EN

PORTABLE AIR CONDITIONER (LOCAL)

CRONO

OPERATING INSTRUCTIONS

Read the instructions carefully before operating the appliance or carrying out maintenance work.
Observe all the safety instructions; failure to do so may lead to accidents and/or damage. Store these instructions in a safe place for future reference.

Section One
Maintenance for Common Trouble
Chapter I Trouble Analysis

When trouble happened, don't get panicky and take apart the machine without any analysis, otherwise some unnecessary damages will be caused. Please deal with the trouble as the following to find a correct solution.

If the trouble cannot be solved by the following solutions, please check special trouble solutions for help.

Trouble	Cause	Solution
Machine cannot work	1. Power-off 2. Power plug is loose 3.Water-full indicator turns on or "P2" flashes on screen	1.Power-on 2.Re-insert power plug 3.Drain out the water
Cooling function cannot work well	1.Filters are blocked by dusts 2.Air-inlet is blocked 3.The room is too big or blow-by	1.Clean filters 2. Remove the blockage. 3. Adjust room area or strengthen the seal
Water leakage	1.Machine doesn't stand upright 2.Water-outlet is blocked	1 Let machine stand upright 2. Unchoke water-outlet.
Abnormal noise of machine	1.Machine is not placed well 2.Filters is blocked	1.Let machine on flat place and stand upright 2. Clean the filters
Heat air doesn't go out immediately under heating mode.	1.Environmental temperature is higher than setting temperature 2.Heat air will blow out three minutes later after heating mode running	1.Make setting temperature is higher than environmental temperature 2.Please wait patiently for three minutes.
Strange smell blows out	Machine is unused for a longtime, it has adsorbed the smell from furniture , carpet, paint. when the machine runs, the smell will blow out	Run machine for 2-5minutes, the strange smell will disappear.

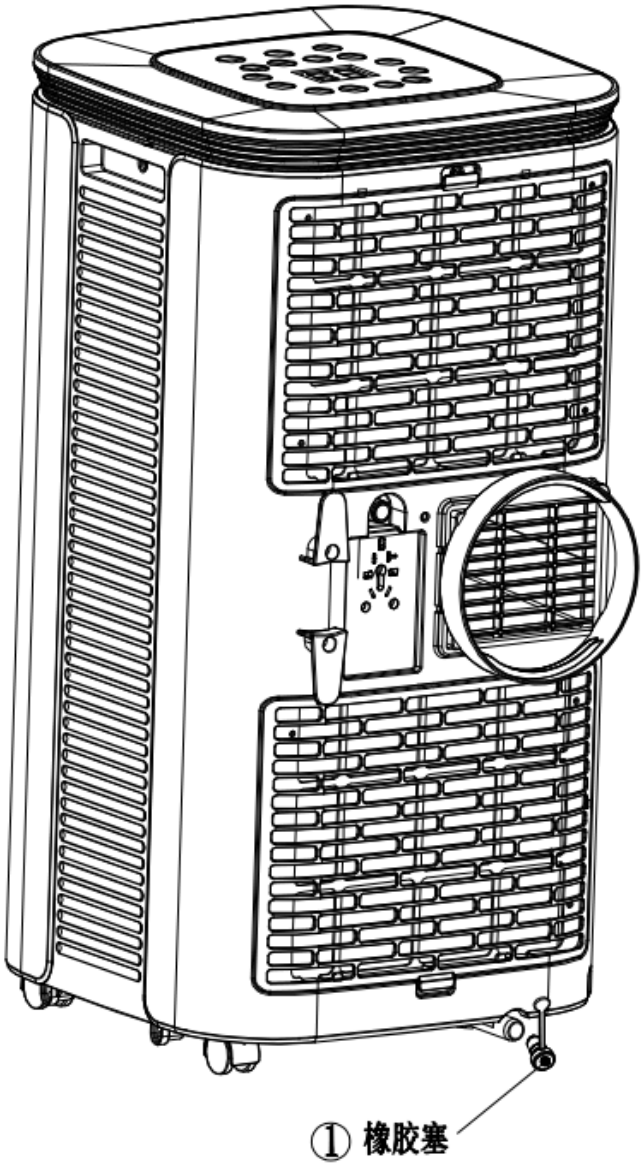
Section II Operational Steps

Action 1. Steps:

(1) Pull out rubber water plug

(2) Water will flow out of the drain hole

(3) After the water is emptied, the rubber plug is loaded back



Operation 2:

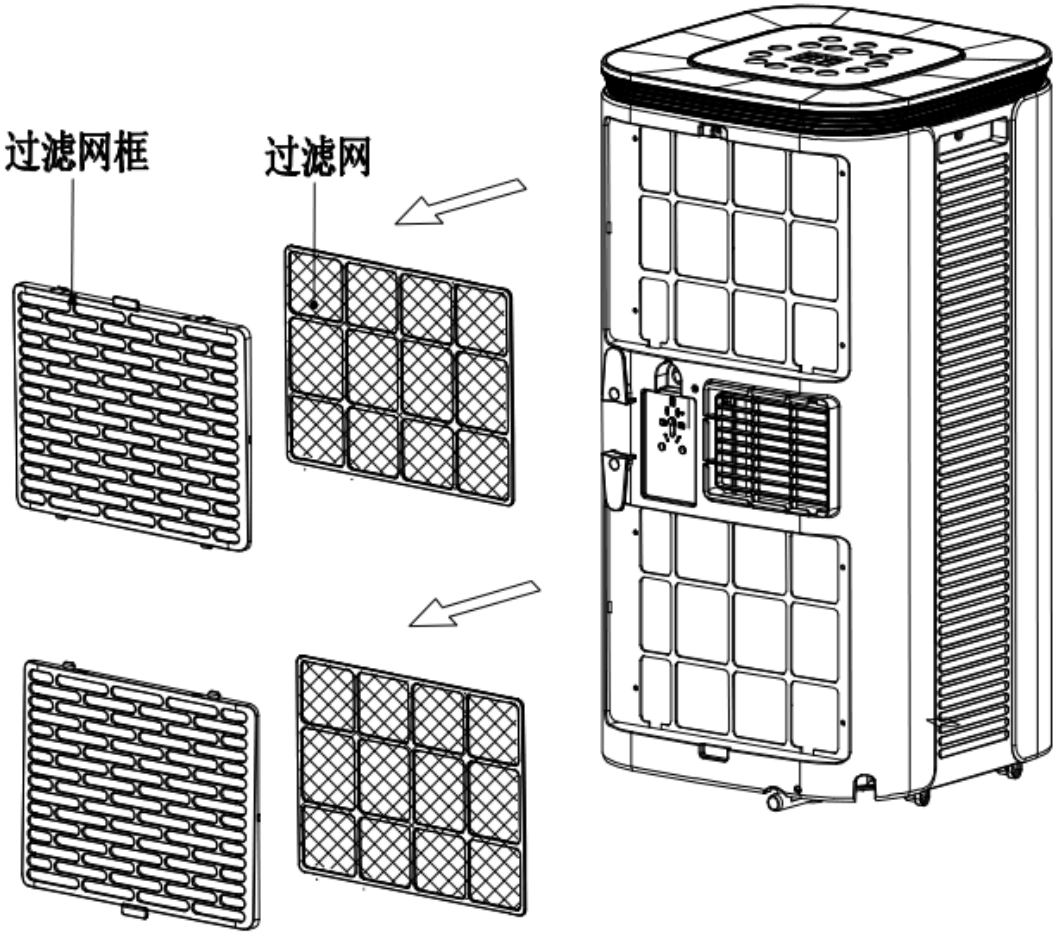
Step ：

(1) : Remove the filter frame from the fuselage

(2) Remove the filter from the filter frame

(3) Flush filter with tap water

(4) Dry the filter and put it back in place

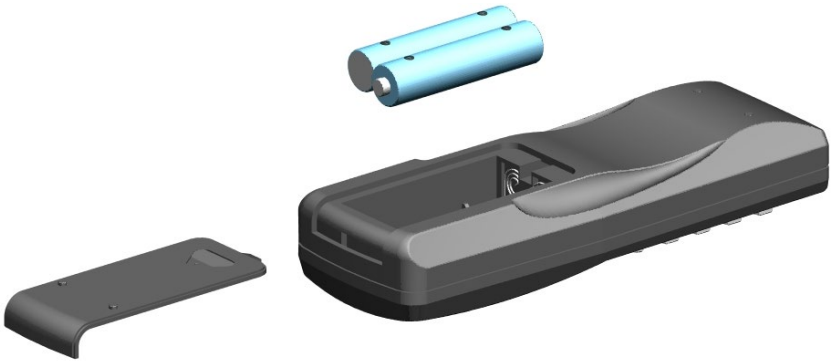


Operation 3:

Step ：

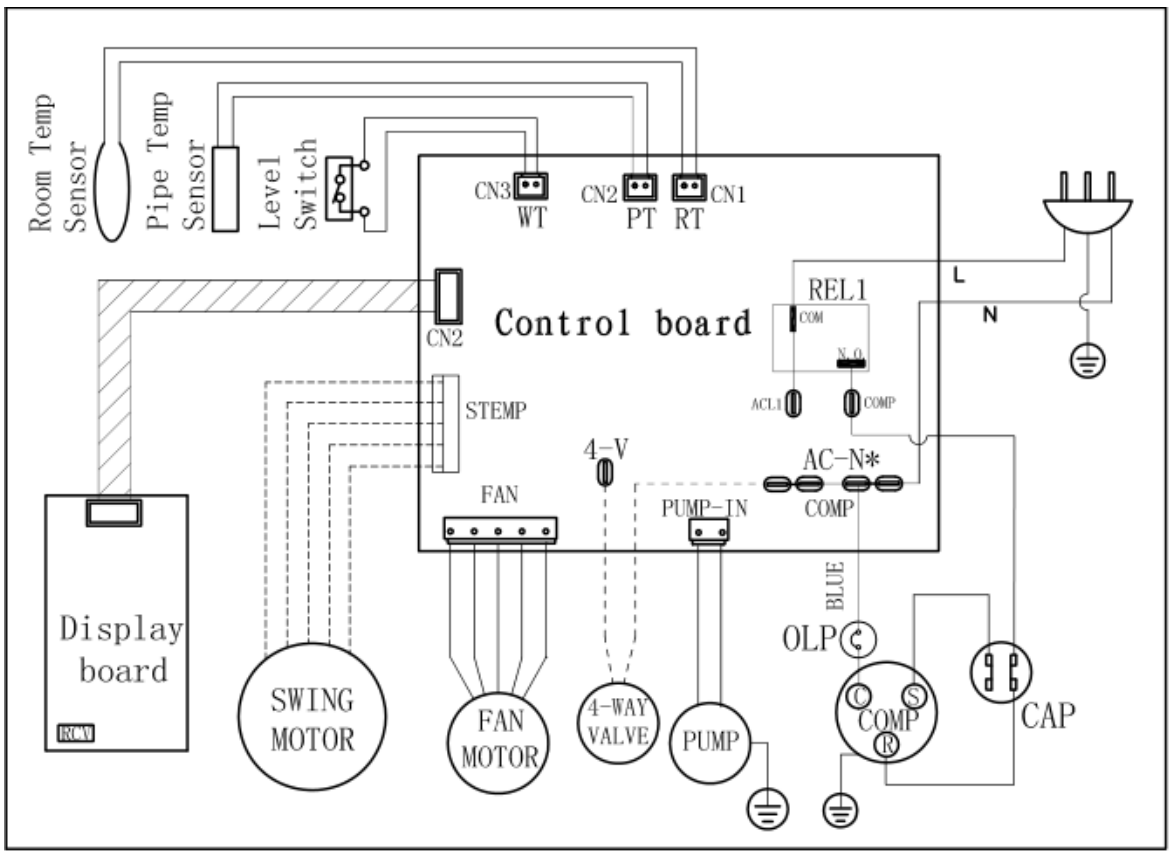
⑴ Open the cover of battery case in remote control.

⑵ According to the polarity tips, install batteries into remote control correctly. (positive pole to “+”, negative pole to “ –“).



Section Two
Failure Maintenance
Chapter I Electronic Control Theory

First of all, let's get a simple knowledge of electronic control theory, so that to seize the key points of problems quickly and deal with problems more efficiently. An electronic schematic diagram as following (this is a typical schematic diagram, for special machine , please note the circuit diagram attached to the machine):



From above circuit diagram we can see that the whole diagram is divided into two parts:

strong power part and weak power part, and electric transformer is the cut-off point. Strong power part before transformer while weak power part after transformer.

For strong power part, the phase line enters through 30A compressor relay RY1, then passes fuse, fan motor, four-way valve, water motor. Fan motor is made up of tap motor and centrifugal fan. There are high fan speed and low fan speed, and be controlled by two 5A relay (RY3 and RY4) respectively. RY3 for high speed while RY4 for low speed. Water motor is shaded-pole motor and is controlled by relay RY2. Four-way valve is controlled by RY5.

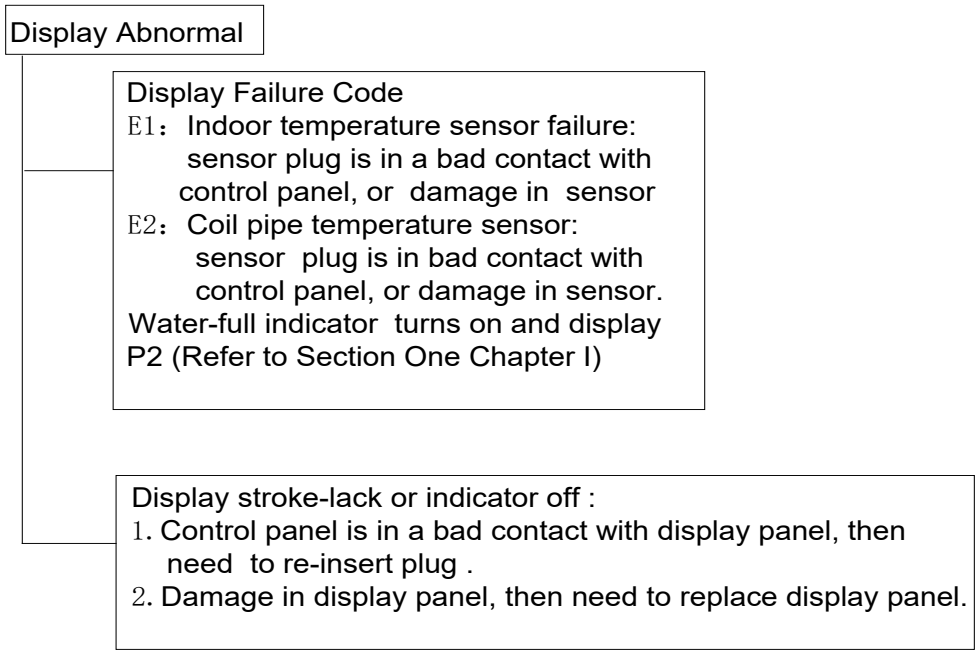
For weak power part, it can be divided into two parts: power supply part and control part. The part of power supply goes out through transformer output-port, then passes four bridge rectifiers of commutation diode, capacitive E1 wave filtering , and get volts d.c. about 12V , to supply relay and drive integrated package ULN2003, the other way go through current-limiting resistance RR1 and 5V stabilized voltage 7805 to supply SCM , peripheral circuit and display power. The core of control part is HT46R47. Its input parts are keys, receiving head, room temperature sensor , evaporator temperature sensor and water-level detecting circuit; its output parts are control relay, buzzer and status display.

Keys, LED or LCD are man-machine conversation windows. By keys we can change machine work status; LED or LCD displays machine current work status. Remote control receiver: when controlled by remote control, the remote control receiver gets the control signals from remote control, then sends them to SCM. Evaporator temperature sensor sends the surface temperature of evaporator to SCM. Water-level detecting circuit detects if water tank is full, and sends the signals to SCM. Analyzed by SCM process, control

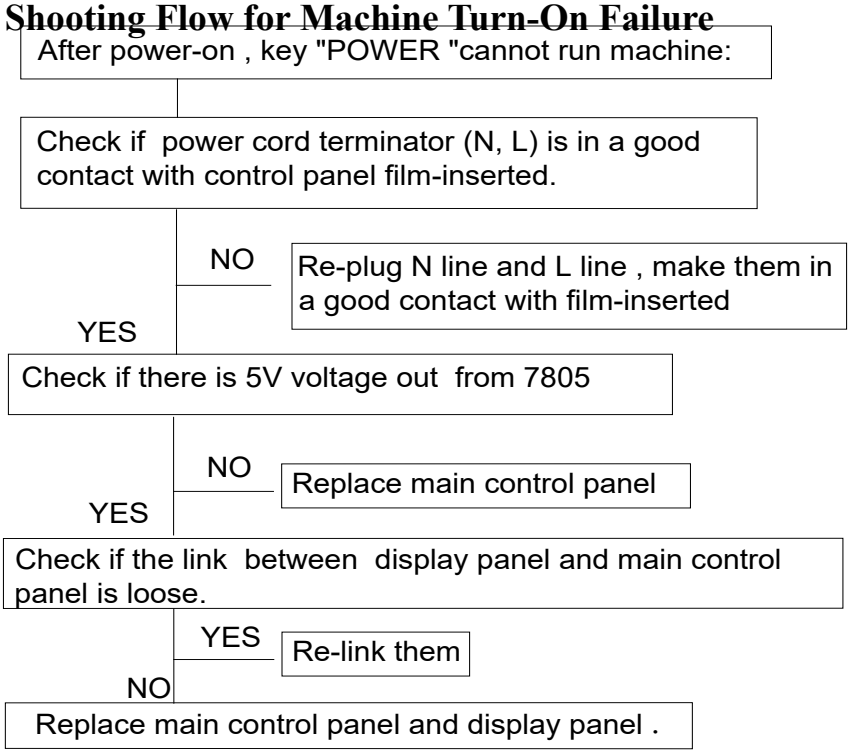
signals is sent out through drive ICULN2003 to control relay's ON/OFF. Then the machine can work well under SCM uniform control.

Chapter II Typical Trouble Analysis

Trouble Detecting Flow for Abnormal Display

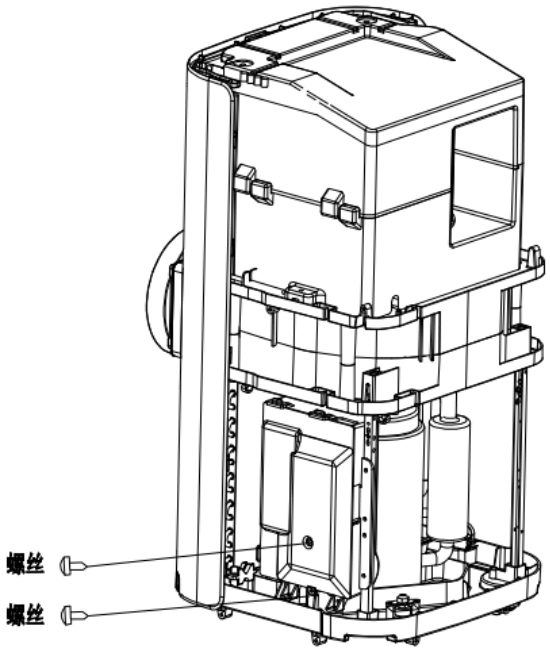


Trouble Shooting Flow for Machine Turn-On Failure

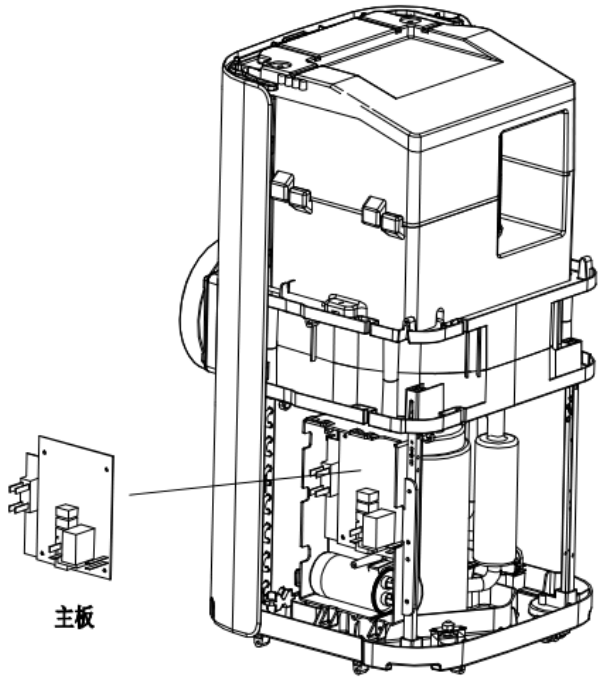


Section 3
Detachable Steps of Electronic Control Board

Operation 1. Step :(1) Remove the front shell of the fuselage, remove the two screws on the lid of the lock electronic control box, as shown below.



Step: (2) Remove the cover of the electronic control box, remove the four screws on the main board, and remove the main board. As shown below.



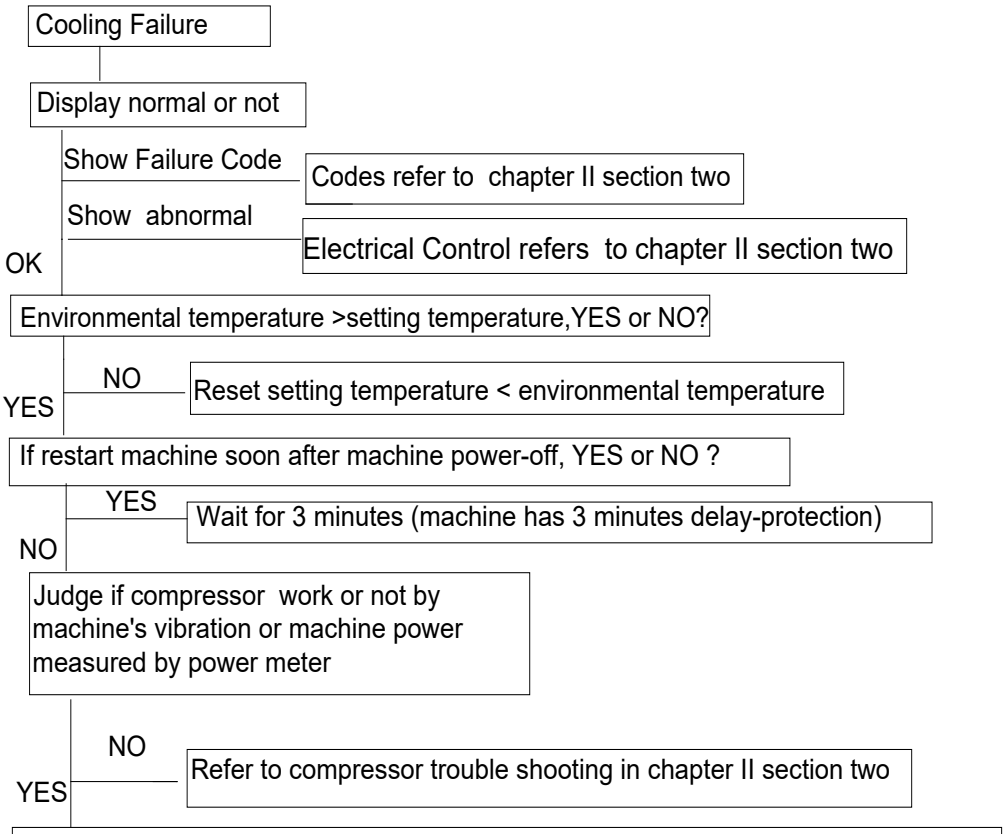
Section Three
Trouble Shooting for Cooling Failure

Chapter I Refrigerant Principle

Portable air-conditioning refrigerant system was mainly composed of four parts: compressor, condenser, capillary and evaporator, which are connected by tubes as following:

When portable air conditioner starts to work, firstly compressor compresses normal-temperature and low-pressure refrigerant gas to a high-temperature and high-pressure gas, then send it to condenser. In condenser, the high-temperature and high-pressure refrigerant gas will be cooled down to a mesothermal (45℃-50℃) and high-pressure refrigerant liquid by fan, after that the refrigerant passes capillary where it will be decompressed and throttled, and then goes to evaporator where the refrigerant will expand rapidly and absorb heat from environment, at last fans blow out cooling air to cool the room.

Chapter II Trouble Shooting Flow for Cooling Failure



After compressor works, evaporator surface temperature don't go down,the reasons may be the following :

1. Compressor stops suddently several minutes later after its starting, and with violent vibration , three or more minutes later, restart it unsuccessfully. This may be caused by system blockage which need to unchoke system or replace capillary,or by compressor welding-blockage.
2. Compressor works with slight vibration, evaporator frosts partly, and work current is lower than normal value. This may be caused by refrigerant lack, so need to replenish refrigerant.
3. Compressor works with slight vibration , evaporator temperature keeps the same,and temperature of exhaust pipe is only 50¡ ã60¡ ãReason for this may be all refrigerant is leaked out.
4. Compressor works with loud sound "-ion", a few seconds later, protector turns on , and compressor temperature is very high . This may be caused by cylinder-blockage,so need to replace the compressor.

REGULATION (EU) No. 517/2014 – F-GAS

The unit contains R290, a natural greenhouse gas with global warming potential (GWP) = 3 - Kg. 0.13 = 0.00039 Tons CO_2 equiv.

Do not release R290 into the atmosphere.