louver middle support	391200093
19	导风叶片左支架 Swing louver left support	391200092
20	风口护网 Air outlet protect net	——
21	中框 Middle frame	391220062
22	螺钉盖 Screw cover	391990157
23	冷触媒 Cold Catalyst	119990011
24	左过滤网 Left Air filter	391120045
25	右过滤网 Right Air filter	391120046
26	面板 Front Panel	391220140
27	底座右镶块 Right angle plate	391990159
28	电机固定座 Motor holder	391990160
29	电机 Motor	320202014
30	电机护盖 Motor cover	391990161
31	电器盒 Electrical box	020150086
32	过线扣 Hook for the wire	391110013
33	压线板 Wire Clamp	391110013
34	电器盒内件 1 Electric box Panel 1	100430080
35	电器盒内件 2 Electric box Panel 2	100430081
36	指示灯架 display lamp frame	391110014
37	室温探头 Room Temp. Sensor	331300306
38	管温探头 Tube Temp. Sensor	

39	电控板 Electric control plate	
40	电源线 Power cord	050010076
41	端子台 Terminal Board	030090035
42	室外连接电缆线 Connecting cable	050020082 342300078
43	保温水管 Thermal insulation pipe	099990080
44	导风条轴套	391200085
45	左中连杆 Left middle Connecting rod	391200086
46	左大连杆 B Left Connecting rod B	391200090
47	右中连杆 Right middle Connecting rod	391200087
48	右大连杆 B Right Connecting rod B	391200091
49	右大连杆 A Right Connecting rod A	391200089
50	轴套连杆	391200084
51	步进电机右支架 Step motor right support	391200098
52	外风门步进电机 Step motor	320273013
53	轴套 A Guide Louver Bearing A	391200082
54	轴套 B Bearing B	391200083
55	压线扣 Wire Clip	391110015
56	挡水板 Water-resistant board	391990162
57	电器盒盖 Electric box cover	311020006
58	轴套 C bearing C	391200097
59	立体风左步进电机	320273015
60	立体风右步进电机	320273014
61	显示盒 Display box	391130019
62	显示灯板 Display lamp panel	——
63	遥控器 Remote controller	336815011

PART LIST (OUTDOOR UNIT)

序号 (Serial Number)	名称 (Part Name)	CS-23H3-V77AY1A	CS-25H3-V77AY1A
1	前网罩 Front Grill	020120002	020120002R
2	前网扣 Grill Clip	109990256	109990256R
3	面 板 Front Panel	020070001	020070001R
4	小抽手 Small handle	100050001	100050001R
5	螺 母 Nut	150020019	150020019
6	垫 片 Gasket	150030016	150030016
7	轴流风轮 Axial flow fan	100030013	100030013
8	电 机 Motor	030020201	030020201
9	电机支架 Motor support	313040004	020040029

10	PE 保棉温 PE Sponge	382100010	——
11	底　盘 Base	313221043	313221043
12	压缩机减震胶脚 Anti-vibration pad for the compressor	305146005	010011455
13	压缩机 Compressor	960114043	301114032
14	螺　母 Nut	150020003	150020003
15	垫　片 Gasket	150030010	150030010
16	螺　母 Nut	150020003	150020003
17	顶盖板 Top panel	029994516	029994516
18	中隔板密封条 PU Sponge	090020226	090020226
19	中隔板 Partition Board	020030001	020030001
20	电器安装板 Electric installation board	313120027	313120027
21	压缩机电容 Compressor Capacitor	030010016	030010016
22	电容夹 Capacitor Clamp	020140006	020140006
23	风机电容 Fan Capacitor	030010005	030010005
24	端子台 Terminal Board	030090025	030090025
25	压线扣 Wire Clip	321100011	321100011
26	冷凝器上密封条 PU Sponge	——	——
27	冷凝器 Condenser	372100045	372100045
28	背　网 Rear Grill	020110001	020110001
29	毛细管组件 Capillary Assy	960800234	971900443
30	阻尼胶 Damping rubber	110030017	110030017
31	冷凝器出液管 Drainpipe for the condensor	070040097	070040097
32	冷凝器进气管 Intake pipe for the condensor	360440120	360440065R
33	四通阀 4-way Valve	030130006	030130006
34	排气管 Discharge pipe	360220139	360220139
35	减震块 Damping block	110020005	110020005
36	阻尼胶 Damping rubber	110030020	110030020
37	吸气管 Suction pipe	360120139	360120139
38	高压阀 High-pressure valve	060020092	060020092
39	螺　钉 Screw	150010048	150010048
40	低压阀 Low-pressure valve	060020095	060020095
41	阀座板 Valve installation plate	020020001	020020001
42	大抽手 Large handle	100040001	100040001
43	右侧板 Right panel	020060004	020060004
44	连接线 Connecting Wire	050030002	050030002

序号 (Serial Number)	名称 (Part Name)	CS-32H3-V77AH4
1	网罩 Front Grill	020120015R
2	网罩卡 Grill Clip	393990022R
3	面板 Front Panel	313070029R
4	左护网 Left protect net	313990044R
5	螺母 Nut	150020003R
6	垫片 Gasket	150030021R

7	轴流风叶 Axial flow fan	393010001
8	电机 Motor	320222005
9	电机支架 Motor support	313040002
10	PE 保温棉（电机支架顶部垫棉）PE Sponge	382100010R
11	底盘 Base	313221034
12	立柱 Pillar	313990027R
13	压缩机减震胶脚 Anti-vibration pad for the compressor	305146004
14	压缩机 Compressor	301114013
15	垫片 Gasket	150030010R
16	螺母 Nut	150020003
17	顶盖板 Top panel	020080002R
18	小抽手 Small handle	100050018R
19	中隔板 Partition board	20030004
20	中隔板密封条 PU Sponge	090020027R
21	电器板 Electric installation board	313120028
22	压缩机电容 Compressor Capacitor	030010017
23	电容夹 Capacitor Clamp	020140006
24	端子台 Terminal Board	030090025
25	风机电容 Fan Capacitor	030010005
26	压线扣 Wire Clip	321100011
27	冷凝器上密封条 PU Sponge	——
28	背网 Rear Grill	020110002R
29	跨管 Span Pipe	——
30	跨管 Span Pipe	——
31	三通管 3-way Pipe	070130023
32	冷凝器 Condenser	372100004R
33	四通阀组件 4-way Valve assy	372100002
34	冷凝器进气管 Intake pipe for the condenser	360440142
35	毛细管组件 Capillary Assy	971900441
36	毛细管阻尼胶 Damping rubber	110030017
37	过滤器 Filter	070190038
38	右侧板 Right panel	313060030
39	大抽手 Large handle	100040001R
40	阀座板 Valve installation plate	020020002R
41	高压阀 High-pressure valve	060020092
42	低压阀 Low-pressure valve	060020107
43	螺钉 Screw	150010048
44	冷凝器出液管 Drainpipe for the condensor	070040002
45	排气管 Discharge pipe	360220190
46	减震块 Damping block	110020005
47	吸气管 Suction pipe	360120174
48	阻尼胶 Damping rubber	110030023R
49	连接线 Connecting Wire	050030002

序号 (Serial Number)	名称 (Part Name)	KFR-51GW/Bc
1	前网罩 Front Grill	020120015
2	前网扣 Grill Clip	109990256
3	面板 Front Panel	020070056
4	小抽手 Small handle	100050021
5	螺　母 Nut	150020009
6	垫　片 Gasket	453000010
7	轴流风轮 Axial flow fan	393010015
8	电　机 Motor	320222014
9	电机支架 Motor support	020040039
10	PE 保温棉 PE Sponge	——
11	底　盘 Base	313221017
12	压缩机减震脚 Anti-vibration pad for the compressor	010010980
13	压缩机 Compressor	301109007
14	垫片 Gasket	150030013
15	螺母 Nut	150020003
16	顶盖板 Top panel	020080002
17	中隔板 Partition board	020030004
18	中隔板密封条 PU Sponge	090020027
19	电器安装板 Electric installation board	020130006
20	压缩机电容 Compressor Capacitor	030010020
21	电容夹 Capacitor Clamp	020140010
22	端子台 Terminal Board	030090025
23	风机电容 Fan Capacitor	030010007
24	压线扣 Wire Clip	321100003
25	冷凝器上密封条 PU Sponge	——
26	背　网 Rear Grill	020110002
27	跨管 Span Pipe	——
28	跨管 Span Pipe	——
29	三通管 3-way Pipe	070130108
30	冷凝器 Condenser	372100070
31	四通阀组件 4-way Valve assy	030130007
32	冷凝器进气管 Intake pipe for the condenser	960600016
33	毛细管组件 Capillary Assy	960800182
34	阻尼胶 Damping rubber	110030017
35	过滤器 Filter	070190034
36	右侧板 Right panel	020060009
37	大抽手 Large handle	100040002
38	阀座板 Valve installation plate	020020002

39	高压阀 High-pressure valve	060020092
40	低压阀 Low-pressure valve	060020088
41	螺钉 Screw	150010048
42	冷凝器出液管 Drainpipe for the condensor	——
43	排气管 Discharge pipe	360230092
44	减震块 Damping block	110020011
45	吸气管 Suction pipe	360130126
46	阻尼胶 Damping rubber	110030023
47	连接线 Connecting Wire	345100010

序号 (Serial Number)	名称 (Part Name)	CS-66H3-N77AS
1	前网罩 Front Clip	020120001
2	前网扣 Grill Clip	109990256
3	面　板 Front Plate	020070004
4	螺　母 Nut	150020031
5	垫　片 Gasket	150030217
6	轴流风叶 Axial flow fan	100030008
7	电　机 Motor	320222018
8	电机支架 Motor support	313040007
9	小抽手 Small handle	100050003
10	左侧板 Left panel	020050003
11	电容夹 Cpacitor clamp	020140010
12	中隔板 Partition board	020030007
13	中隔板密封棉 PU Sponge	090010033
14	压缩机电容 Compressor Capacitor	030010020
15	顶盖板 Top panel	020080035
16	电器安装板 Electric installation board	020130003
17	风机电容 Fan Capacitor	030010010
18	冷凝器上密封条 PU Sponge	——
19	冷凝器 Condenser	0800102C1
20	端子台 Terminal Board	030090137
21	压线扣 Wire Clip	321100004
22	背网 Rear Grill	020110003
23	阻尼胶 Damping rubber for capillary tube	110030017
24	毛细管组件 Capillary Assy	971900309
25	过滤器 Filter	070190021
26	冷凝器出液管 Drainpipe for the condensor	——
27	冷凝器进气管 Intake pipe for the condensor	972200785
28	四通阀 four-way valve	355100019
29	排气管 Discharge pipe	070010018
30	吸气管 Suction pipe	070020030

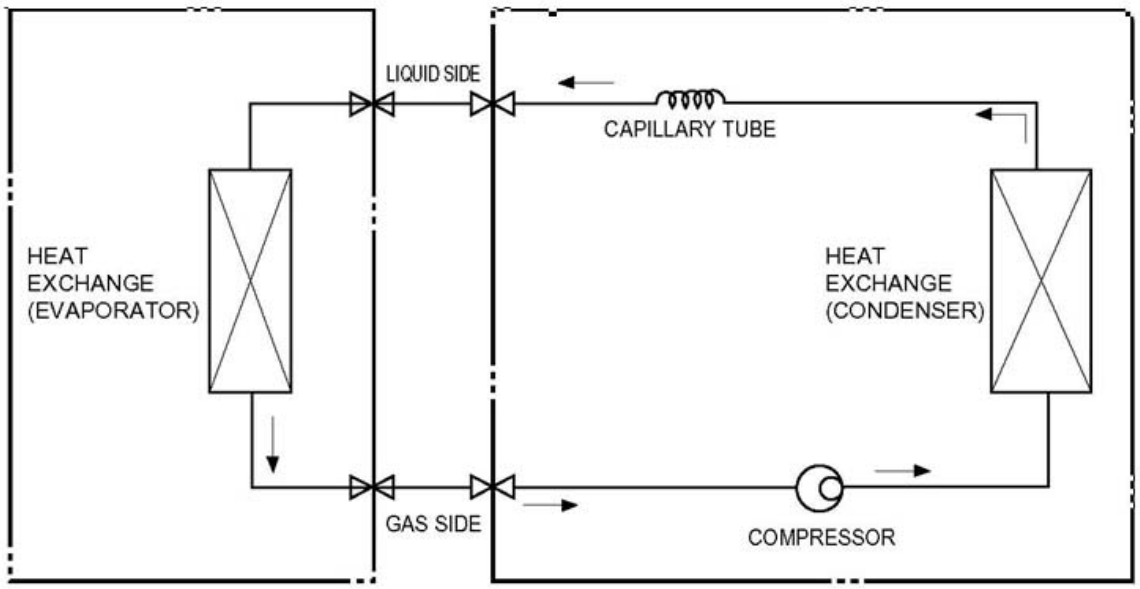
31	减震块 Anti-vibration pad	110020008
32	阻尼胶 Damping rubber	110030023
33	右侧板 Right panel	020060011
34	大抽手 Large handle	100040004
35	阀座板 Valve installation plate	020020007
36	低压阀 Low-pressure valve	060020108
37	高压阀 High-pressure valve	060020102
38	维修板 Maintenance plate	020090001
39	连接线 Connecting Wire	050040058
40	压缩机减震胶脚 Anti-vibration pad for the compressor	305146007
41	压缩机 Compressor	301114021
42	螺　母 Nut	150020031
43	垫　片 Gasket	150030017
44	底　盘 Base	313222010

序号 (Serial Number)	名称 (Part Name)	CS-88H3-Q77AT
1	前网罩 Front Grill	020120001
2	前网扣 Grill Clip	109990256
3	面　板 Front Plate	020070036
4	螺　母 Nut	150020003
5	垫　片 Gasket	150030011
6	轴流风轮 Axial flow fan	100030008
7	电　机 Motor	320222018
8	电机支架 Motor support	020040013
9	左护网 Left protect net	313990018
10	立　柱 Pillar	029995101
11	中隔板 Partition board	020030017
12	中隔板密封条 PU Sponge	090020310
13	顶盖板 Top panel	020080032
14	小抽手 Small handle	100050018
15	压缩机电容 Fan Capacitor	030010022
16	电器安装板 Electric installation board	313120003
17	电容夹 Cpacitor clamp	020140035
18	风机电容 Fan Capacitor	030010010
19	端子台 Terminal Board	030090038
20	压线扣 Wire Clip	321100006
21	冷凝器上密封条 PU Sponge	090020311
22	冷凝器 Condenser	372100012
23	背　网 Rear Grill	313100003
24	四通阀组件 4-way valve Assy	030130007
25	毛细管组件 Capillary Assy	960800349

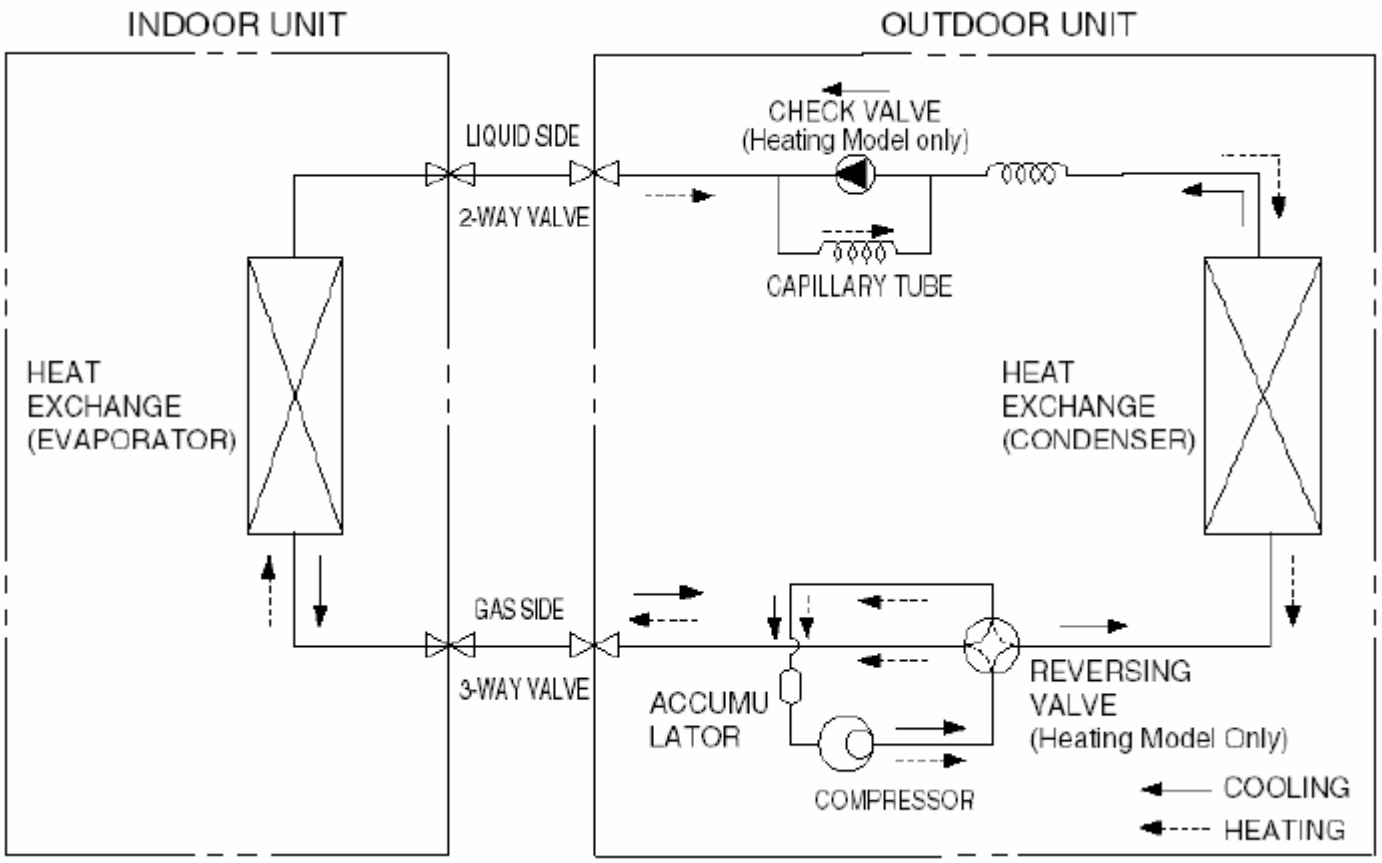
26	右侧板 Right panel	020060025
27	大抽手 Large handle	100040004
28	排气管 Discharge pipe	960200018
29	减震块 Anti-vibration pad	100310004
30	吸气管 Suction pipe	360160053
31	低压阀 Low-pressure valve	060020145
32	高压阀 High-pressure valve	060020102
33	阀座板 Valve installation plate	020020007
34	连接线 Compressor power cord	050040022
35	压缩机减震胶脚 Anti-vibration pad for the compressor	306091001
36	压缩机 Compressor	301109012
37	压缩机保护器盖 Compressor terminal cover	306092001
38	螺　母 Nut	150020019
39	垫　片 Gasket	150030010
40	底　盘 Base	020010458
41	维修板 Maintenance plate	020090008

5. Refrigerant cycle diagram

5.1 Cooling only



5.2 Heat pump mode



6. Model Parameter.

Note: Net/Gross weight（the weight will change according to technology, configuration and customer requirements. so the data is only for reference. The actual weight comes from the product nameplate）.

Model			CS-23H3-V77AY1A	CS-25H3-V**AY1A	CS-32H3-V**AH4
Remote control			ZH/JT-03	ZH/JT-03	ZH/JT-03
Panel		NO.	77	77	77
Rated volt and frequency		Ph-V-Hz	220-240/50	220-240/50	220-240/50
Cooling	Cooling capacity (nominal data)	W	2300	2500	3200
	Rated cooling power input	W	840	900	1150
	Rated cooling current input	A	3.7	4	5.1
	EER	w/w	2.74	2.78	2.78
Heating	Heating capacity (nominal data)	W	2400	2700	3400
	Rated heating power input	W	790	820	1200

	Rated heating current input	A	3.4	3.6	5.4
	COP	w/w	3.04	3.29	2.83
Max. input consumption		W	1080	1300	1500
Max. current		A	4.7	6.7	7.6
INDOOR UNIT	Indoor Noise Level dB	dB(A)	30-39	29-38	32-40
	Dimension (L*W*H)	mm	746*245*196	746*245*196	746*245*196
	Packing (L*W*H)	mm	835*330*278	835*330*278	835*330*278
	Net/Gross weight	Kg	9/11	9/11	9/11
OUTDOOR UNIT	Outdoor Noise Level dB	dB(A)	50	50	54
	Dimension (L*W*H)	mm	700*225*500	700*225*500	795*255*540
	Packing (L*W*H)	mm	825*320*550	825*320*550	920*335*595
	Net/Gross weight	Kg	30/32	25/29	32/36
	Refrigerant type/weight	g	R22/640	R22/660	R22/780
	Design pressure (Hi/Low)	MPa	2.7-0.7	2.45-0.7	2.45-0.7

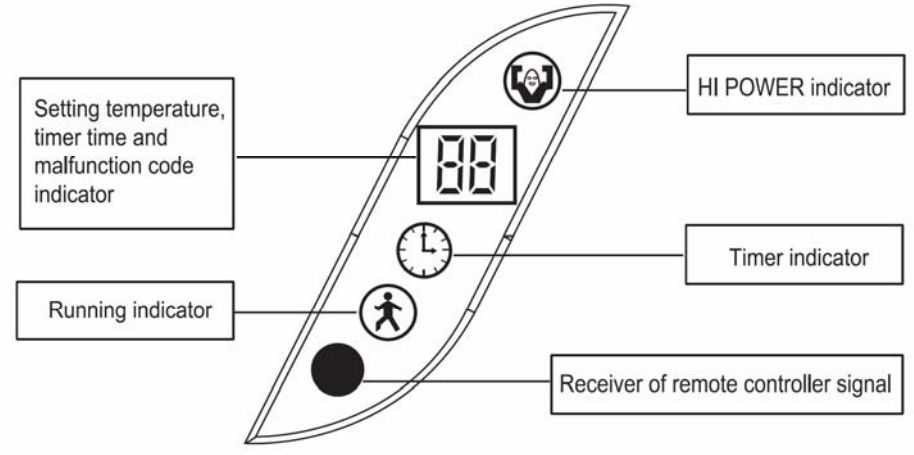
Model			KFR-51GW/Bc	CS-66H3-N**AS	CS-88H3-Q**AT
Remote control			ZH/JT-03	ZH/JT-03	ZH/JT-03
Panel		NO.	77	77	77
Rated volt and frequency		Ph-V-Hz	220-240/50	220-240/50	220-240/50
Cooling	Cooling capacity (nominal data)	W	5100	6600	8800
	Rated cooling power input	W	1895	2300	3000
	Rated cooling current input	A	8.9	10	13.6
	EER	w/w	2.69	2.87	2.93
Heating	Heating capacity (nominal data)	W	5610	7200	9200
	Rated heating power input	W	2030	2400	3190
	Rated heating current input	A	9.5	10.5	13
	COP	w/w	2.76	3	2.88
Max. input consumption		W	2500	3000	3450
Max. current		A	13.4	15	17.5

INDOOR UNIT	Indoor Noise Level dB (High/Low) (actual/label)	dB(A)	36~45	43~47	43~49
	Dimension (L*W*H)	mm	940*270*180	1000*320*200	1225*330*245
	Packing (L*W*H)	mm	1007*340*275	1190*380*300	1445*410*320
	Net/Gross weight	Kg	12/14	15/18	19/23
OUTDOOR UNIT	Outdoor Noise Level dB (High/Low) (actual/label)	dB(A)	54	56	59
	Dimension (L*W*H)	mm	795*255*540	870*310*700	900*330*835
	Packing (L*W*H)	mm	920*335*595	990*410*780	1030*440*960
	Net/Gross weight	Kg	38/42	58/62	65/80
	Refrigerant type/weight	g	R22/1300g	R22/1900	R22/2400
	Design pressure (Hi/Low)	MPa	2.7/0.7	2.7/0.7	2.7/0.7

7. 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.

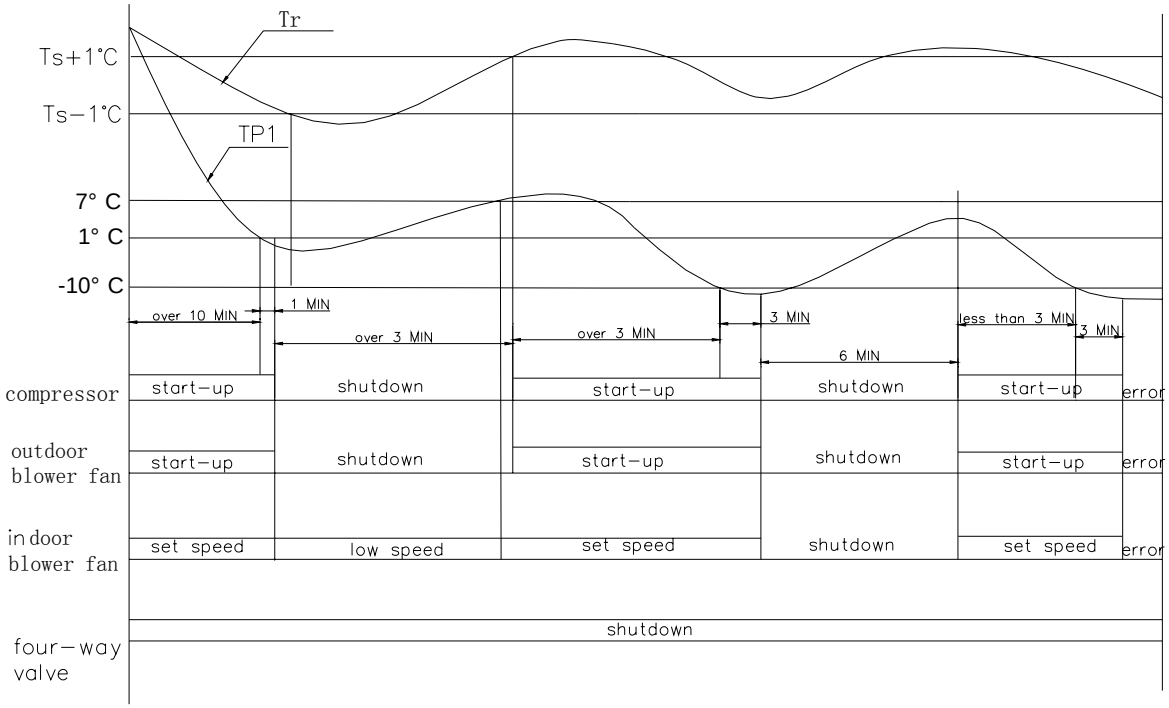
Display panel

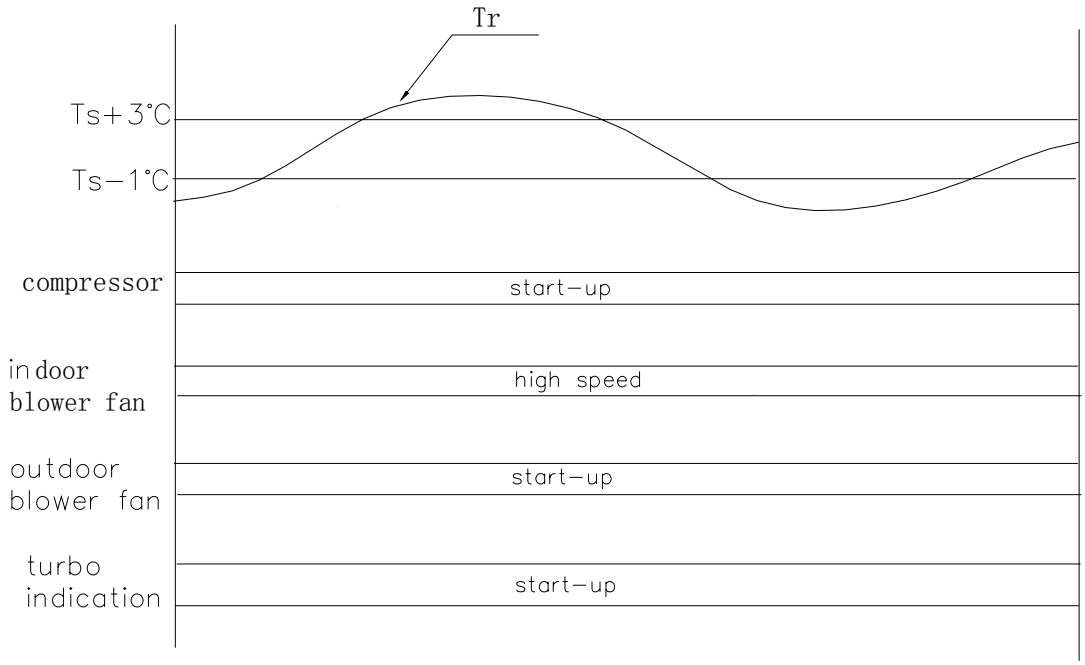


Cooling

- Start up the compressor: when the room temperature is more than Ts+1℃, compressor → start-up
- Shut down the compressor: when the room temperature is less than or equal to the set temperature Ts-1℃, compressor → shutdown
- When the temperature of coil pipe of the indoor units is less than or equal to 1℃ 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℃ 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℃ 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℃ in the continuous 20 minutes. The controller will automatically shut down if the temperature of indoor coil pips is more than 25℃ 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℃ 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.



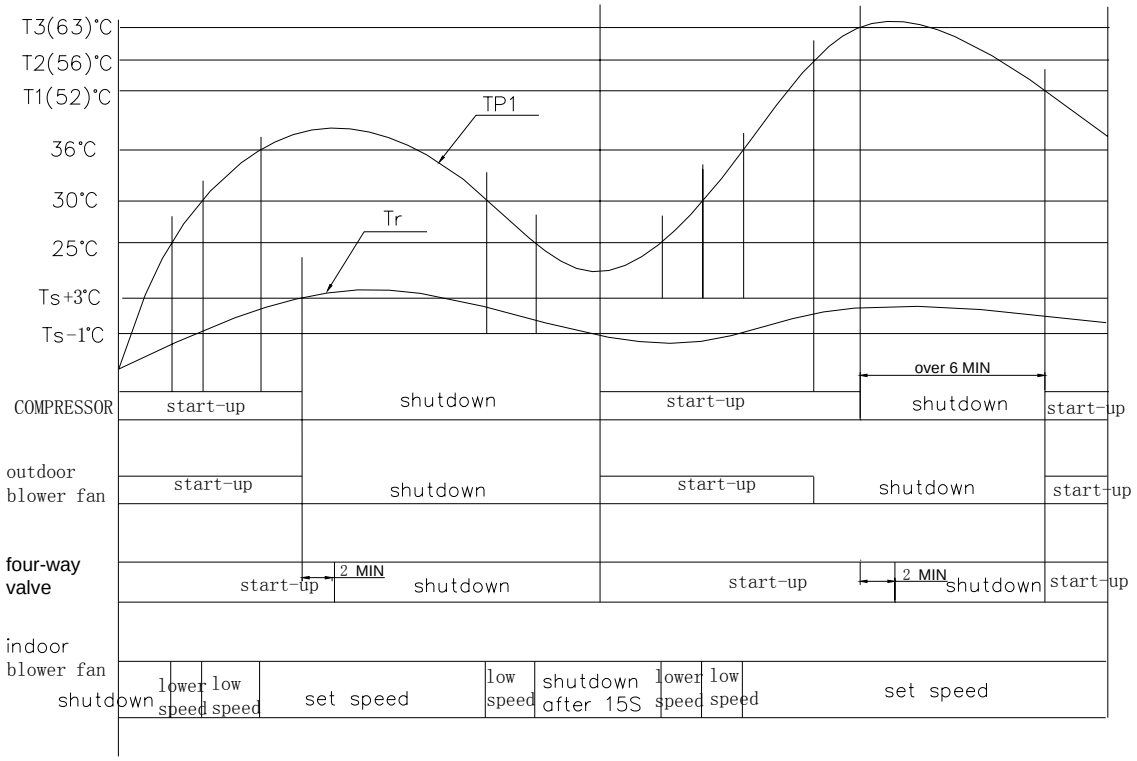


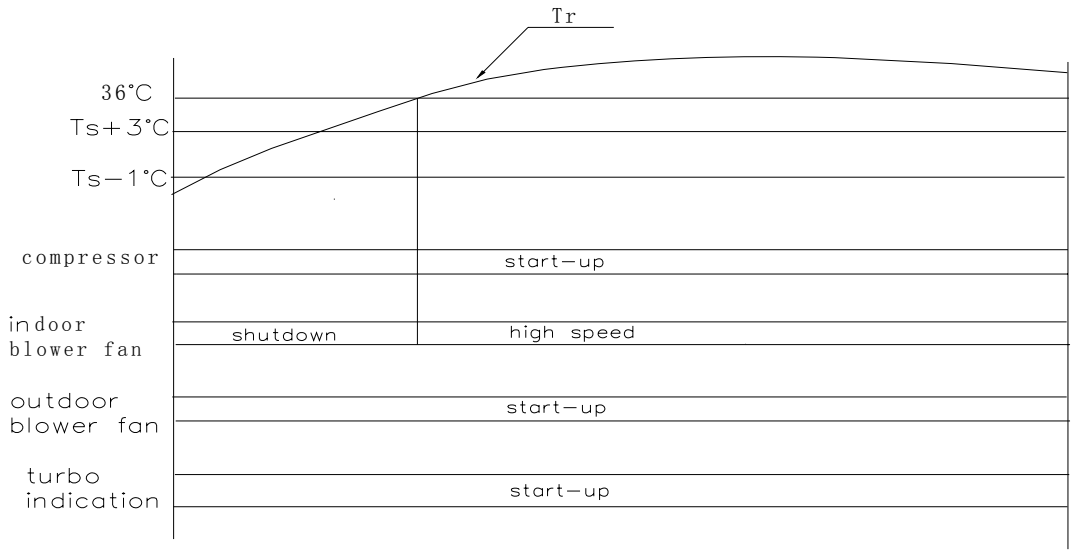
Heating (only applicable to heat pump units)

- Start up the compressor: when the room temperature is less than Ts-1℃, compressor → start-up
- Shut down the compressor: when the room temperature is more than or equal to the set temperature Ts+3℃, 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℃ ④Tr ≤20℃.
- The electric heating shutdown in the heating mode shall meet one of the following conditions: ① shutdown indoor blower fan ② Tr ≥ 23℃ ③ TP1≥50℃.
- 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℃, 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℃, the outdoor blower fan starts up and it exit the overload protection.
- When the temperature of coil pipe of indoor units rises to 63℃, 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℃ (heating) in the continuous 20 minutes. The controller will automatically shut down if the temperature of indoor coil pips is less than 30℃ in another continuous 20 minutes, that is the abnormality protection of outdoor units and the indicator lamp keeps its former state of flashing.





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、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℃）

c、press ON/OFF key in defrost process.

3. Outdoor sensor for defrost

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℃ for one minutes (Tp2≤-15℃).

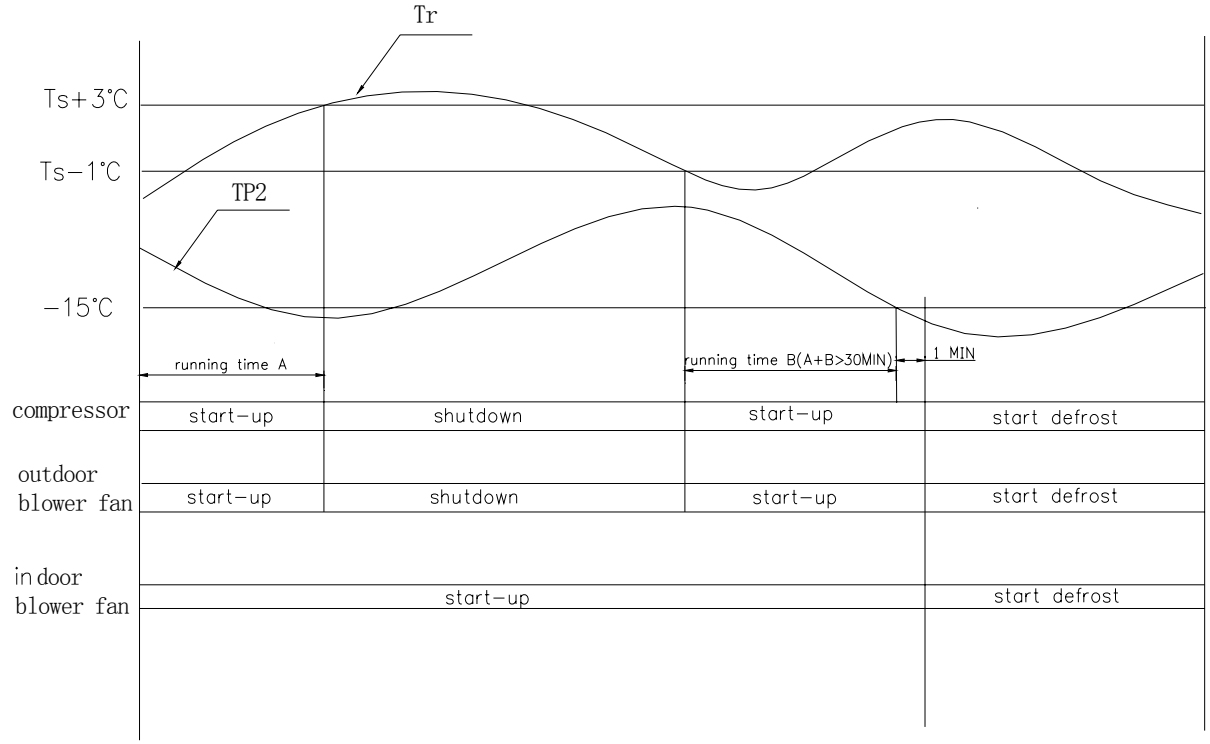
compressor cumulate running time over 40 minutes and it continuous running over 3 minutes, the temperature of coil pipe of the outdoor units is equal to or less than －5℃ for one minutes (Tp2≤-15℃).

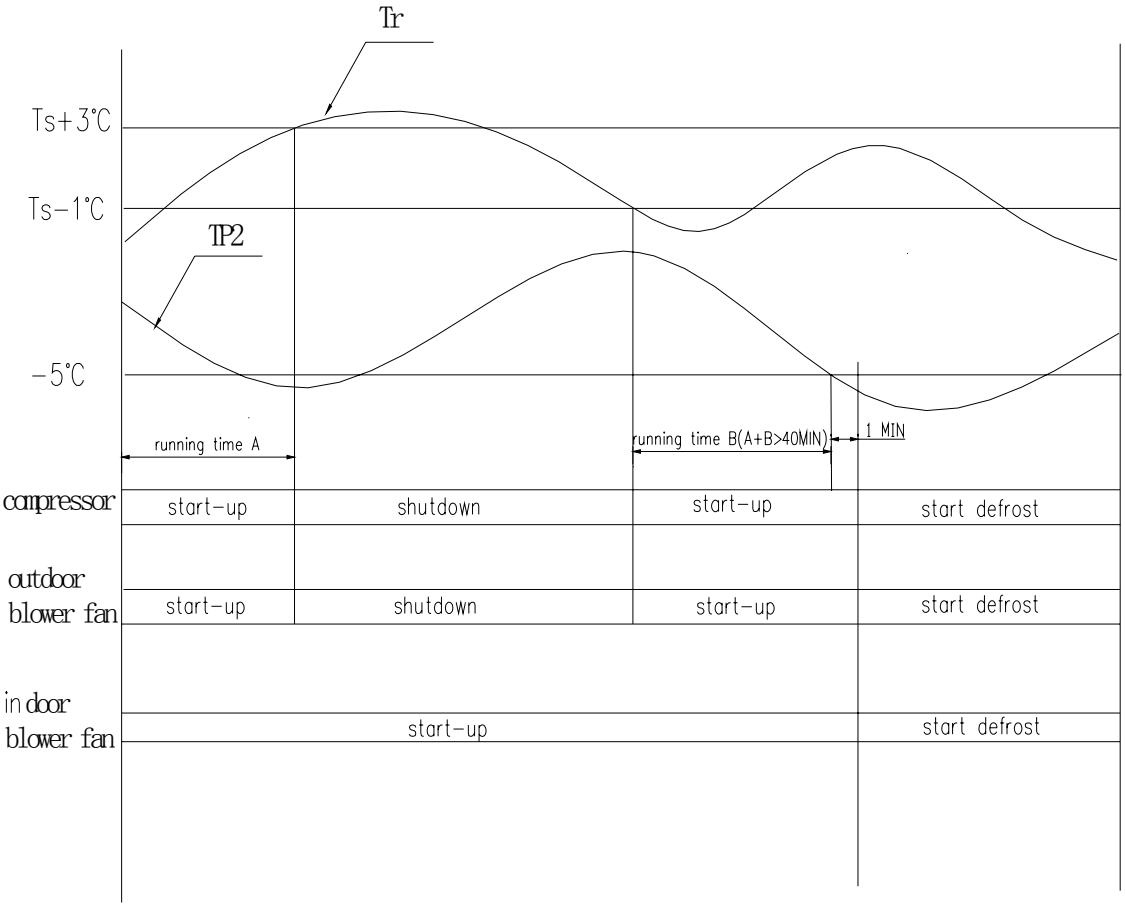
Air conditioner first power on or it wait over 30 minutes ,the temperature of coil pipe of the outdoor units is equal to or less than －2℃ (Tp2≤-15℃)

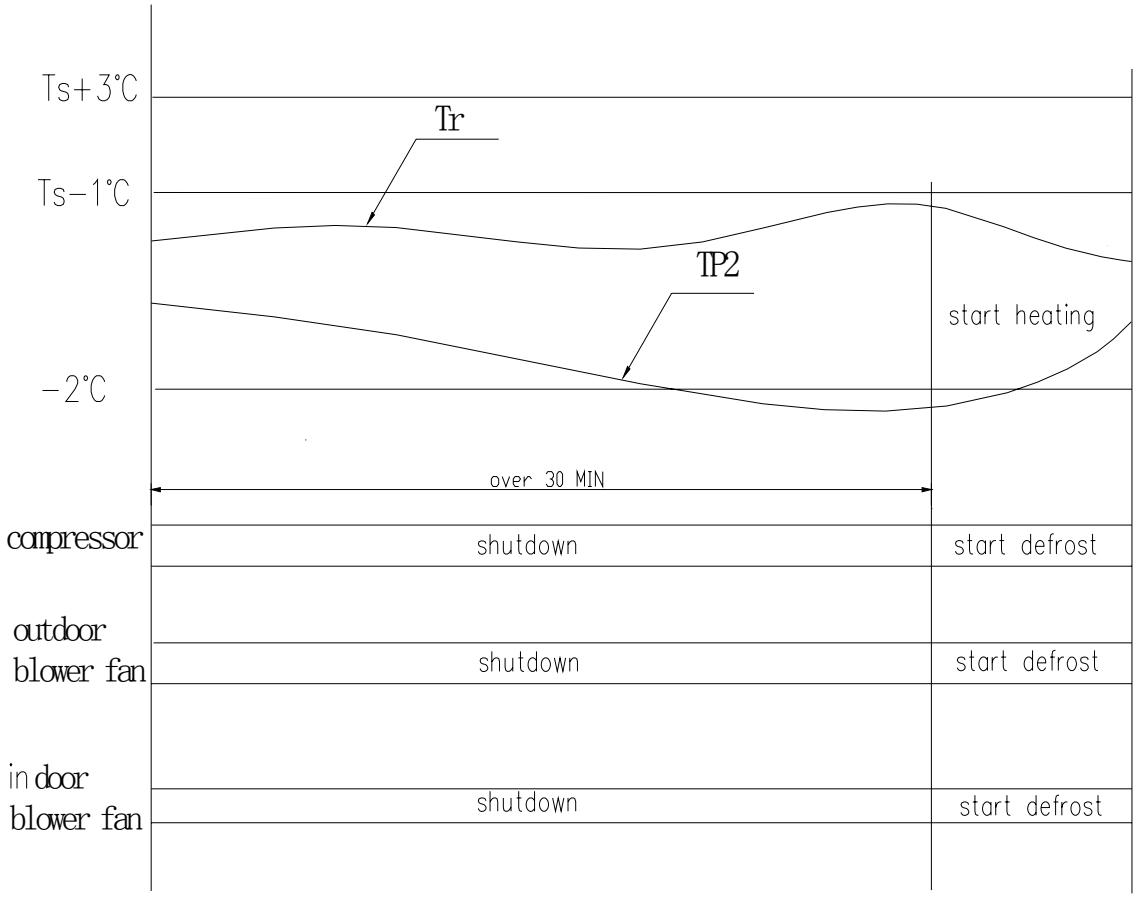
②end defrost condition (meet one of follows)

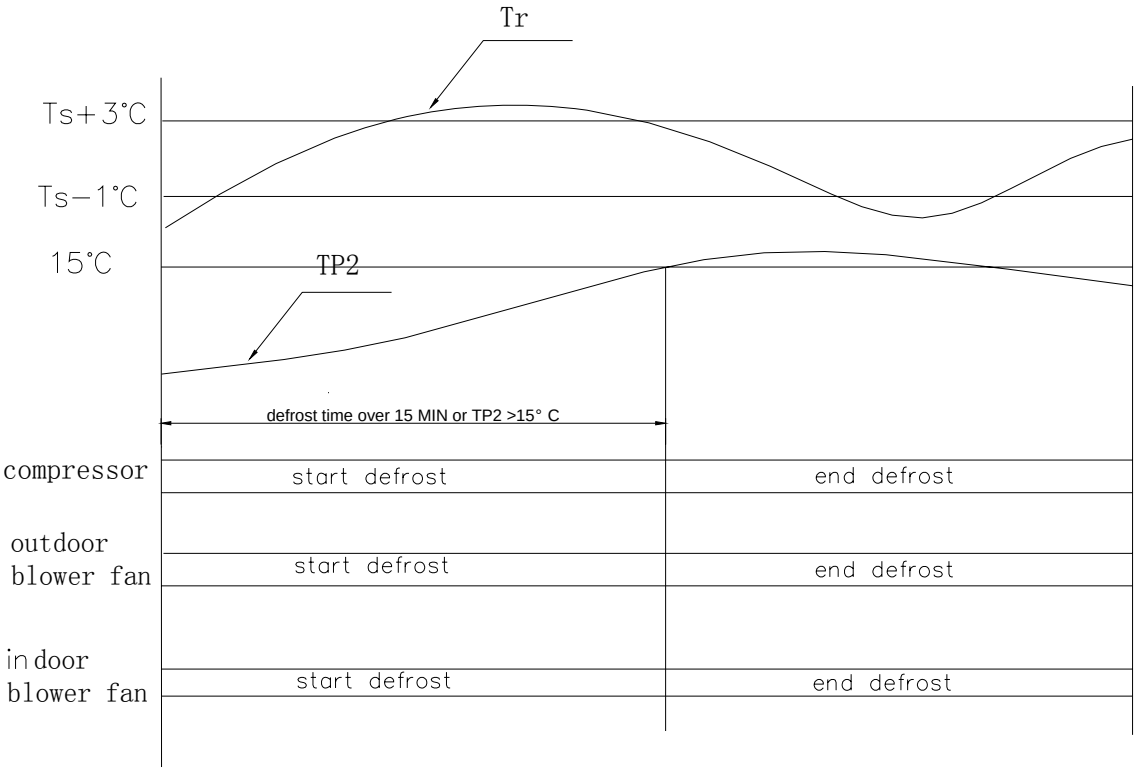
The temperature of coil pipe of the outdoor units is more than 15℃ (Tp2≥-15℃).

Defrost time has fifteen minutes.

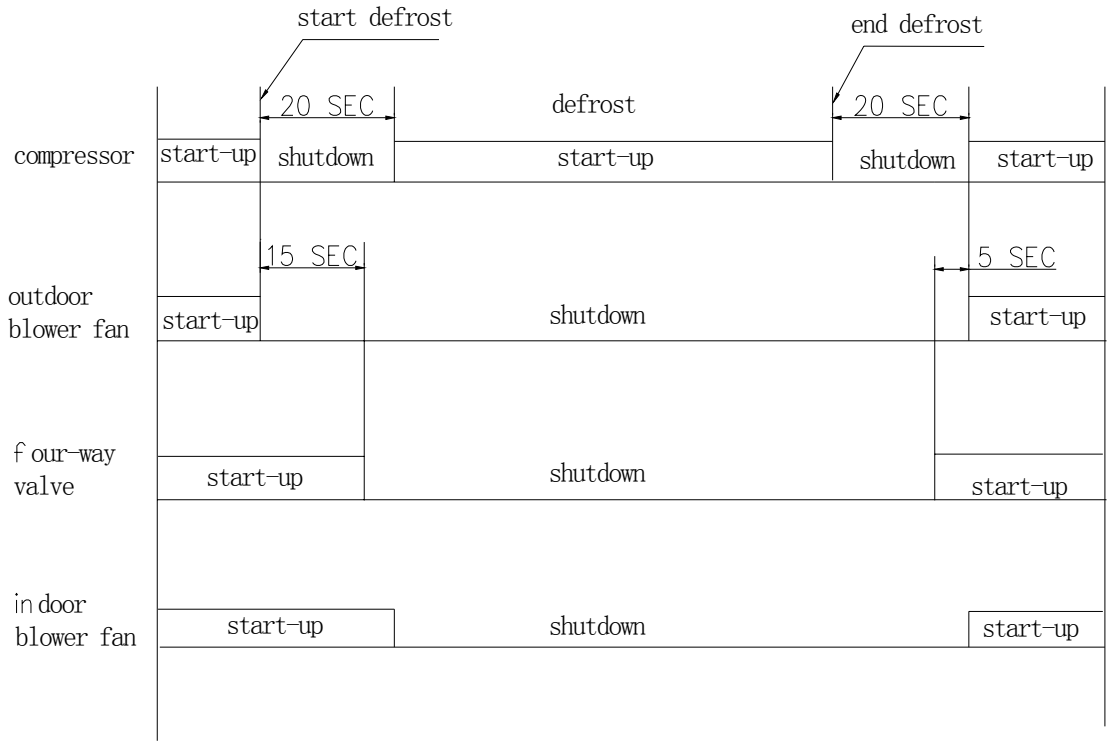






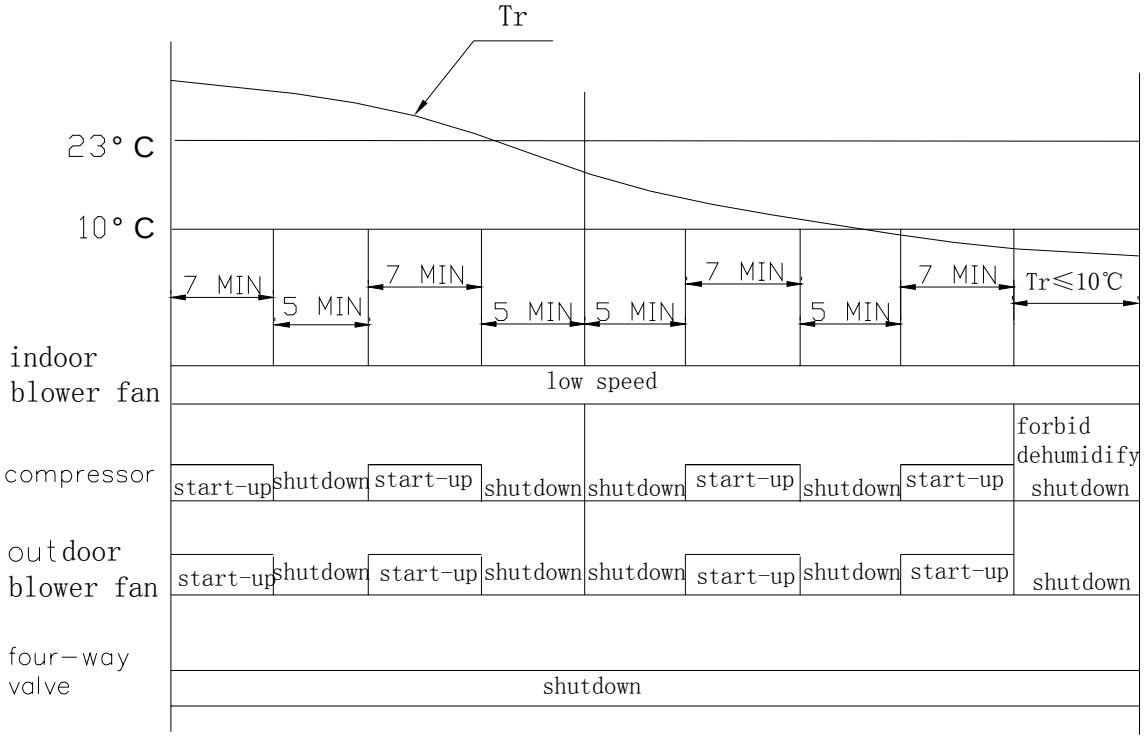


■ Sequence chart in defrosting mode



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 selects working mode.

Ventilation working mode

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 ℃.

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.

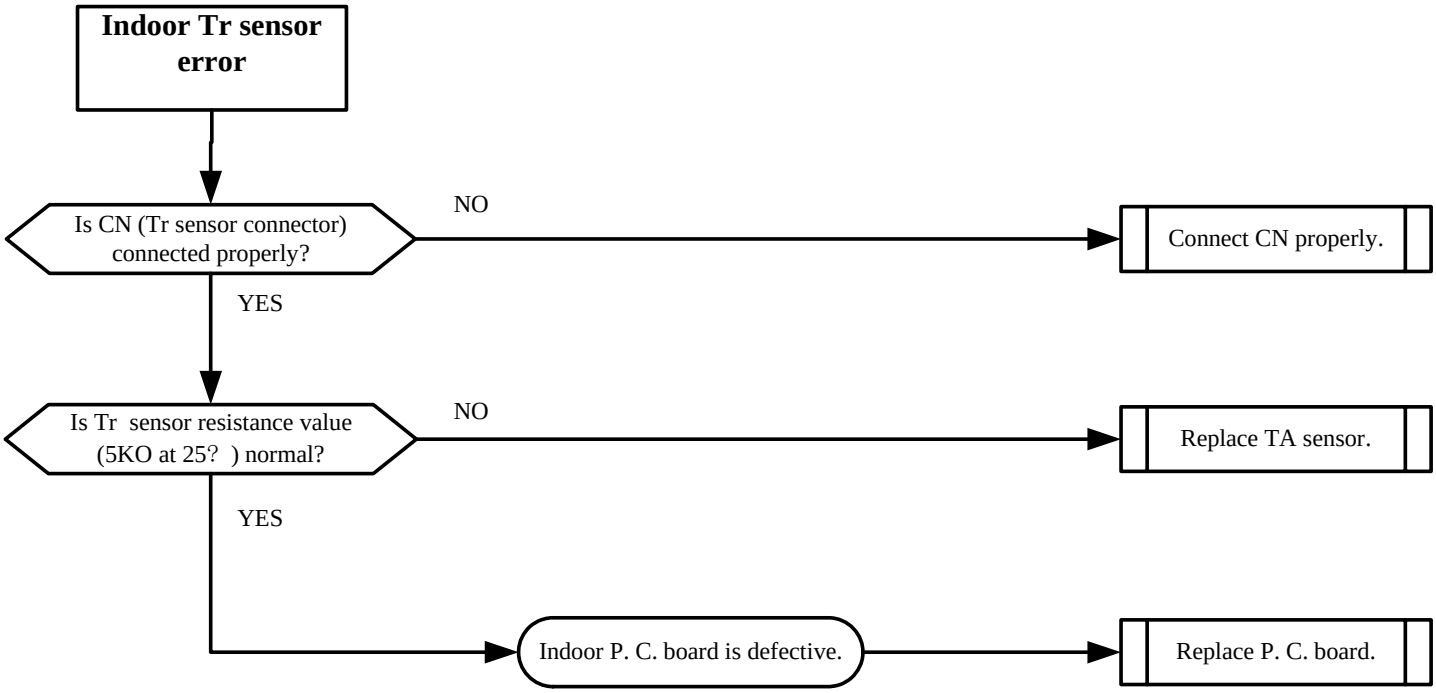
Failure display

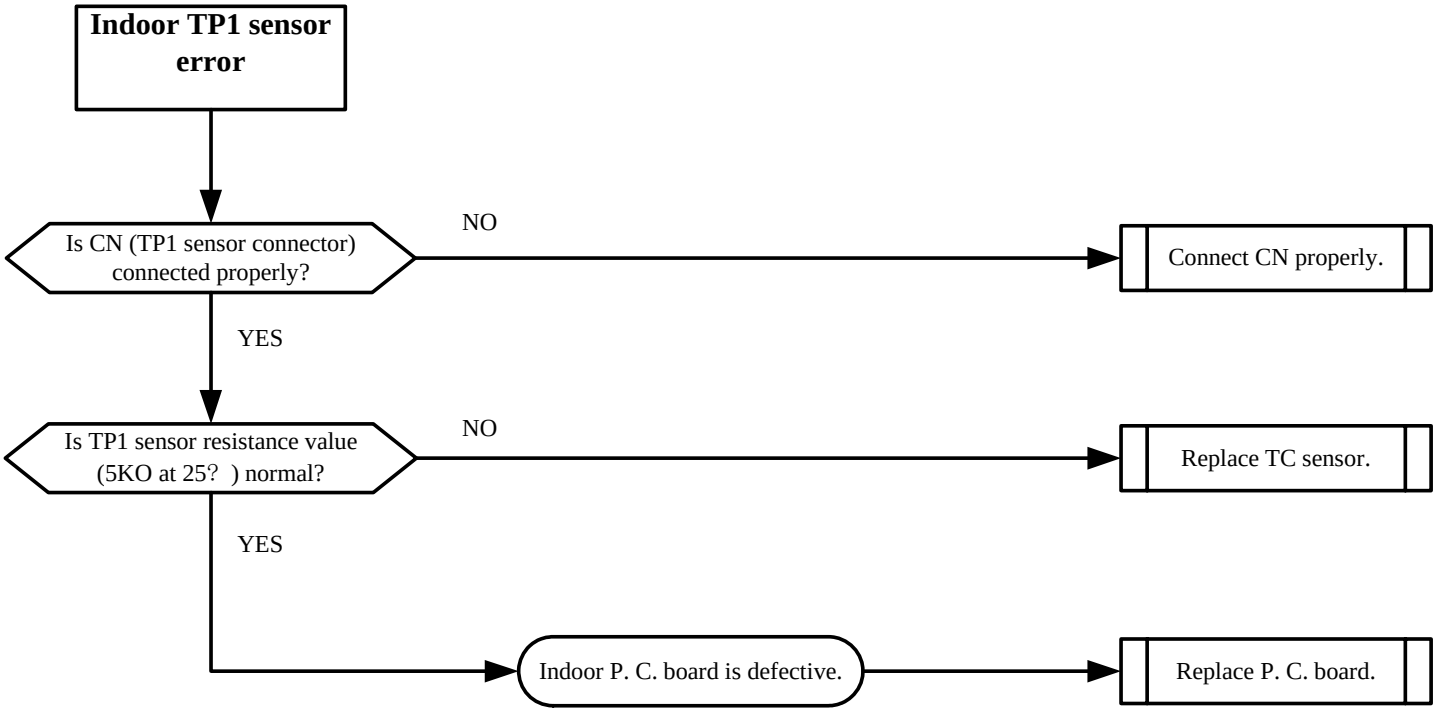
LED		lamp display		failure	The reason of fault and solution
code	explain	code	explain		
DF	display at on state	flicker 1/1 SEC		defrost indication	Normal, the defrost state is removed, it will return to normal condition automatically
	display at off state	flicker 1/3 SEC		anti cold wind	1、 Normal (during heating mode) 2、It will be removed when the coil pipe temperature sensor reaches certain temperature.
E2	display at off state	flicker 1/1 SEC	display at on/off state	room temp. sensor fault	1、Check whether the resistance of the sensor is normal (the resistance is 5KΩ in the normal temperature 25℃), when it is abnormal the sensor should be replaced. 2、Check whether there is short circuit or open circuit in the wire of the sensor, and whether the plug is connected well, whether there is welding off or rosin joint on the electric control board, if there is any, it should be repaired. 3、When the 1 and 2 are both normal, then the components or integrated circuit is damaged, the electric control board should be replaced.
E3	display at off state	flicker 3/5 SEC	display at on/off	coil temp. sensor fault	1、Check whether the resistance of the sensor is normal (the resistance is 5KΩ in

			state		the normal temperature 25℃), when it is abnormal the sensor should be replaced. 2、Check whether there is short circuit or open circuit in the wire of the sensor, and whether the plug is connected well, whether there is welding off or rosin joint on the electric control board, if there is any, it should be repaired. 3、When the 1 and 2 are both normal, then the components or integrated circuit is damaged, the electric control board should be replaced.
E4	display at on/off state	flicker 4/6 SEC	display at off state	outdoor unit abnormal	1、 Check whether the winding resistance and operation current of the compressor are normal. 2、Check whether the high and low pressure is normal when the unit is running. 3、Check (whether the coil pipe sensor is normal) whether the contact of the inserter on the circuit board is well, the coil pipe temperature sensor is fixed, the evaporation of the indoor unit is well, the key is to check the evaporator temperature detected by the coil pipe temperature sensor has reached the cooling or heating temperature. 4 、 Check whether the surface of the condenser is too dirty, it should be cleaned when it is too dirty. 5、Check whether the capacitance of the outdoor motor and the fan is damaged, it should be replaced when it is damaged. 6、If the above items are normal, the electric control board should be replaced.
E5	PG motor display at off state	flicker 5/7 SEC	display at off state	no feedback signal of indoor fan	1、Check whether two sets of plugs on the outlet end of the motor have loosed from the socket of the electric control board, insert it firmly when loosing. 2、Check whether the indoor motor has damaged, the motor should be replaced when it is damaged 3、 Check whether the controllable silicon and other components on the electric control board have damaged, replace the controllable silicon or electric control board when they are damaged.
E6	PG motor	flicker 6/8	display	no over zero	1、Firstly check whether the indoor fan is

	display at off state	SEC	at off state	signal	normal. 2、Check whether the signal outputting from the integrated chip of the electric control board is normal, the electric control board should be replaced when the signal is abnormal.
E7	display at off state	flicker 7/9 SEC	display at off state	outdoor feedback fault	1、Check whether the winding resistance and operation current of the compressor are normal 2、Check whether the high and low pressure is normal when the unit is running. 3、Check whether the indoor and outdoor wiring is right; when it is wrong, connect them again according to the circuit diagram 4、 Check whether the contact of the inserter on the circuit board and the connection are well, otherwise repair. 5、Check whether the signal feedback wire is disconnected, replace or connect the feedback signal wire. 6、Check whether the supply power is phase-lacking or phase opposition. 7、Check whether the AC electromagnetic contactor is well.
E8	display at off state	flicker 8/10 SEC	display at off state	frost protection/over heat protection	1、Check whether the filter of the indoor unit is dirty or blocked, and clean if it is dirty. 2、Check whether the indoor fan is running normally, and replace the motor if it is abnormal. 3、Check whether indoor pipe temperature sensor is normal, and replace the sensor if it is abnormal. 4、Check whether the system pressure is normal, if abnormal, should check whether there is leakage, and fill the refrigerant again.

8. TROUBLE SHOOTING



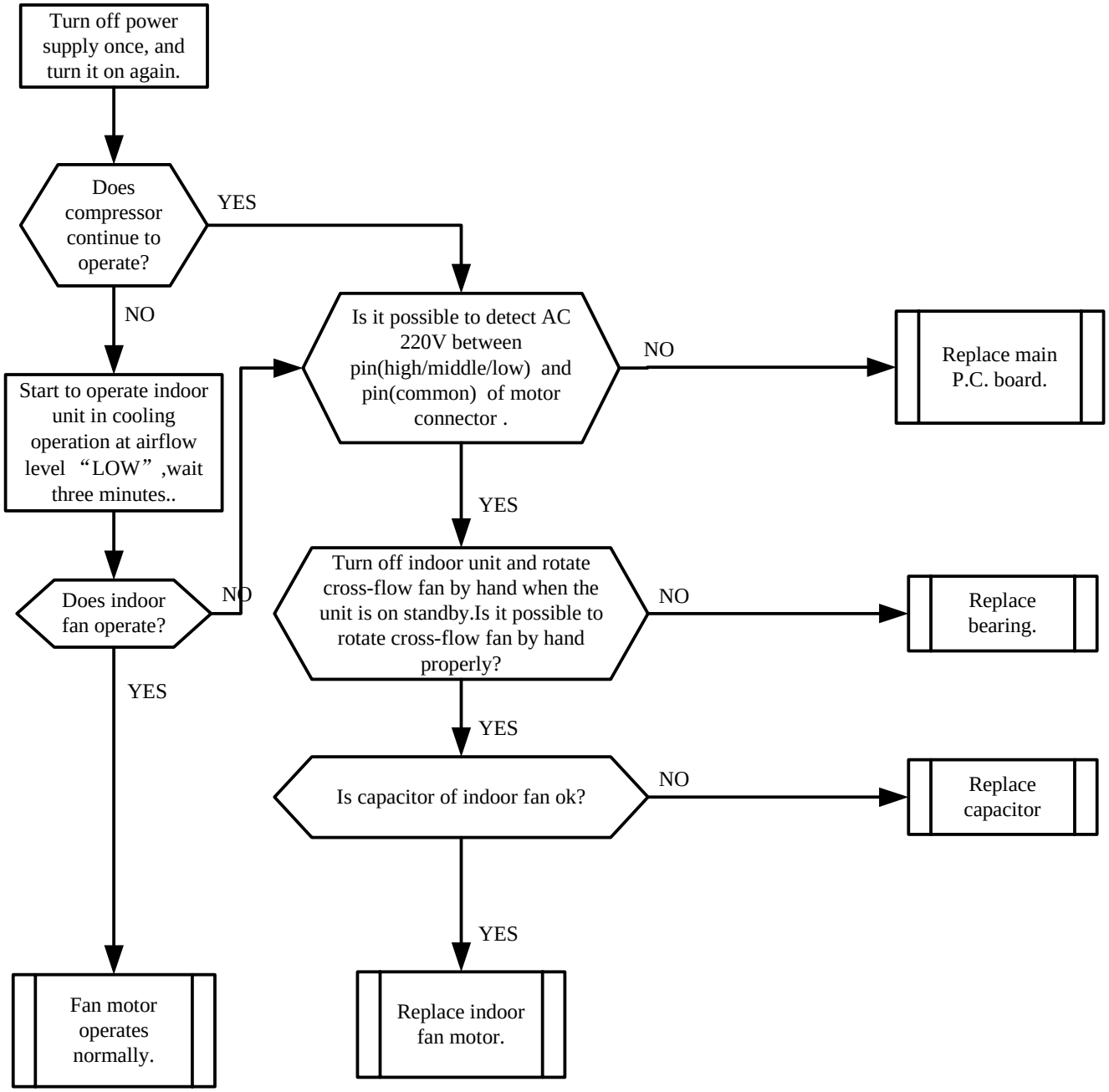


Only indoor fan motor does not operate.

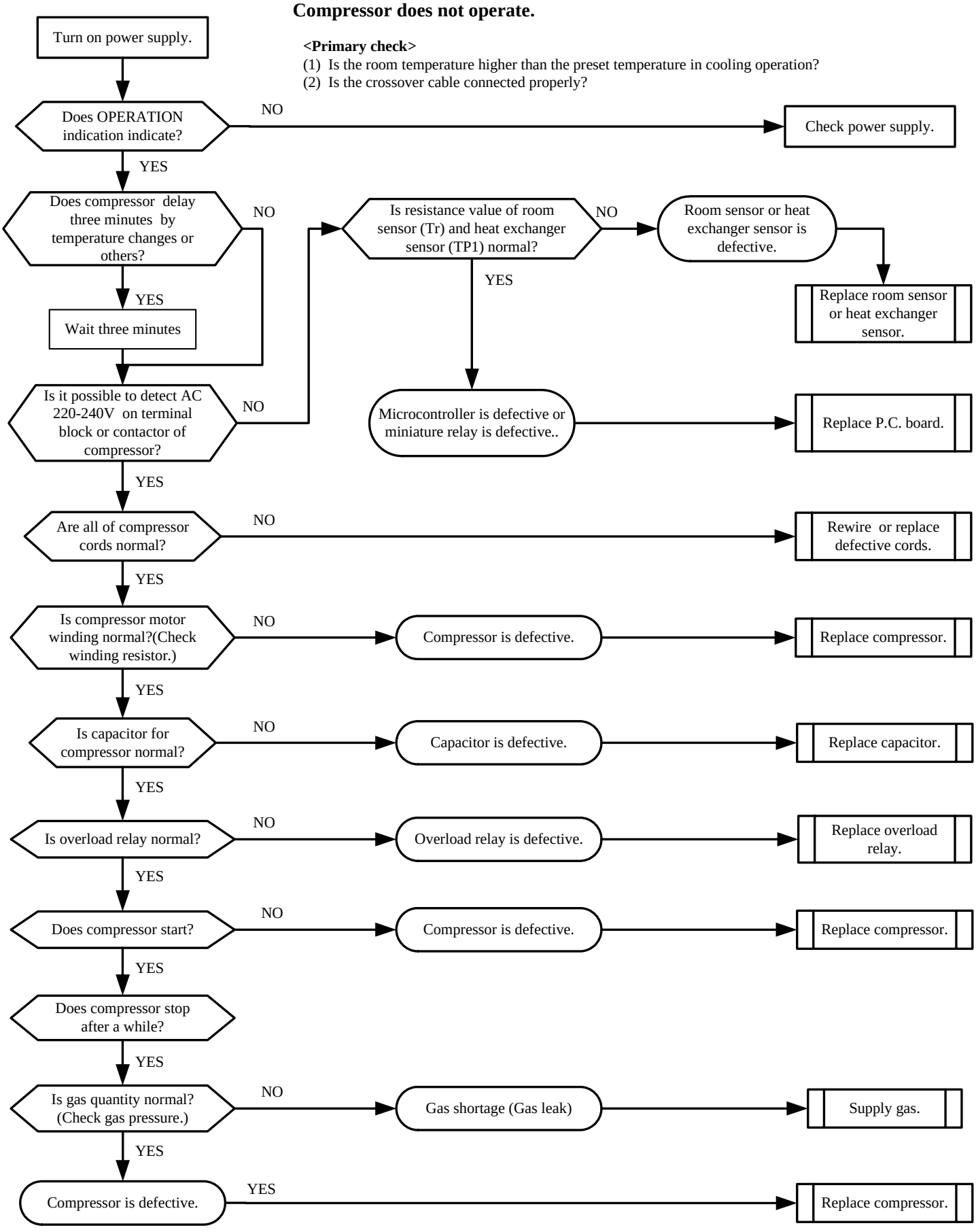
<Primary check>

(1) Is it possible to detect the power supply voltage (200-240V) between L and N on the terminal block?

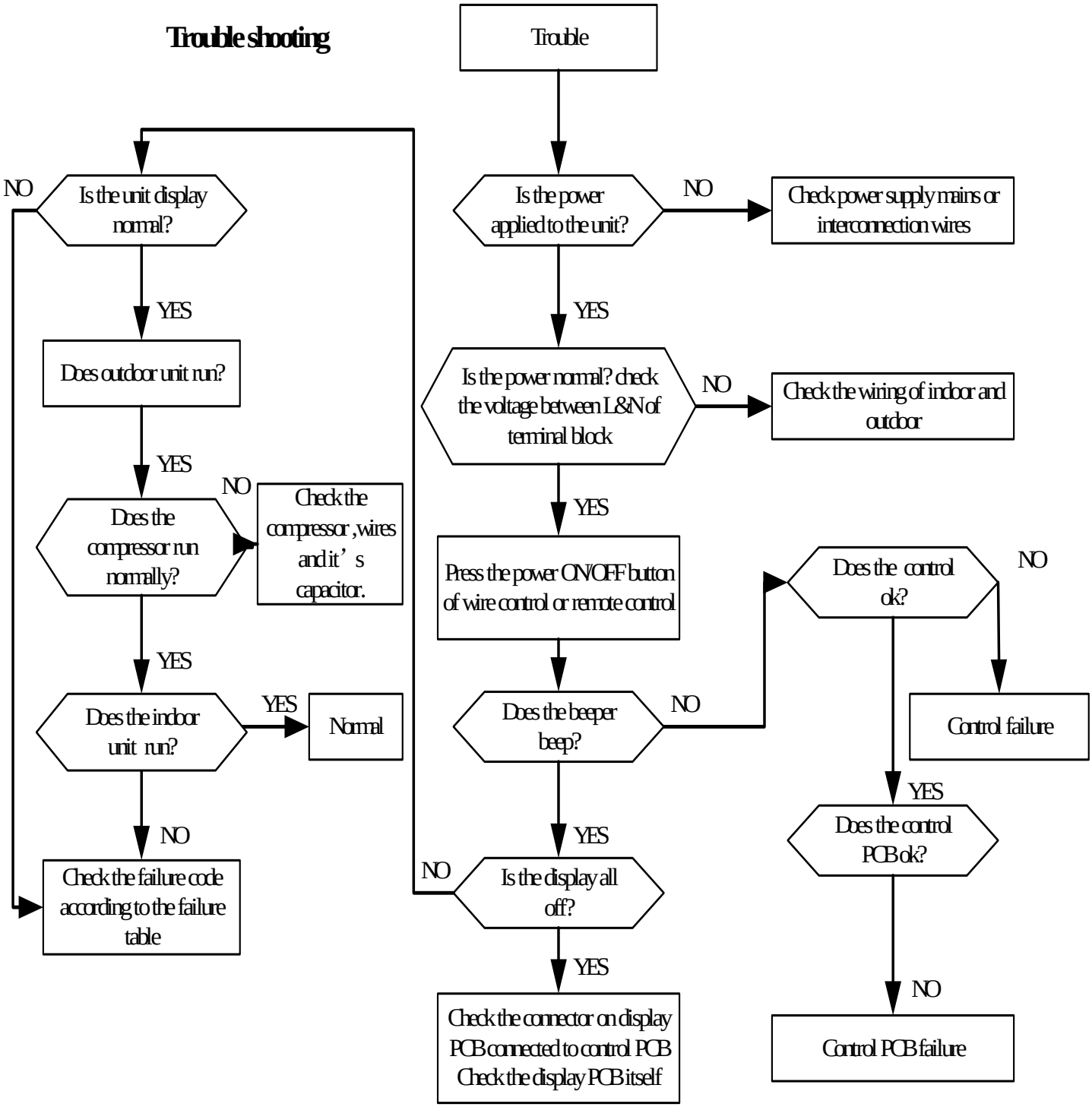
(2) Does the indoor fan motor operate in cooling operation?



Compressor does not operate.



Trouble shooting



Indoor unit and outdoor unit don’t operate