



BALLU

Service Manual

AC-N006R, AC-N006RH

AC-T006R, AC-T006RH

ROBLEM	POSSIBLE CAUSE	SOLUTION
Water leakage	<p><i>Rubber plug at the rear plate of the machine is out of place.</i></p> <p>Water tube inside the machine is not in the place or broken.</p> <p>Water tube is of bad connection or broken.</p>	<p>Put back the rubber plug.</p> <p>Check and reinstall or replace the water tube inside the machine.</p> <p>Check or replace the water tube.</p>
Weak cooling	<p>Dusty filter</p> <p>Dusty condenser.</p> <p>Air vent is blocked.</p> <p>The room temperature is too high.</p> <p>Too many windows or doors are open.</p> <p>Insufficient refrigerant or the refrigerant leaks out..</p> <p>HEAT PUMP is broken.</p>	<p>Clean the filter.</p> <p>Use a high pressure air spray to clean the dust. *Do not touch the condenser directly, it is very hot now.</p> <p>Remove the blockade.</p> <p>It's out of the working range of the machine.</p> <p>Close the windows/doors.</p> <p>Please check:</p> <p>Is the current/power consumption decreasing?</p> <p>Is the suction pressure of the machine too low?</p> <p>Is the temperature of the discharging tube too high?</p> <p>Is the suction tube frozen in ambient temperature?</p> <p>7. Replace the heat pump.</p>
Machine does not work at all.	<p>Bad connection of the mains and plug.</p> <p>P.C. Board fused.</p> <p>P.C. Board or transformer breaks down.</p> <p>Bad connection of the wires.</p>	<p>Re-plug the power cord.</p> <p>Check and replace.</p> <p>Check and replace.</p> <p>Check and replace.</p>
Compressor doesn't work, only the fan to circulate the air.	<p>Voltage/Frequency is too low.</p> <p>Overload protector of compressor breaks down.</p> <p>Compressor capacitor breaks down.</p> <p>Compressor breaks down.</p> <p>P.C. board breaks down.</p> <p>Room temperature is too low.</p>	<p>Check it by a voltmeter.</p> <p>Check and replace.</p> <p>Check and replace.</p> <p>Check and replace.</p> <p>Check and replace.</p> <p>It is out of the working range of the machine.</p>

PROBLEM	POSSIBLE CAUSE	SOLUTION
Compressor works but the fan doesn't.	Bad connection of the wires. Fan motor breaks down. Fan motor capacitor breaks down. P.C. board breaks down. Fan blade is stuck.	Check and reconnect or replace. Check and replace. Check and replace. Check and replace. Fix it.
Big noise	Screws/nuts of the fan for evaporator/condenser come loose. Screws/nuts of the compressor come loose. Fan blade is blocked by something.	Check and fasten. Check and fasten. Remove the blockade.
Big vibration	Screws/nuts of the compressor come loose. Fan of the evaporator or condenser does not fix well or is deformed. The metal tubes inside the machine hit the other parts.	Check and fasten. Check and replace. Adjust the position of the tubes.
Motor doesn't work.	Wires problem. Loose terminal connection. Motor breaks down. Motor capacitor breaks down. The fan blade is stuck.	Check and replace. Check and fasten. Check and replace. Check and replace. Fix it.
Auto-drainage system doesn't work.	Wires problem. Pump motor breaks down. Bad installation of the water pump. Micro switch breaks down.	Check and replace. Check and replace. Re-install. Check and replace.
Suction pressure is too low while the suction temperature is too high.	Blocked capillary Blocked evaporator. Blocked refrigerant filter. Insufficient refrigerant or the refrigerant has been leaked.	Replace the capillary. Use high pressure N ₂ to clean the evaporator or replace it. Replace the refrigerant filter. Release the remained refrigerant, vacuum the unit (at least over 755mmHg). Recharge the unit. For correct refrigerant amount, please refer to the rating label at the back of the unit. The deviation should be within 3g.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Suction temperature & suction pressure are too low.	Room temperature is too low. Dusty Evaporator. R.P.M. of the fan motor is low. Air return of the evaporator is blocked. Air supply of the evaporator is blocked.	Increase the room temperature. Clean the evaporator. Increase the R.P.M. of the motor. Remove the blockade. Remove the blockade.
Discharge pressure is too high.	Condenser is too dusty. Air return of the condenser is blocked. Exhaust tubes of the condenser is pressed or blocked. R.P.M. of the down motor too low. Too much refrigerant. Room temperature too high.	Clean the condenser. Remove the blockade. Check the exhaust tubes. Increase the R.P.M.. Release all the refrigerant, vacuum then recharge. * For correct refrigerant amount, please refer to the rating label at the back of the unit. The deviation should be within 3g. Re-switch the unit after the temperature drops down.
Discharge temperature is too high.	Refrigerant is too less or has been leaked. Condenser too dusty. Air return of the condenser is blocked. Air supply of the condenser is blocked. R.P.M. of down motor too low.	Release the remained refrigerant, vacuum the unit (at least over 755mmHg). Recharge the unit. For correct refrigerant amount, please refer to the rating label at the back of the unit. The deviation should be within 3g. Clean the condenser. Remove the blockade. Remove the blockade.
Discharge pressure too low	Room temperature too low. Refrigerant is too less or has been leaked. R.P.M. of the down motor too high, thus the air volume is too big.	This is normal situation, please increase the room temperature. Release the remained refrigerant, vacuum the unit (at least over 755mmHg). Recharge the unit. For correct refrigerant amount, please refer to the rating label at the back of the unit. The deviation should be within 3g. Adjust the R.P.M. of the down motor to the acceptable one.

How to?

REPLACING THE COMPRESSOR

Take off the overload protector and wires of the compressor.

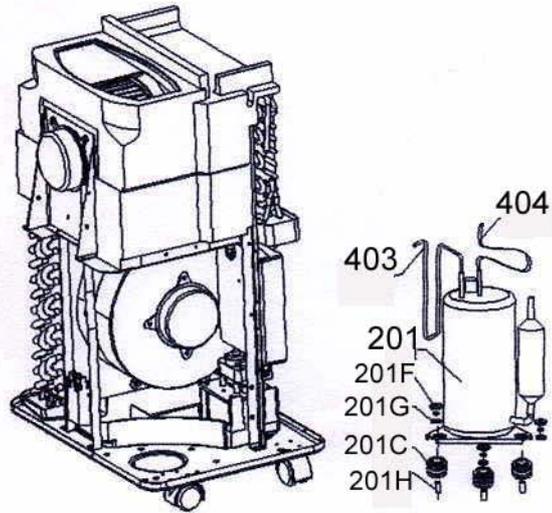
Take off the suction and discharging tubes.

Unfasten the screws on the compressor.

Take off the accessories for the compressor.

Replace the defect compressor with a new one.

Re-install the accessories, wires & screws in the opposite steps.

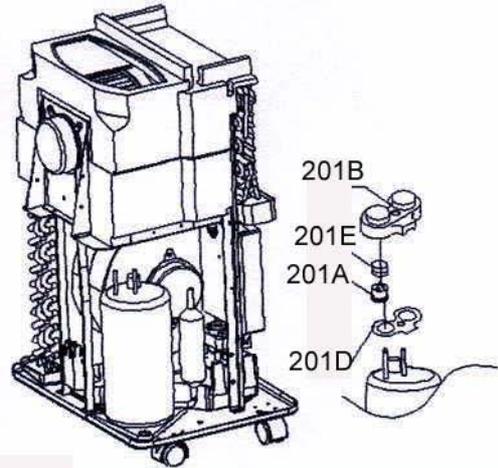


REPLACING THE OVERLOAD PROTECTOR OF THE COMPRESSOR

Take off the accessories for the overload protector.

Take off the defect overload protector and replace it with a new one.

Re-assemble the accessories for the overload protector in the opposite steps.

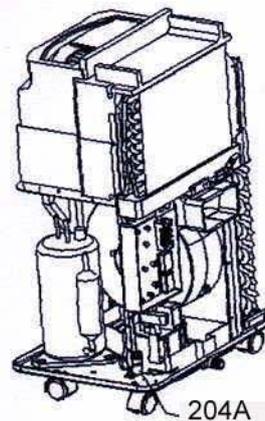


REPLACING THE COMPRESSOR CAPACITOR

Take off the wires for the compressor capacitor.

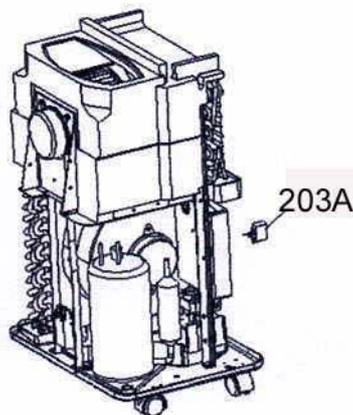
Take off the defect compressor capacitor and replace it with a new one.

Re-assemble in the opposite steps.



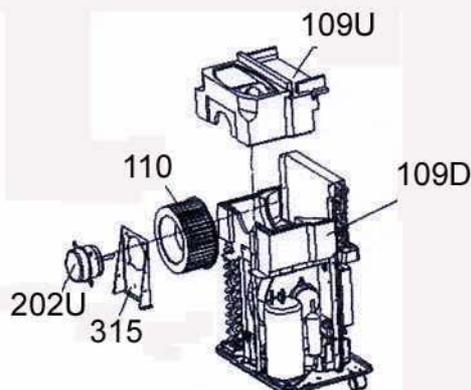
REPLACING THE UP MOTOR CAPACITOR (FOR EVAPORATOR)

Take off the rear plate of the unit.
Unfasten the screws of the motor capacitor.
Take off the motor capacitor and replace it with a new one.
Re-install in the opposite steps.



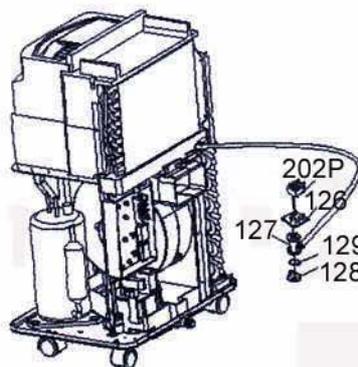
REPLACING THE FAN BLADE OF THE EVAPORATOR

Take off the front & rear plates.
Take off the up wind funnel of the evaporator..
Unfasten the motor and fan blade of the evaporator.
Replacing the defect fan blade.
Re-install in the opposite steps.



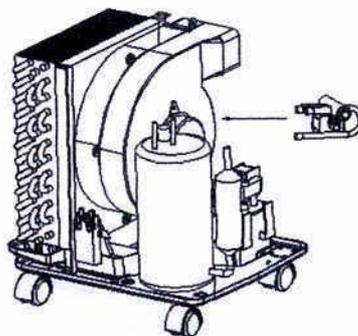
REPLACING THE PUMP MOTOR

Take off the front & rear plates.
Unfasten the wires for the pump motor.
Take off the defect pump motor and replace it with a new one.
Re-install in the opposite steps.



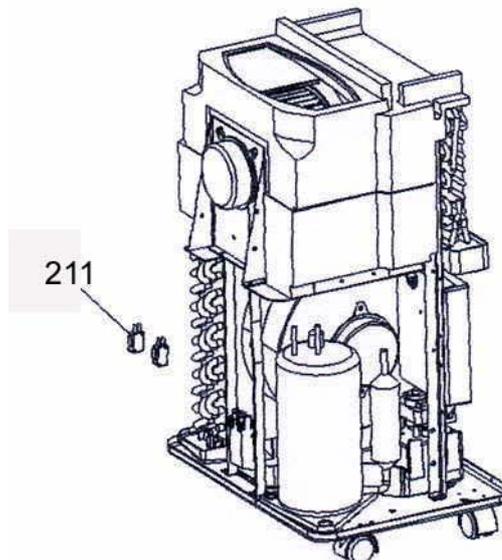
REPLACING THE HEAT PUMP (4 WAYS VALVE) *For AC-N006RH, AC-T006RH only.

Take off the front & rear plates.
Take off the evaporator wind funnel & motor.
Unfasten the fixer for the middle spacer.
Take off the heat pump (4 ways valve)
Re-assemble in the opposite steps.



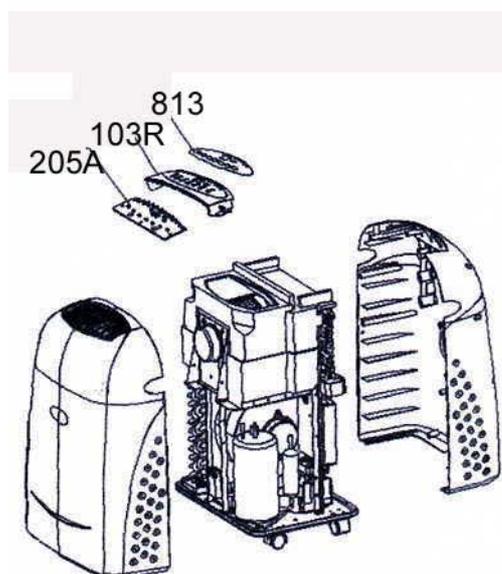
REPLACING THE MICROSWITCH

Take off the front and rear plates.
Take off the wires for the micro switch.
Take off the lever.
Take off the micro switch.
Replace the defect micro switch with a new one.
Re-assemble in the opposite steps.



REPLACING THE CONTROL PANEL

Take off the front & rear plates.
Take off the control panel and its wires.
Replace with a new one.
Re-install in the opposite steps.



After-Check

Please do the following checks after repair:

Make sure the working current is correct.

Make sure the wire distribution is correct according to the supplied diagram.

Make sure the pipes, tubes are in the right position, do not hit with the other parts.

Make sure the insulation resistance between the plug and grounding is over 2MΩ.

Make sure the whole cooling system is of no leakage.

Make sure the fan operates normally and does not hit the other parts.

Make sure the compressor can operate normally, without abnormal noise.

Set the machine to max. cooling and high ventilation, after 30 minutes, put your hand on the evaporator to check it is making the cooling or not.

Measure the temperature at the air inlet and outlet, make sure the temperature difference is over 10°C.

Make sure the water tray, water pipe inside the machine are of no leakage and well-installed.