3. High temperature and overload protection diagnosis (AP1 hereinafter refers to the control board of the outdoor unit)

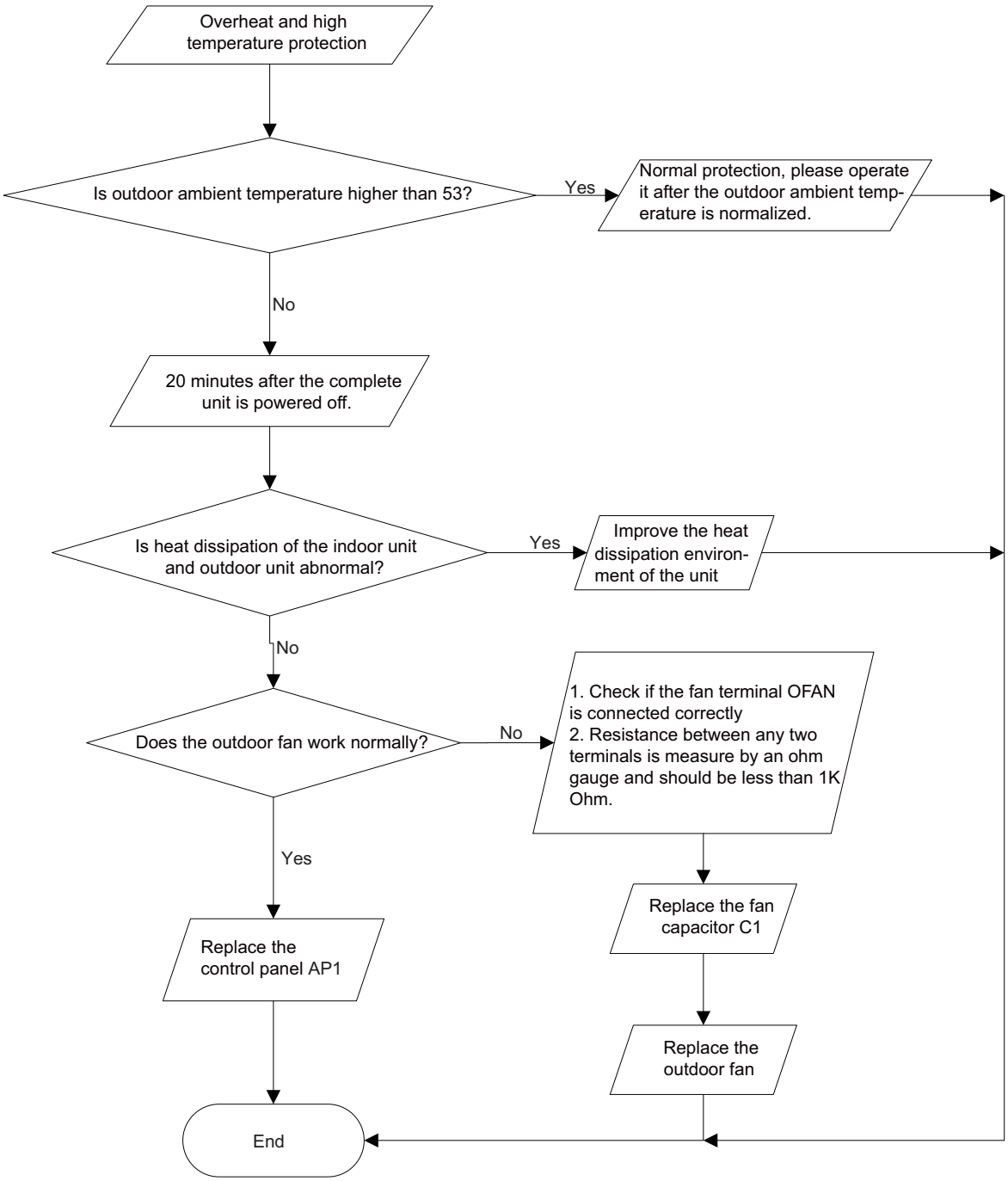
Mainly detect:

●Is outdoor ambient temperature in normal range?

●Are the outdoor and indoor fans operating normally?

●Is the heat dissipation environment inside and outside the unit good?

Fault diagnosis process:



4. Start-up failure (following AP1 for outdoor unit control board)

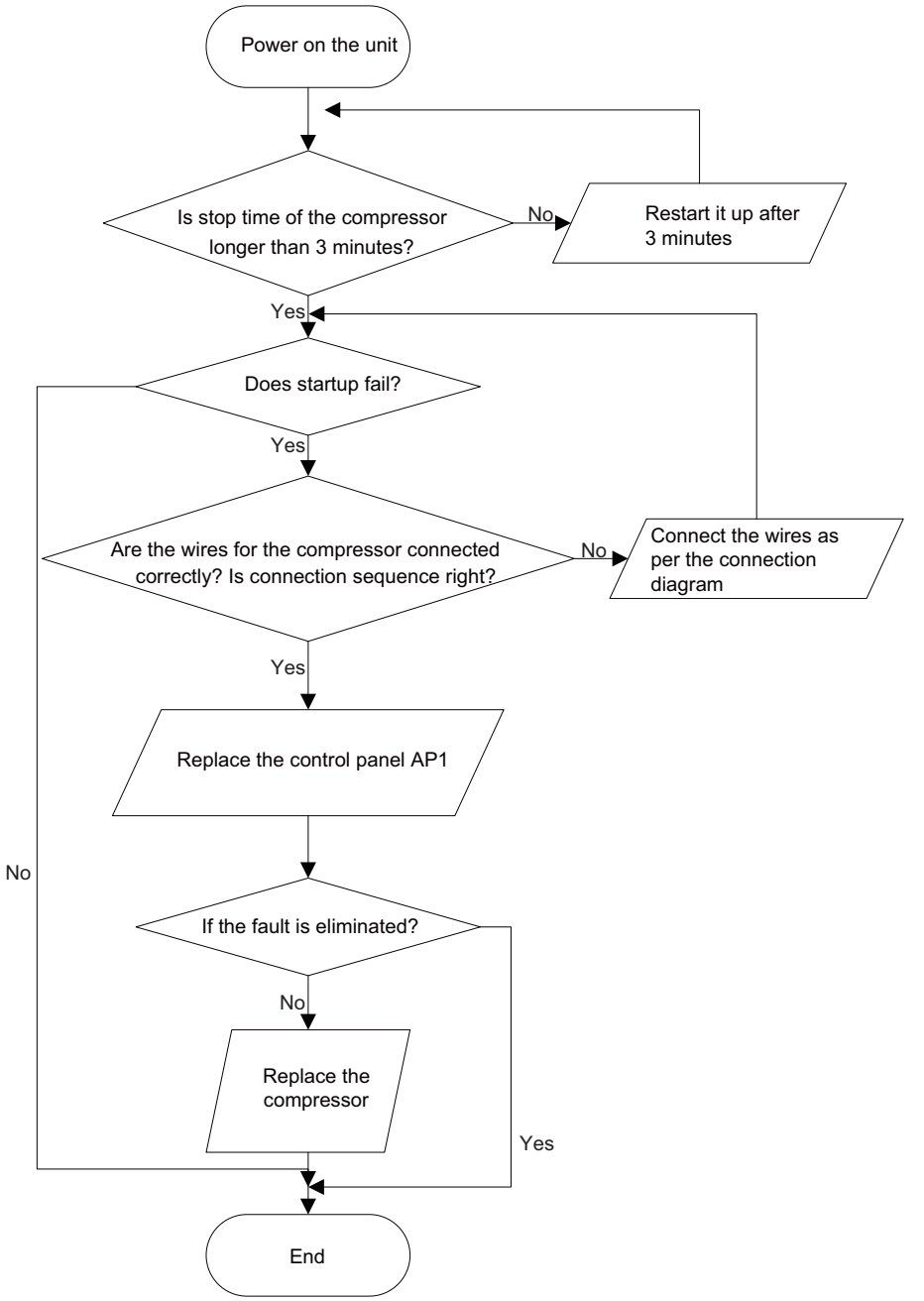
Mainly detect:

●Whether the compressor wiring is connected correct?

●Is compressor broken?

●Is time for compressor stopping enough?

Fault diagnosis process:



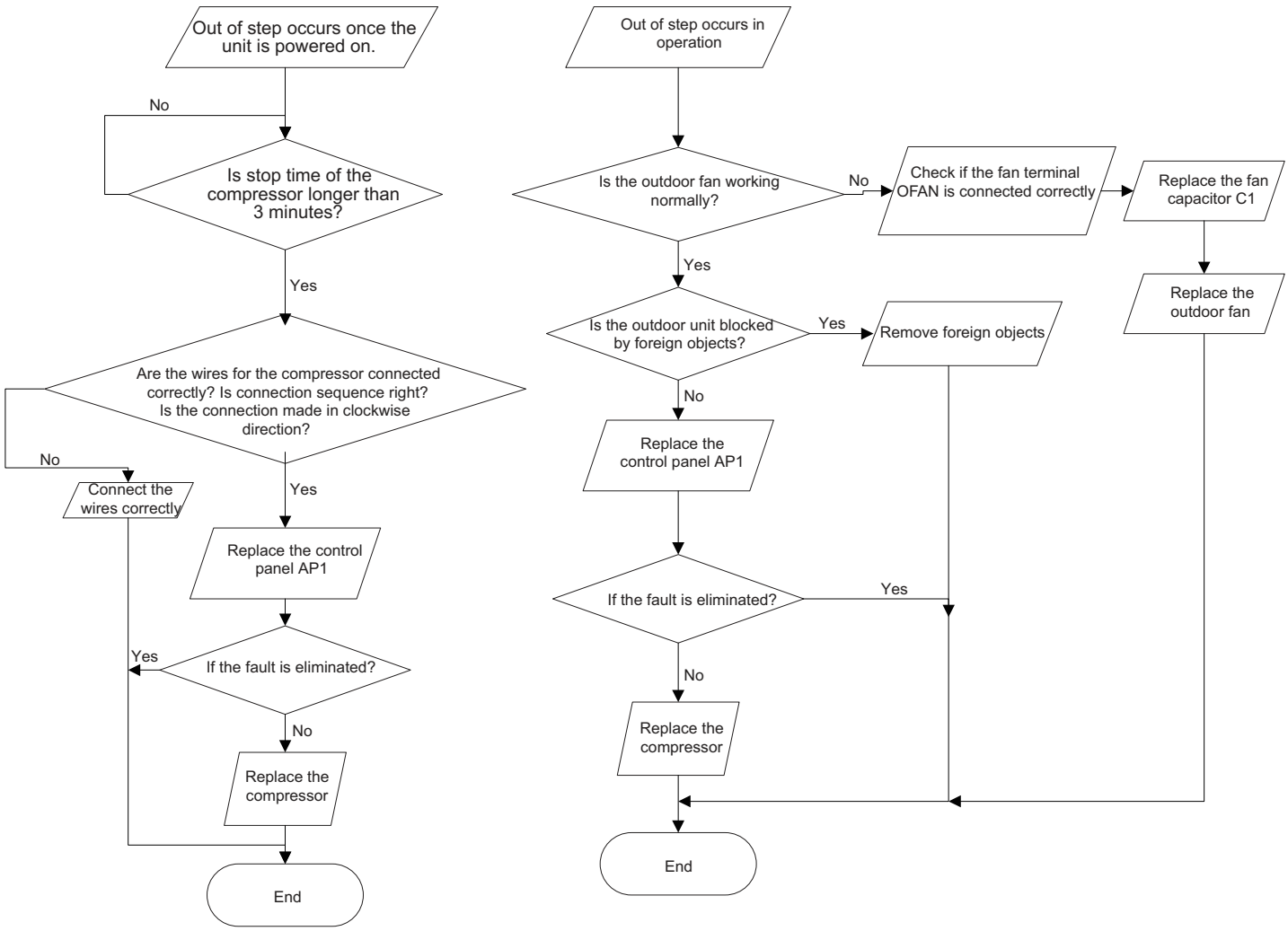
5. Out of step diagnosis for the compressor (AP1 hereinafter refers to the control board of the outdoor unit)

Mainly detect:

●Is the system pressure too high?

●Is the input voltage too low?

Fault diagnosis process:



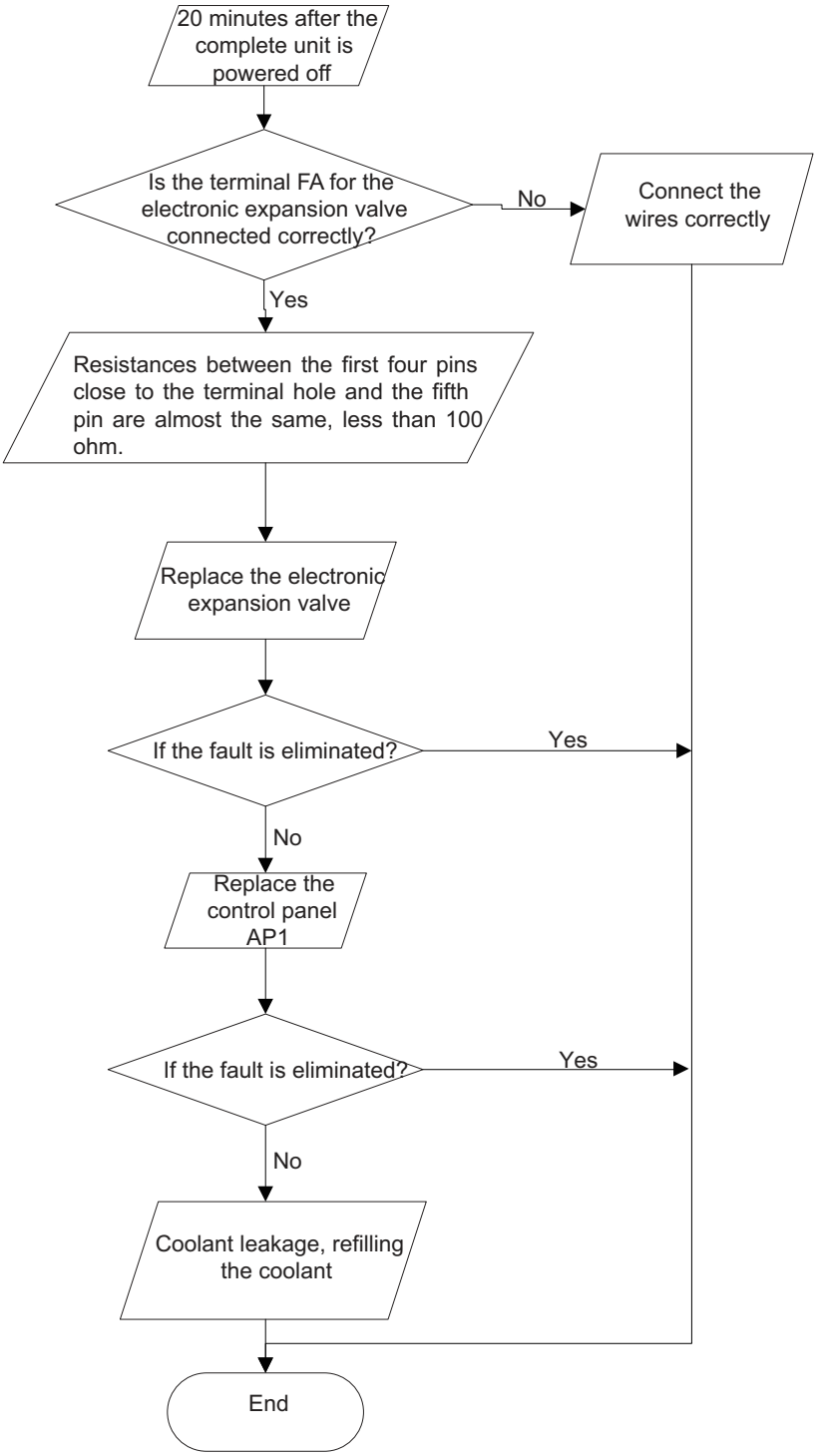
6. Overload and air exhaust malfunction diagnosis (following AP1 for outdoor unit control board)

Mainly detect:

●Is the PMV connected well or not? Is PMV damaged?

●Is refrigerant leaked?

Fault diagnosis process:



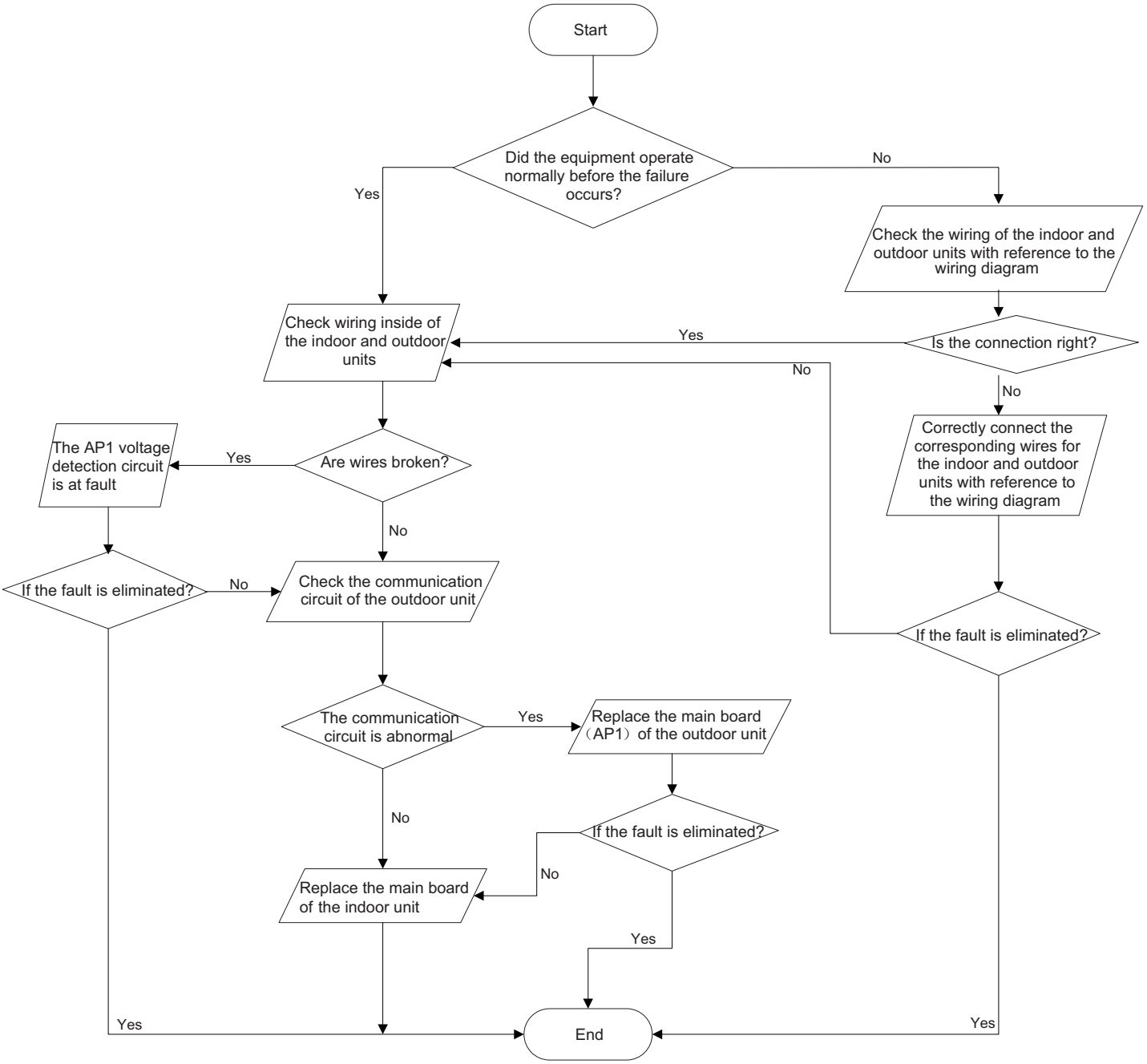
7. Communication malfunction: (following AP1 for outdoor unit control board)

Mainly detect:

●Is there any damage for the indoor unit mainboard communication circuit? Is communication circuit damaged?

●Detect the indoor and outdoor units connection wire and indoor and outdoor units inside wiring is connect well or not, if is there any damage?

Fault diagnosis process:

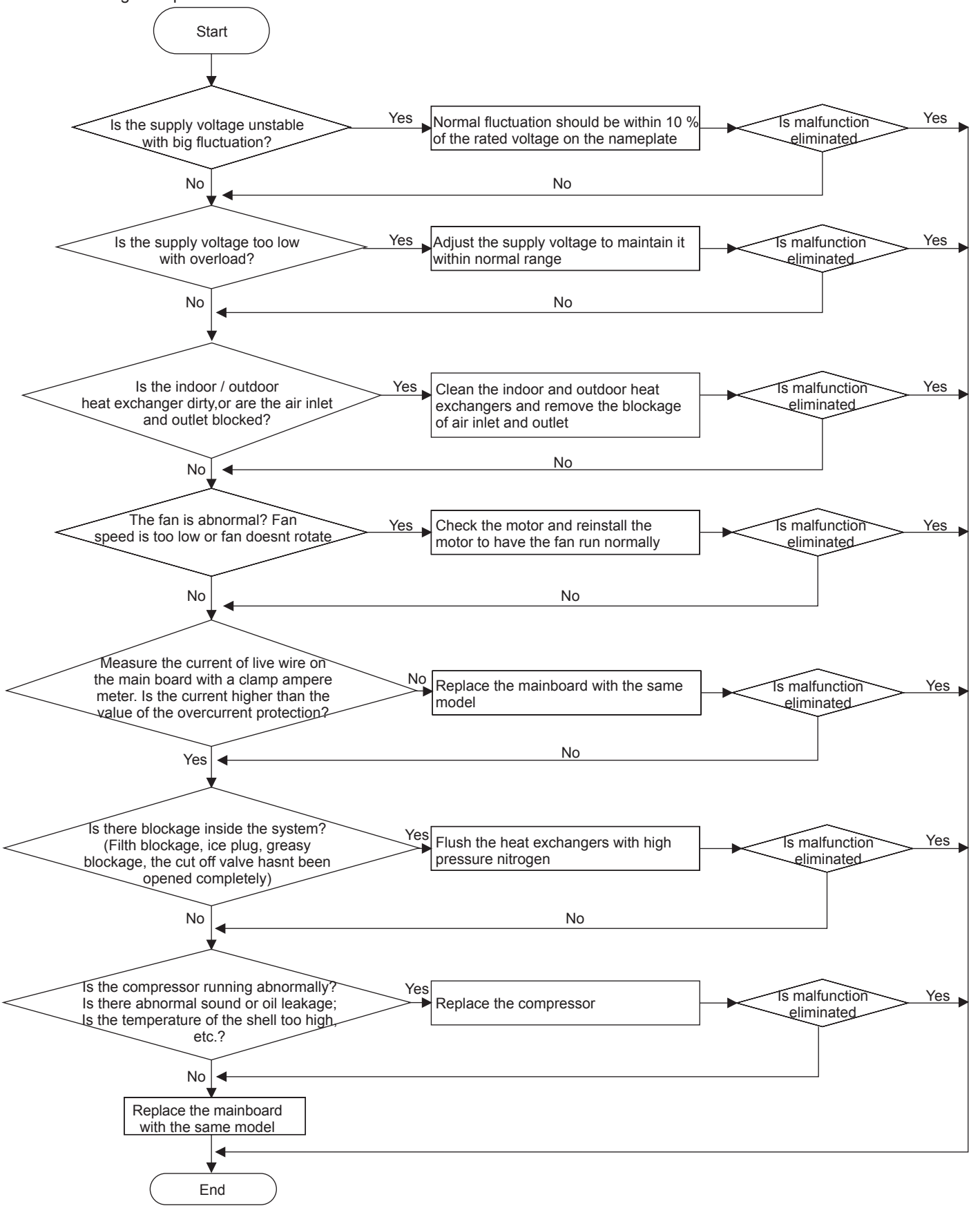


8. Malfunction of Overcurrent Protection

Main detection points:

- Is the supply voltage unstable with big fluctuation?
- Is the supply voltage too low with overload?
- Hardware trouble?

Malfunction diagnosis process:



9.3 Maintenance Method for Normal Malfunction

1. Air Conditioner Can't be Started Up

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
No power supply, or poor connection for power plug	After energization, operation indicator isn't bright and the buzzer can't give out sound	Confirm whether it's due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well.
Wrong wire connection between indoor unit and outdoor unit, or poor connection for wiring terminals	Under normal power supply circumstances, operation indicator isn't bright after energization	Check the circuit according to circuit diagram and connect wires correctly. Make sure all wiring terminals are connected firmly
Electric leakage for air conditioner	After energization, room circuit breaker trips off at once	Make sure the air conditioner is grounded reliably Make sure wires of air conditioner is connected correctly Check the wiring inside air conditioner. Check whether the insulation layer of power cord is damaged; if yes, place the power cord.
Model selection for air switch is improper	After energization, air switch trips off	Select proper air switch
Malfunction of remote controller	After energization, operation indicator is bright, while no display on remote controller or buttons have no action.	Replace batteries for remote controller Repair or replace remote controller

2. Poor Cooling (Heating) for Air Conditioner

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Set temperature is improper	Observe the set temperature on remote controller	Adjust the set temperature
Rotation speed of the IDU fan motor is set too low	Small wind blow	Set the fan speed at high or medium
Filter of indoor unit is blocked	Check the filter to see it's blocked	Clean the filter
Installation position for indoor unit and outdoor unit is improper	Check whether the installation postion is proper according to installation requirement for air conditioner	Adjust the installation position, and install the rainproof and sunproof for outdoor unit
Refrigerant is leaking	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit's pressure is much lower than regulated range	Find out the leakage causes and deal with it. Add refrigerant.
Malfunction of 4-way valve	Blow cold wind during heating	Replace the 4-way valve
Malfunction of capillary	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit't pressure is much lower than regulated range. If refrigerant isn't leaking, part of capillary is blocked	Replace the capillary
Flow volume of valve is insufficient	The pressure of valves is much lower than that stated in the specification	Open the valve completely
Malfunction of horizontal louver	Horizontal louver can't swing	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	The IDU fan motor can't operate	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	The ODU fan motor can't operate	Refer to point 4 of maintenance method for details
Malfunction of compressor	Compressor can't operate	Refer to point 5 of maintenance method for details

3. Horizontal Louver Can't Swing

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Stepping motor is damaged	Stepping motor can't operate	Repair or replace stepping motor
Main board is damaged	Others are all normal, while horizontal louver can't operate	Replace the main board with the same model

4. ODU Fan Motor Can't Operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of the ODU fan motor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the capacity of fan
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Motor of outdoor unit is damaged	When unit is on, cooling/heating performance is bad and ODU compressor generates a lot of noise and heat.	Change compressor oil and refrigerant. If no better, replace the compressor with a new one

5. Compressor Can't Operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of compressor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the compressor capacitor
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Coil of compressor is burnt out	Use universal meter to measure the resistance between compressor terminals and it's 0	Repair or replace compressor
Cylinder of compressor is blocked	Compressor can't operate	Repair or replace compressor

6. Air Conditioner is Leaking

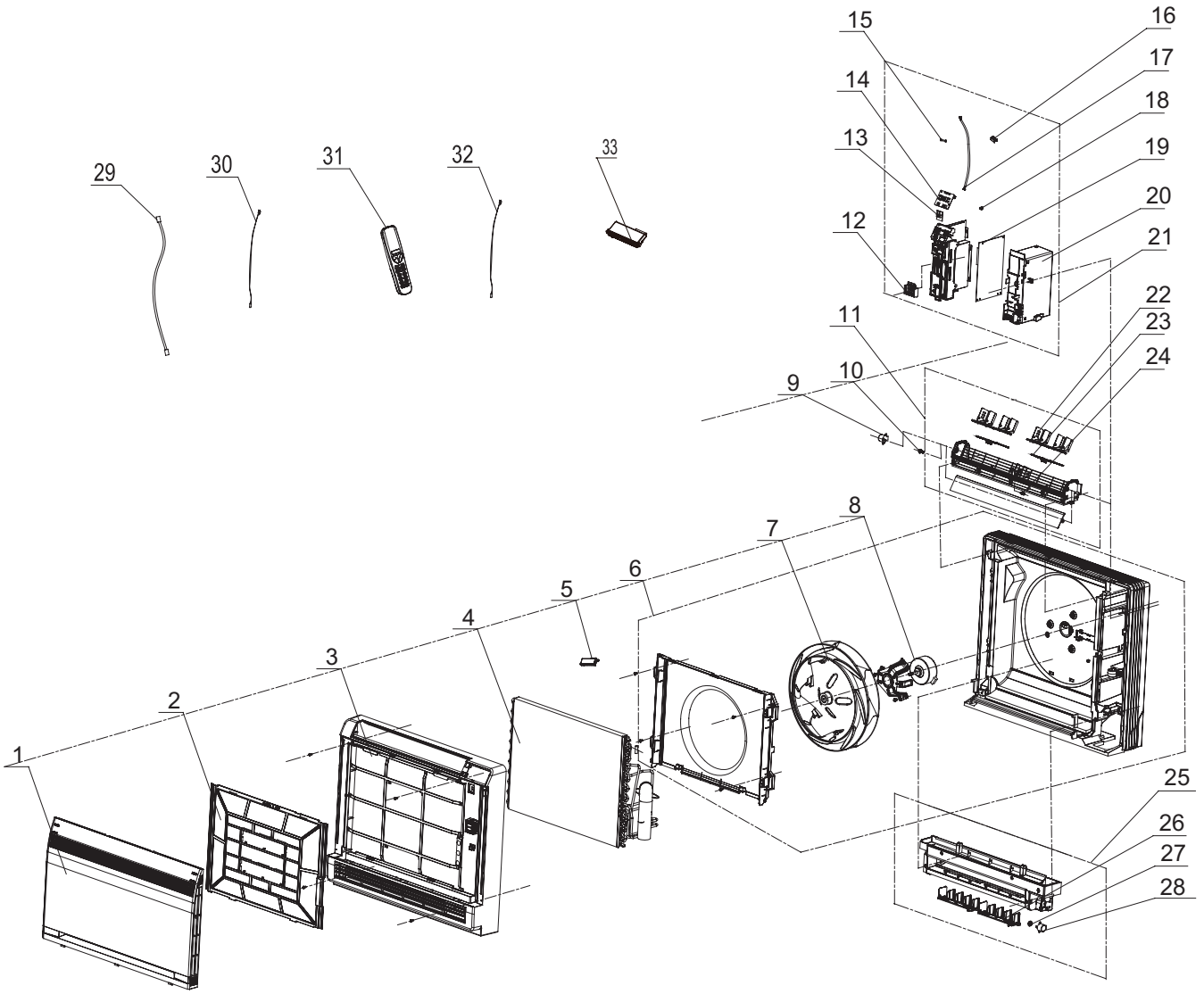
Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Drain pipe is blocked	Water leaking from indoor unit	Eliminate the foreign objects inside the drain pipe
Drain pipe is broken	Water leaking from drain pipe	Replace drain pipe
Wrapping is not tight	Water leaking from the pipe connection place of indoor unit	Wrap it again and bundle it tightly

7. Abnormal Sound and Vibration

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and there's abnormal sound	There's the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, there's abnormal sound due to flow of refrigerant inside air conditioner	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
Foreign objects inside the indoor unit or there're parts touching together inside the indoor unit	There's abnormal sound fro indoor unit	Remove foreign objects. Adjust all parts' position of indoor unit, tighten screws and stick damping plaster between connected parts
Foreign objects inside the outdoor unit or there're parts touching together inside the outdoor unit	There's abnormal sound fro outdoor unit	Remove foreign objects. Adjust all parts' position of outdoor unit, tighten screws and stick damping plaster between connected parts
Short circuit inside the magnetic coil	During heating, the way valve has abnormal electromagnetic sound	Replace magnetic coil
Abnormal shake of compressor	Outdoor unit gives out abnormal sound	Adjust the support foot mat of compressor, tighten the bolts
Abnormal sound inside the compressor	Abnormal sound inside the compressor	If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances.

10. Exploded View and Parts List

10.1 Indoor Unit



The component is only for reference;please refer to the actual product.

NO.	Description	Part Code			Qty
		GEH12AA-K6DNA1A/I	GEH09AA-K6DNA1F/I	GEH18AA-K6DNA1F/I	
	Product Code	CV010N02900	CV010N02700	CV010N02800	
1	Front Panel Assy	20012756	20012756	20012756	1
2	Filter Sub-Assy	11122139	11122139	11122139	1
3	Front Case Assy	20012601	20012601	20012601	1
4	Evaporator Assy	01100100160	01100100160	01100100164	1
5	Cold Plasma Generator	1114001604	1114001604	1114001604	1
6	Rear Case Assy	000001060071	000001000051	000001060071	1
7	Centrifugal Fan	10312005	10312005	10312005	1
8	Fan Motor	1570410001201	1570410001201	1570410001201	1
9	SteppingMotor	1521210101	1521210101	1521210101	1
10	Crank	73012005	73012005	73012005	1
11	Swing Assy	10102042	10102042	000211060003	1
12	Terminal Board	422000000022	422000000022	422000000022	1
13	Switch Board	30112007	30112007	30112007	1
14	Display Board	30568131	30568131	30568131	1
15	Fuse	46010055	46010055	46010055	1
16	Radiator	/	/	/	/
17	Signal Wire	4003004202	4003004202	4003004202	1
18	Jumper	4202300112	4202300111	4202300114	1
19	Main Board	300002000631	300002000631	300002000631	1
20	Electric Box	20112116	20112116	20112116	1
21	Electric Box Assy	100002002951	100002002848	100002002386	1
22	Air Louver (upper)	10512143	10512143	10512143	2
23	Swing Lever	10582096	10582096	10582096	1
24	Shaft of Guide Louver	10542020	10542020	10542020	1
25	Water Tray Assy	20182141	20182141	20182141	1
26	Air Louver (lower)	10512144	10512144	10512144	1
27	Axis (lower step motor)	10542034	10542034	10542034	1
28	SteppingMotor	1521210805	1521210805	1521210805	1
29	Connecting Cable	4002052317	4002052317	4002052317	0
30	Temperature Sensor	3900004508	3900004508	3900004508	1
31	Remote Controller	305001000111	305001000111	305001000111	1
32	Temperature Sensor	390000591	390000591	3900004508	1
33	Detecting Plate	30110154	30110154	30110154	1

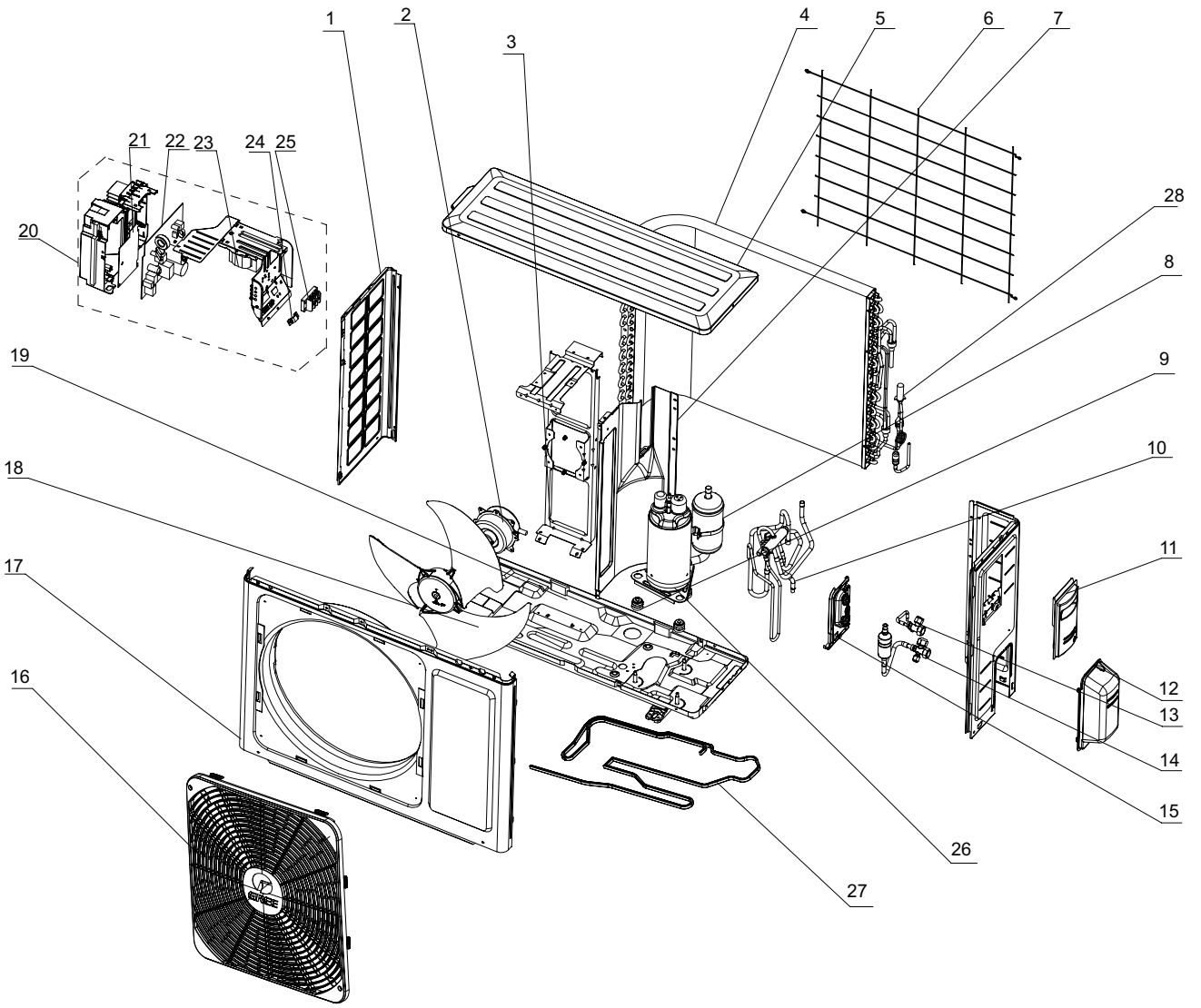
Above data is subject to change without notice.

NO.	Description	Part Code			Qty
		GEH12AA-K6DNA1A/I	GEH09AA-K6DNA1F/I	GEH18AA-K6DNA1F/I	
	Product Code	CV010N02901	CV010N02701	CV010N02801	
1	Front Panel Assy	20012756	20012756	20012756	1
2	Filter Sub-Assy	11122139	11122139	11122139	1
3	Front Case Assy	20012601	20012601	20012601	1
4	Evaporator Assy	01100100160	01100100160	01100100164	1
5	Cold Plasma Generator	/	/	/	/
6	Rear Case Assy	000001060071	000001000051	000001060071	1
7	Centrifugal Fan	10312005	10312005	10312005	1
8	Fan Motor	1570410001201	1570410001201	1570410001201	1
9	Stepping Motor	1521210101	1521210101	1521210101	1
10	Crank	73012005	73012005	73012005	1
11	Swing Assy	10102042	10102042	000211060003	1
12	Terminal Board	422000000022	422000000022	422000000022	1
13	Switch Board	30112007	30112007	30112007	1
14	Display Board	30568131	30568131	30568131	1
15	Fuse	46010055	46010055	46010055	1
16	Radiator	/	/	/	/
17	Signal Wire	4003004202	4003004202	4003004202	1
18	Jumper	4202300112	4202300111	4202300114	1
19	Main Board	300002000630	300002000630	300002000630	1
20	Electric Box	20112116	20112116	20112116	1
21	Electric Box Assy	100002060178	100002060177	100002060176	1
22	Air Louver (upper)	10512143	10512143	10512143	2
23	Swing Lever	10582096	10582096	10582096	1
24	Shaft of Guide Louver	10542020	10542020	10542020	1
25	Water Tray Assy	20182141	20182141	20182141	1
26	Air Louver (lower)	10512144	10512144	10512144	1
27	Axis (lower step motor)	10542034	10542034	10542034	1
28	Stepping Motor	1521210805	1521210805	1521210805	1
29	Connecting Cable	4002052317	4002052317	4002052317	0
30	Temperature Sensor	3900004508	3900004508	3900004508	1
31	Remote Controller	305001000111	305001000111	305001000111	1
32	Temperature Sensor	3900004508	3900004508	3900004508	1
33	Detecting Plate	30110154	30110154	30110154	1

Above data is subject to change without notice.

10.2 Outdoor Unit

GEH12AA-K6DNA1A/O

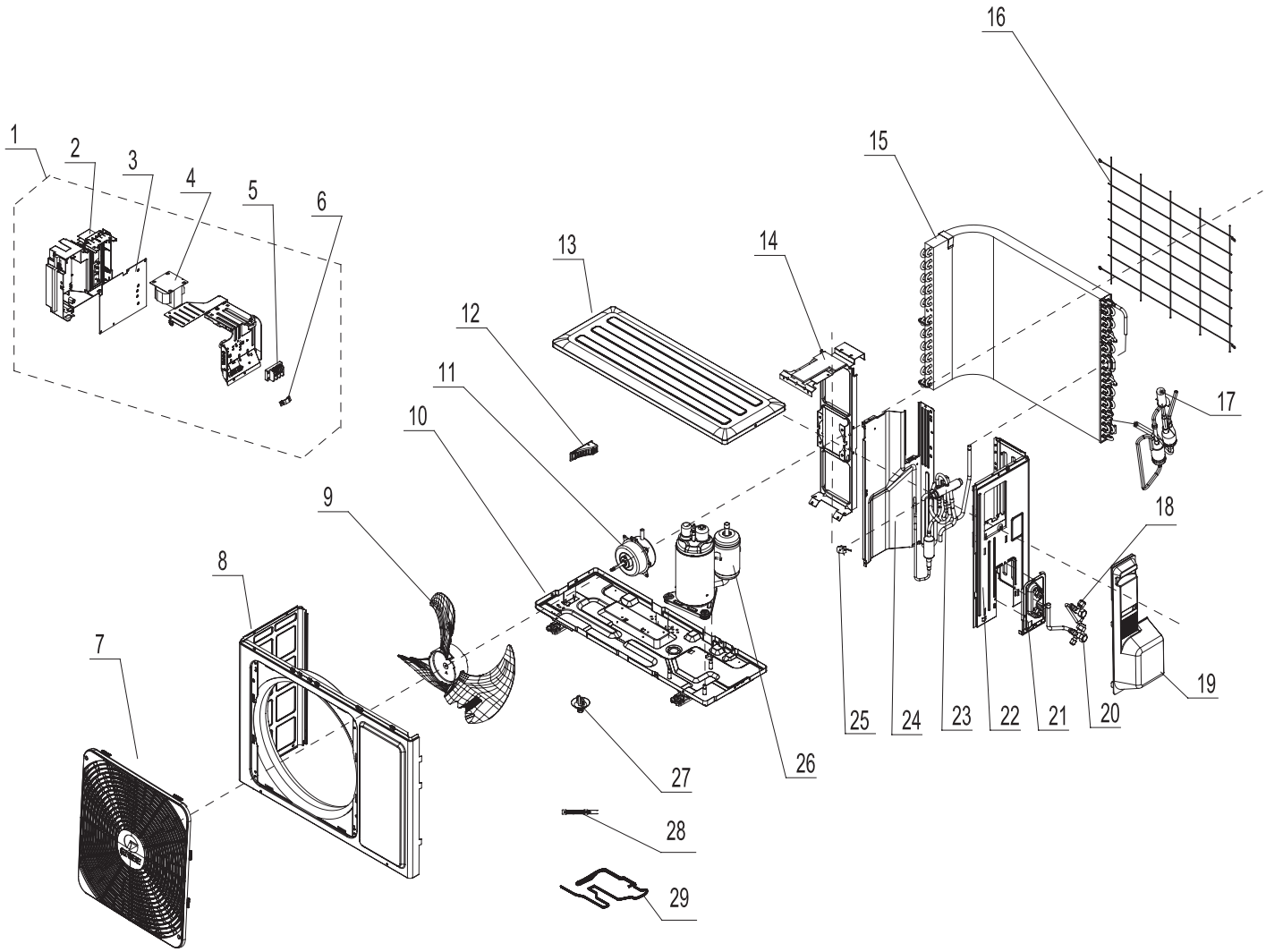


The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code	Qty
		GEH12AA-K6DNA1A/O	
	Product Code	CV010W02900	
1	Left Side Plate	01303200P	1
2	Fan Motor	1501308511	1
3	Motor Support	01703136	1
4	Condenser Assy	011002060521	1
5	Top Cover Sub-Assy	000051060038	1
6	Rear Grill	01475014	1
7	Clapboard Sub-Assy	01233180	1
8	Compressor and Fittings	009001060066	1
9	Compressor Gasket	009012000027	3
10	4-Way Valve Assy	030152060255	1
11	Big Handle	2623343106	1
12	Valve Cover	22243006	1
13	Cut off Valve	071302391	1
14	Cut off Valve	07130239	1
15	Valve Support	0171314201P	1
16	Front Grill	22413047	1
17	Cabinet	01433033P	1
18	Axial Flow Fan	10333011	1
19	Chassis Sub-assy	017000060080P	1
20	Electric Box Assy	100002064438	1
21	Electric Box	20113034	1
22	Main Board	300027060573	1
23	Reactor	43130184	1
24	Wire Clamp	71010103	1
25	Terminal Board	422000060016	1
26	Electrical Heater	/	/
27	Electrical Heater (Chassis)	7651000414	1
28	Electric Expansion Valve Sub-Assy	030026060275	1

Above data is subject to change without notice.

GEH09AA-K6DNA1F/O

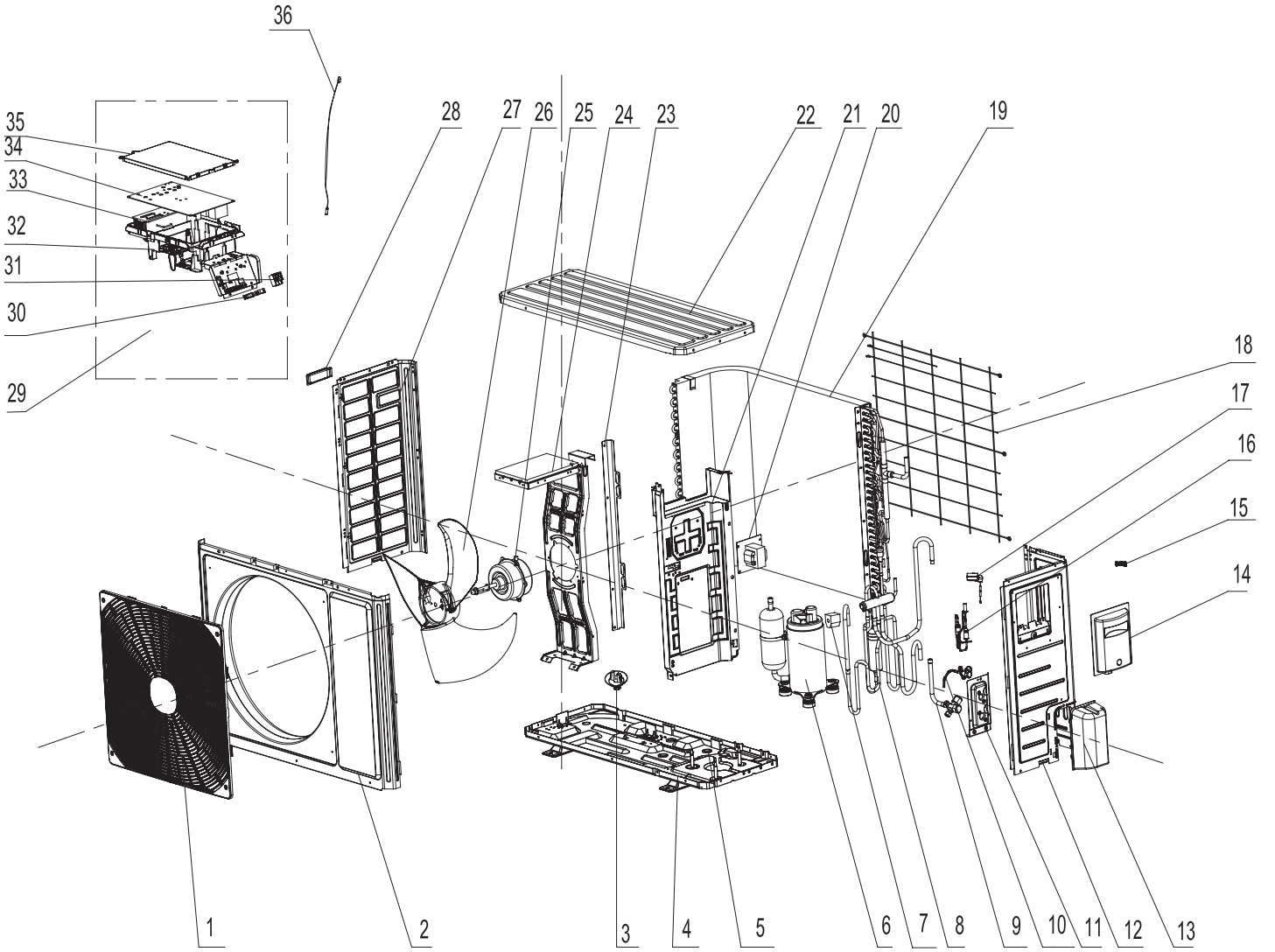


The component is only for reference;please refer to the actual product.

NO.	Description	Part Code	Qty
		GEH09AA-K6DNA1F/O	
	Product Code	CV010W02700	
1	Electric Box Assy	100002064342	1
2	Electric Box Sub-Assy	017007060831	1
3	Main Board	300027060561	1
4	Reactor	43130184	1
5	Terminal Board	422000060016	1
6	Wire Clamp	71010103	1
7	Front Grill	22413049	1
8	Front Panel	01533034P	1
9	Axial Flow Fan	10333004	1
10	Chassis Sub-assy	017000060298P	1
11	Fan Motor	1501308511	1
12	Small Handle	26233100	1
13	Top Cover Sub-Assy	000051060006	1
14	Motor Support	01703104	1
15	Condenser Assy	011002060497	1
16	Rear Grill	01473009	1
17	Electronic Expansion Valve	07133821	1
18	Cut off Valve	071302391	1
19	Big Handle	262334332	1
20	Valve	07100003	1
21	Valve Support	0171314201P	1
22	Right Side Plate Sub-Assy	00013006002001	1
23	4-Way Valve Assy	030152060251	1
24	Clapboard Sub-Assy	0123338502	1
25	Magnet Coil	4300040050	1
26	Compressor and Fittings	009001060050	1
27	Drainage Connecter	06123401	1
28	Electrical Heater(Compressor)	7651000414	1

Above data is subject to change without notice.

GEH18AA-K6DNA1F/O



The component is only for reference;please refer to the actual product.

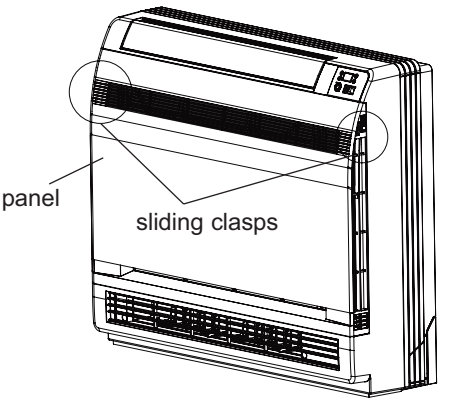
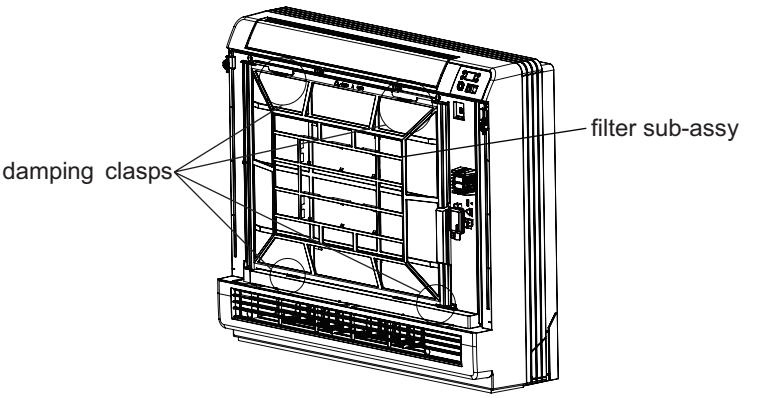
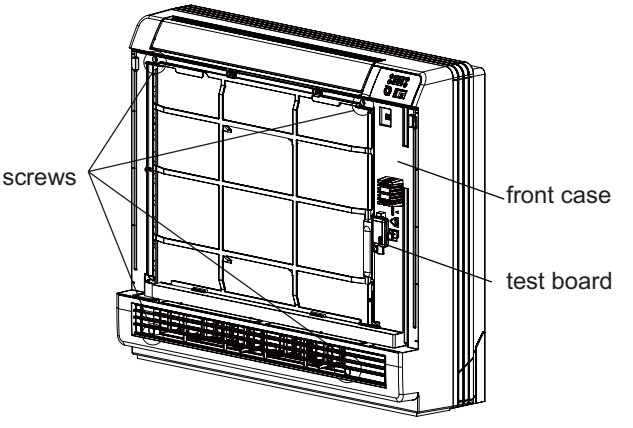
NO.	Description	Part Code	Qty
		GEH18AA-K6DNA1F/O	
	Product Code	CV010W02800	
1	Front Grill	22413045	1
2	Front Panel	01535013P	1
3	Drainage Connecter	06123401	1
4	Chassis Sub-assy	02803270P	1
5	Drainage hole Cap	06813401	1
6	Compressor and fittings	00103919G	1
7	Magnet Coil	4300040087	1
8	4-Way Valve Assy	030152060322	1
9	Cut off Valve Assy 1/2	07133774	1
10	Cut off Valve Sub-Assy	07133058	1
11	Valve support assy	01715010P	1
12	Right Side Plate	0130509402P	1
13	Valve cover	22245002	1
14	Handle	26233053	1
15	Wiring Clamp	26115004	1
16	Electronic Expansion Valve assy	07133774	1
17	Electric Expand Valve Fitting	030174000058	1
18	Rear Grill	01473043	1
19	Condenser Assy	0116348702	1
20	Reactor	/	/
21	Clapboard Assy	01233153	1
22	Coping	012049000007P	1
23	Supporting Board(Condenser)	01795010	1
24	Motor Support Sub-Assy	01705036	1
25	Fan Motor	1501506402	1
26	Axial Flow Fan	10335008	1
27	Left Side Plate	01305093P	1
28	left handle	2623525404	1
29	Electric Box Assy	100002064320	1
30	Wire Clamp	71010003	1
31	Terminal Board	422000060009	1
32	Electric Box	20113027	1
33	Radiator	49013060	1
34	Main Board	300027060548	1
35	Insulated Board (Cover of Electric Box)	20113003	1
36	Temperature Sensor	3900030901	1

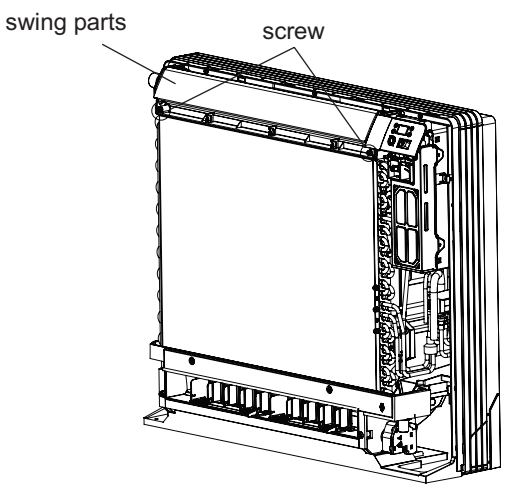
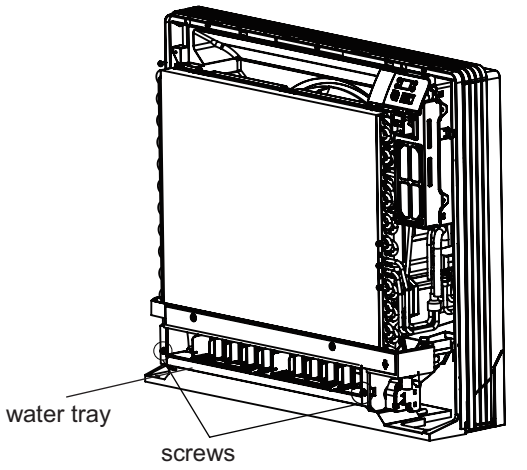
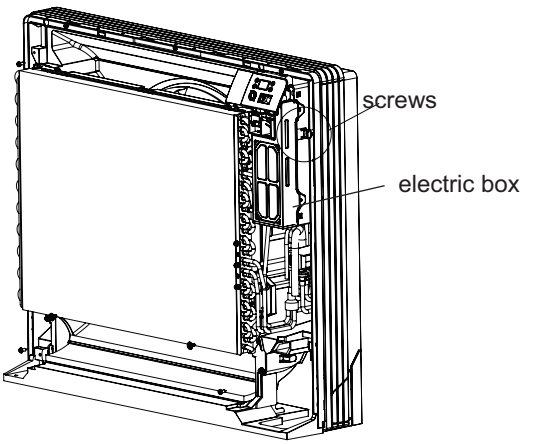
Above data is subject to change without notice.

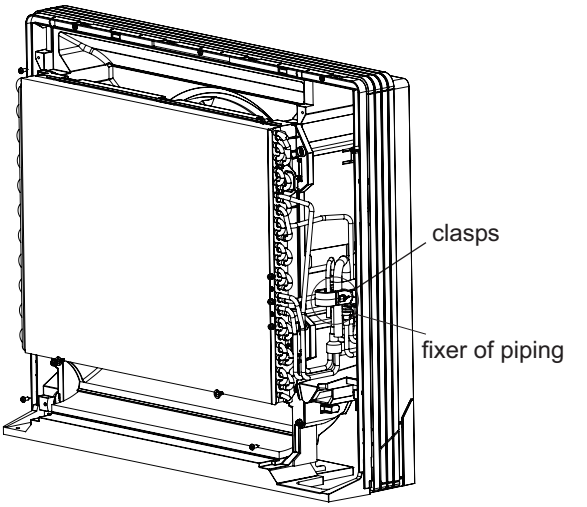
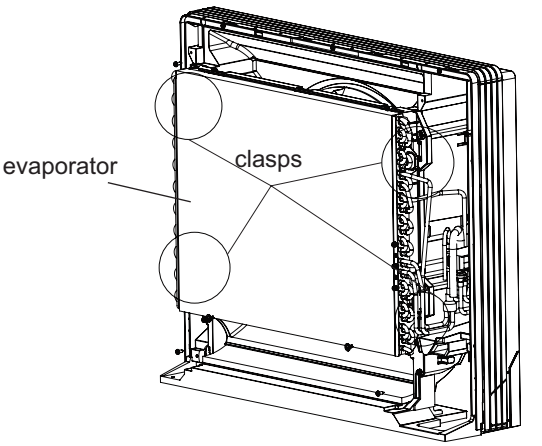
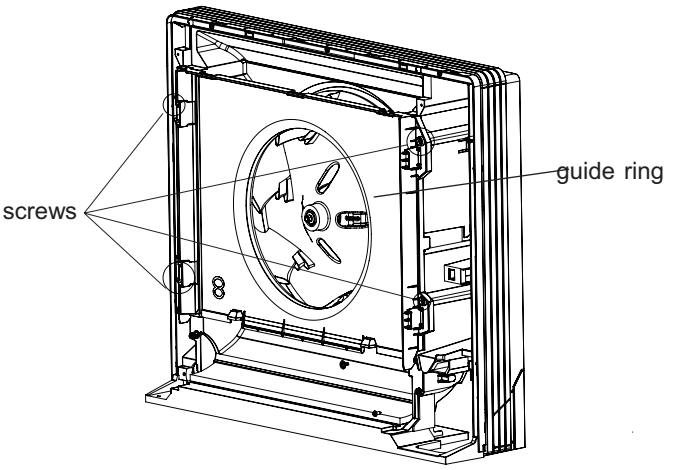
11. Removal Procedure

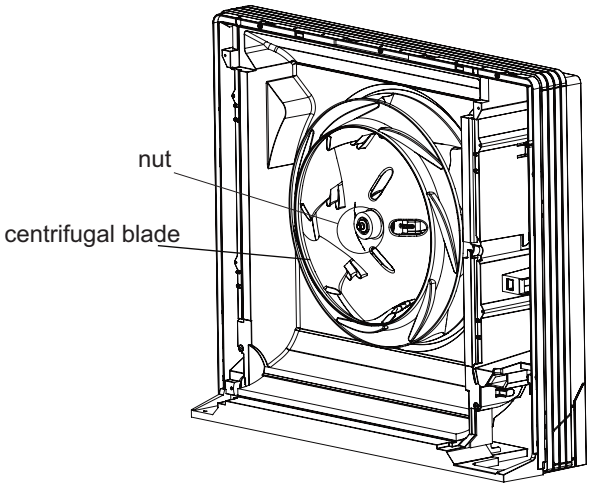
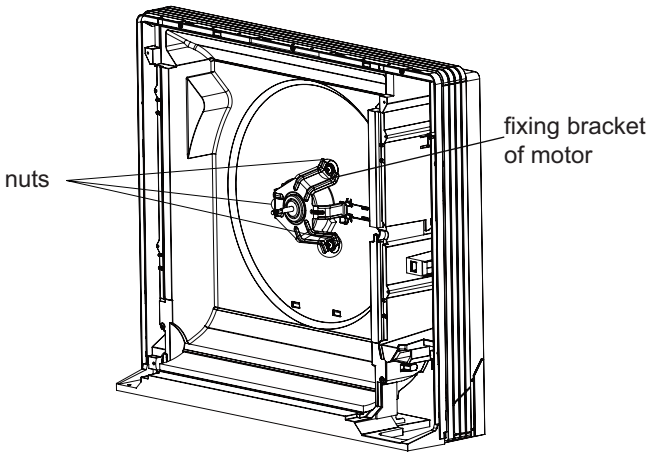
⚠ **Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.**

11.1 Removal Procedure of Indoor Unit

Steps	Procedure
1. Remove panel	
Pull sliding clasps at both sides of panel, pull out the panel outwards and then move the panel upwards to remove it.	
2. Remove filter sub-assy	
Pull the damping clasps at upper/lower side of filter sub-assy, and then move the filter sub-assy outwards to remove it.	
3. Remove test board and front case	
Remove one screws fixing the test board, and t hen pull the test board outwards to remove it. Remove 4 screws fixing the front case, and then pull the front case outwards to remove it.	

Steps	Procedure
4. Remove swing parts	
Remove 2 screws fixing the swing parts, and then pull the swing parts outwards to remove it.	
5. Remove water tray	
Remove 2 screws fixing water tray, and then pull the water tray outwards to remove it.	
6. Remove electric box	
Remove one screw fixing the electric box, and then pull the electric box outwards to remove it.	

Steps	Procedure
7. Remove fixer of piping	
Pry out the clasps connecting fixer of piping and bottom case, and then pull the fixer of piping outwards to remove it.	
8. Remove evaporator	
Pry out the clasps connecting evaporator and bottom case, and then pull the evaporator outwards to remove it.	
9. Remove guide ring	
Remove 4 screws fixing guide ring, and then pull the guide ring outwards to remove it.	

Steps	Procedure
10. Remove centrifugal blade	
	Remove one nut fixing the centrifugal blade, and then pull the centrifugal blade outwards to remove it.
	
11. Remove fixing bracket of motor	
	Remove 3 nuts on fixing bracket of motor, and then pull the fixing bracket of motor outwards to remove it.
	
12. Remove press plate of motor wire	
	Loosen clasps between press plate of motor wire and bottom case, and then pull the press plate of motor wire outwards to remove it.