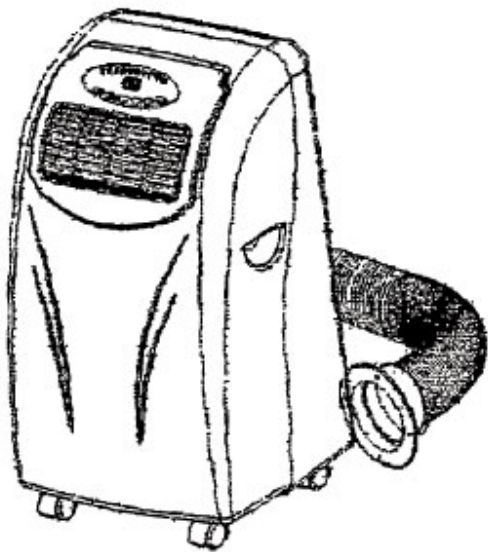




BALLU

Porteble Air Condicioner

SERVICE MANUAL



MODEL NO.

AC-6000R

AC-9000R

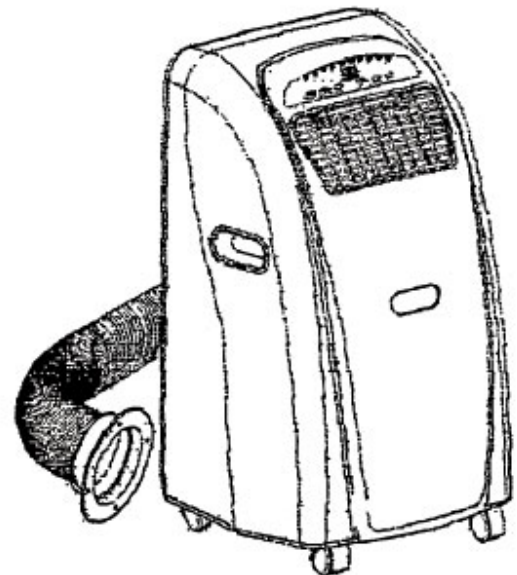
AC-12000R

MODEL NO.

AC-N6KR

AC-N9KR

AC-N12KR



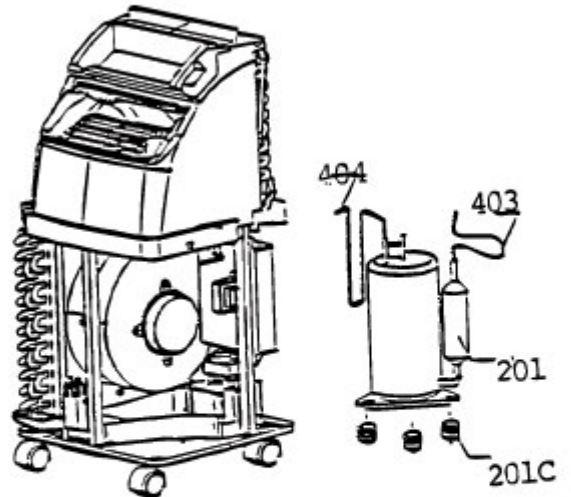
| Problem | Possible cause | Solution |
|---|--|--|
| Water leakage | <ol style="list-style-type: none"> 1. Rubber plug at the rear plate of the machine is out of place. 2. The water tube inside the machine is not in the place or broken. | <ol style="list-style-type: none"> 1. Put back the rubber plug. 2. Check and reinstall or replace the water tube inside the machine. |
| Weak cooling | <ol style="list-style-type: none"> 1. Dusty filter 2. Dusty condenser. 3. Air vent is blocked. 4. The room temperature is too high. 5. Too many windows or doors are open. 6. Insufficient refrigerant. | <ol style="list-style-type: none"> 1. Clean the filter. 2. Use a high pressure air spray to clean the dust. *Do not touch the condenser directly, it is very hot now. 3. Remove the blockade. 4. It's out of the working range of the machine. 5. Close the windows/doors. 6. Please check: <ul style="list-style-type: none"> • Is the current/power consumption decreasing? • Is the suction pressure of the machine too low? • Is the suction tube frozen during the ambient temperature? |
| Machine does not work at all. | <ol style="list-style-type: none"> 1. Bad connection of the mains and plug. 2. P.C. Board fused. 3. P.C. Board or transformer breaks down. 4. Bad connection of the wires. | <ol style="list-style-type: none"> 1. Re-plug the power cord. 2. Check and replace. 3. Check and replace. 4. Check and replace. |
| Compressor doesn't work, only the fan to circulate the air. | <ol style="list-style-type: none"> 1. Voltage/Frequency is too low. 2. Overload protector of compressor breaks down. 3. Compressor capacitor breaks down. 4. Compressor breaks down. 5. P.C. board breaks down. 6. Room temperature is too low. 7. Water is full. | <ol style="list-style-type: none"> 1. Check it by a voltmeter. 2. Check and replace. 3. Check and replace. 4. Check and replace. 5. Check and replace. 6. It is out of the working range of the machine. 7. Drain the condensed water. |

| Problem | Possible cause | Solution |
|---------------------------------------|---|---|
| Compressor works but the fan doesn't. | <ol style="list-style-type: none"> 1. Bad connection of the wires. 2. Fan motor breaks down. 3. Fan motor capacitor breaks down. 4. P.C. board breaks down. 5. Fan blade has stuck. | <ol style="list-style-type: none"> 1. Check and reconnect or replace. 2. Check and replace. 3. Check and replace. 4. Check and replace. 5. Fix it. |
| Big noise | <ol style="list-style-type: none"> 1. Screws/nuts of the fan for evaporator/ condenser come loose. 2. Screws/nuts of the compressor come loose. 3. Fan blade is blocked by something. | <ol style="list-style-type: none"> 1. Check and fasten. 2. Check and fasten. 3. Remove the blockade. |
| Big vibration | <ol style="list-style-type: none"> 1. Screws/nuts of the compressor come loose. 2. The fan of the evaporator or condenser does not fix well or is deformed. 3. The metal tubes inside the machine hit the other parts. | <ol style="list-style-type: none"> 1. Check and fasten. 2. Check and replace. 3. Adjust the position of the tubes. |
| Motor doesn't work. | <ol style="list-style-type: none"> 1. Wires problem. 2. Loose terminal connection. 3. Motor breaks down. 4. Motor capacitor breaks down. 5. The fan blade has stuck. | <ol style="list-style-type: none"> 1. Check and replace. 2. Check and fasten. 3. Check and replace. 4. Check and replace. 5. Fix it. |
| Auto-drainage system doesn't work. | <ol style="list-style-type: none"> 1. Wires problem 2. Water pump breaks down. 3. Bad installation of the water pump. 4. Micro switch breaks down. | <ol style="list-style-type: none"> 1. Check and replace. 2. Check and replace. 3. Re-install. 4. Check and replace. |

How to?

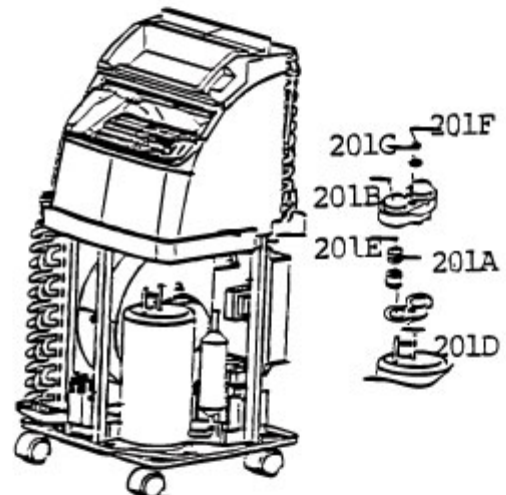
REPLACING THE COMPRESSOR

1. Take off the overload protector and wires for the compressor.
2. Take off the suction and discharging tubes.
3. Unfasten the screws on the compressor.
4. Take off the accessories for the compressor.
5. Replacing the defect compressor with a new one.
6. Re-install the accessories, wires & screws in the opposite steps.



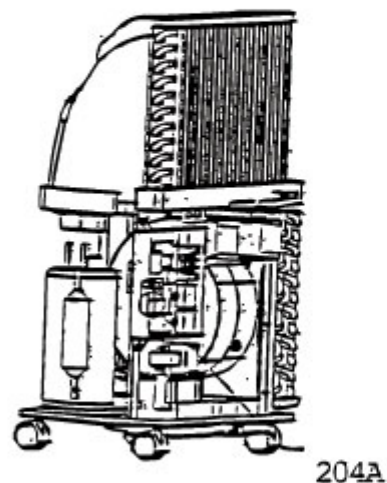
REPLACING THE OVERLOAD PROTECTOR OF THE COMPRESSOR

1. Take off the accessories for the overload protector.
2. Take off the defect overload protector and replace it with a new one.
3. Re-assemble the accessories for the overload protector in the opposite steps.



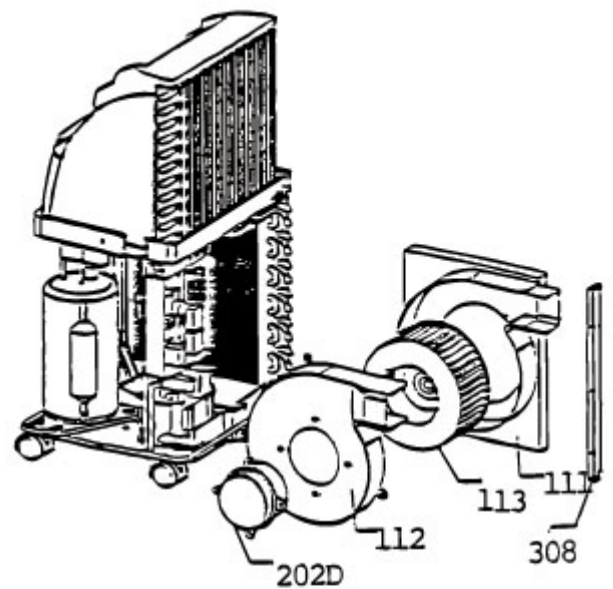
REPLACING THE COMPRESSOR CAPACITOR

1. Take off the wires for the compressor capacitor.
2. Take off the defect compressor capacitor and replace it with a new one.
3. Re-assemble in the opposite steps.



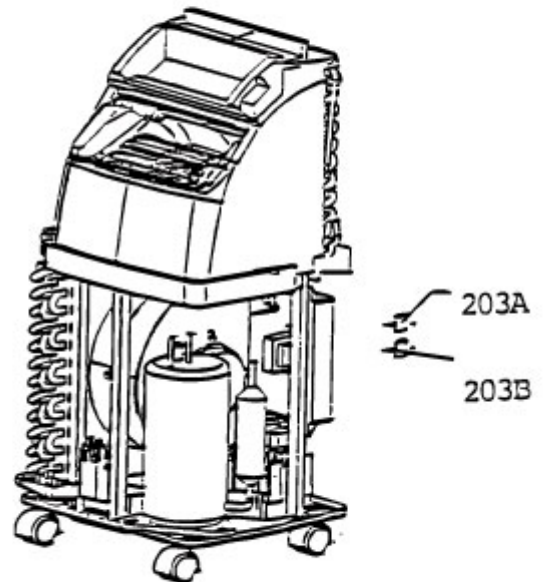
REPLACING THE FAN MOTOR OF CONDENSER

1. Take off the front & rear plates of the machine.
2. Unscrew the front & rear fixers for the condenser.
3. Take off the rear fixer.
4. Take off the funnel for the condenser.
5. Take off the defect motor and replace it with a new one.
6. Re-assemble the front & rear plates and funnel in the opposite steps.



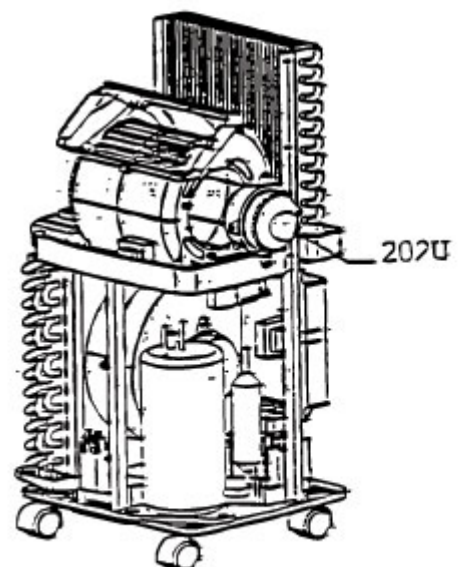
REPLACING THE MOTOR CAPACITOR OF CONDENSOR

1. Take off the front plate of the machine.
2. Take off the wires for the capacitor, then take off the capacitor.
3. Replace with a new one.
4. Re-assemble the front plate of the machine.



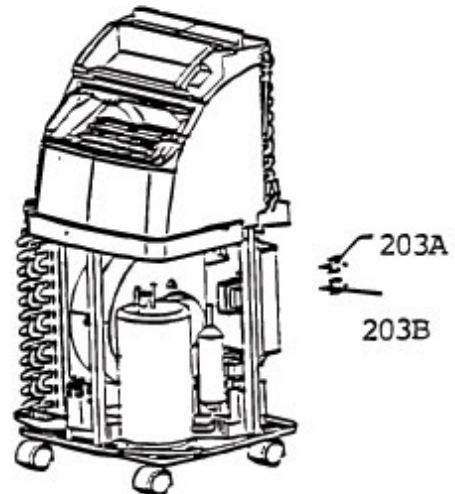
REPLACING THE FAN MOTOR OF EVAPORATOR

1. Take off the front plate of the machine, funnel for the evaporator and wires for the fan motor.
2. Take off the fan blade and fixer for the motor.
3. Take off the motor from the funnel for evaporator.
4. Replace with a new one.
5. Re-assemble in the opposite steps.



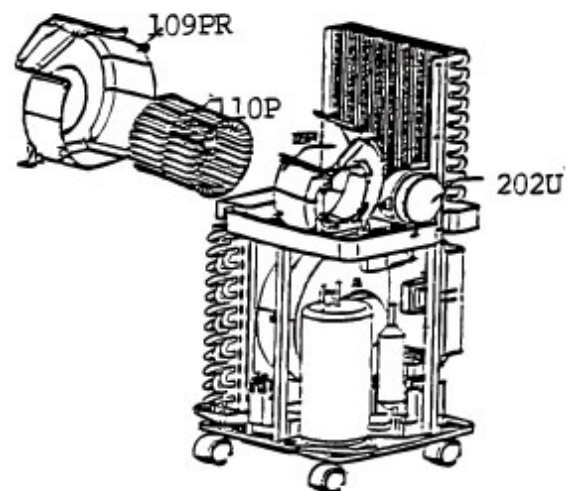
REPLACING THE MOTOR CAPACITOR OF EVAPORATOR

1. Take off the front & rear plates.
2. Take off the screws of the motor capacitor.
3. Take off the motor capacitor and replace it with a new one.
4. Re-install the front & rear plates.



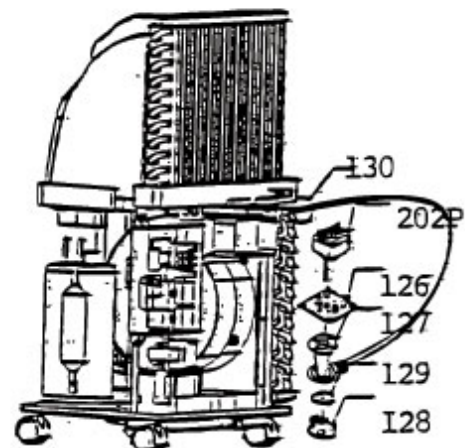
REPLACING THE FAN BLADE OF THE EVAPORATOR

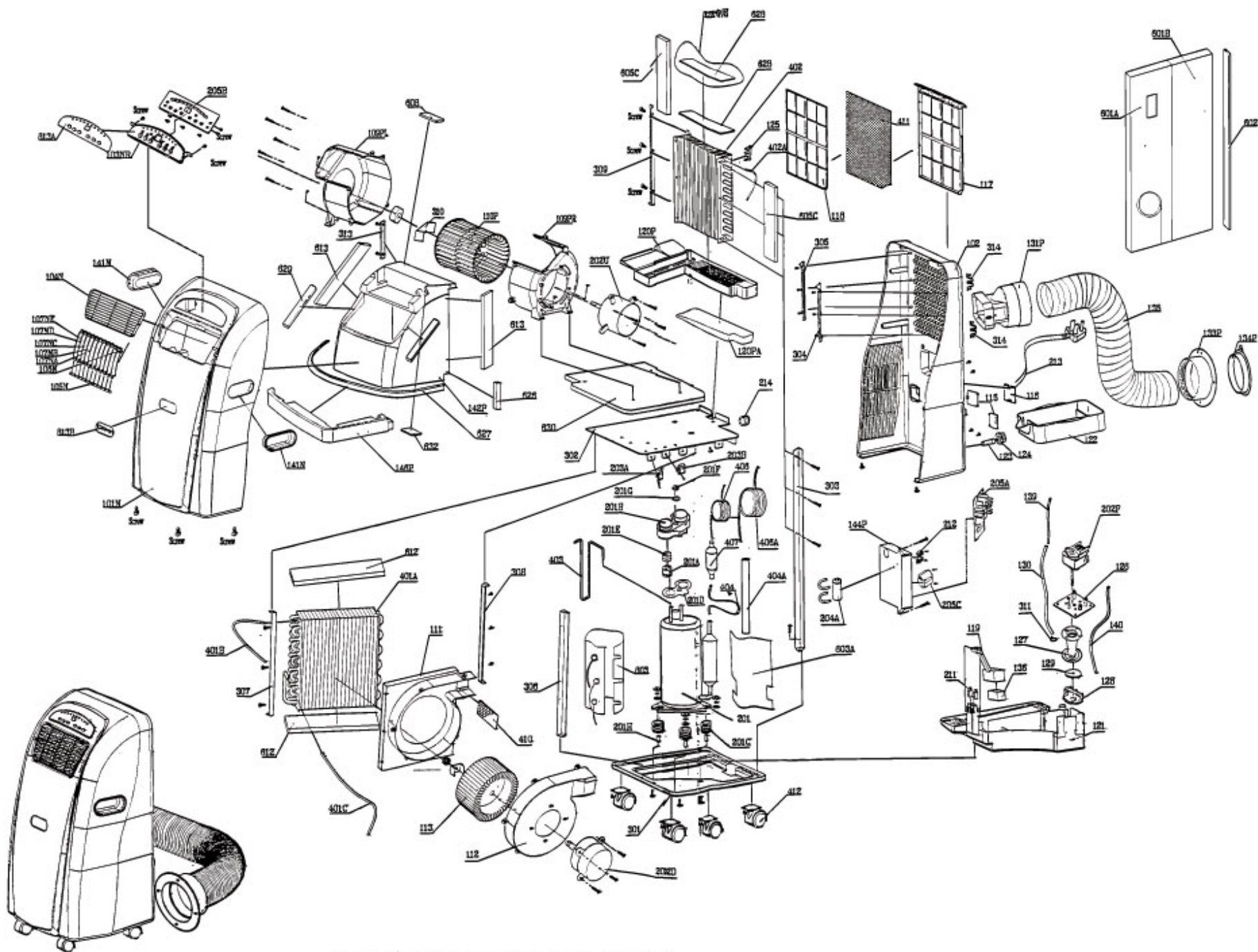
1. Take off the left & right funnel for the evaporator.
2. Take off the fixing bolt for the fan at the right funnel of the evaporator.
3. Replacing the defect fan blade.
4. Re-install the left & right funnel for the evaporator.



REPLACING THE PUMP MOTOR

1. Take off the front & rear plates.
2. Unfasten the wires for the pump motor.
3. Take off the defect pump motor and replace it with a new one.
4. Re-install the front & rear plates.

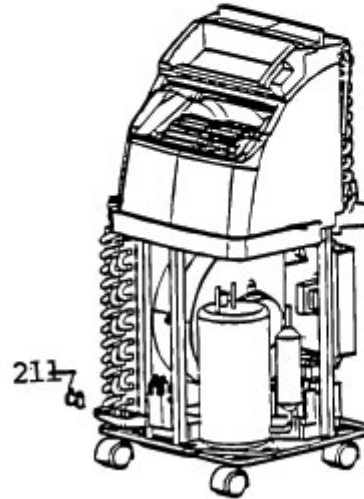




AC-N6KR /AC-N9KR/AC-N12KR

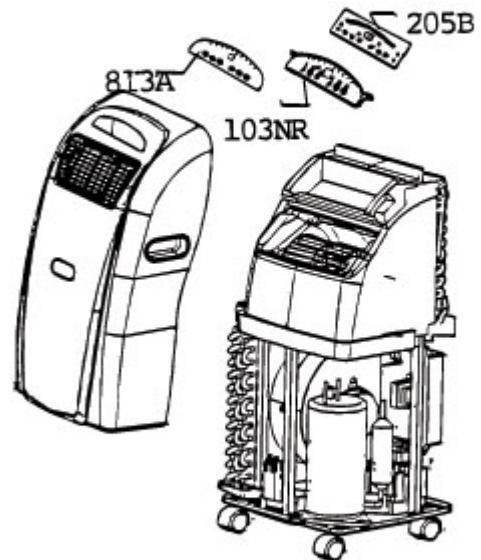
REPLACING THE MICROSWITCH

1. Take off the front and rear plates.
2. Take off the wires for the micro switch.
3. Take off the lever.
4. Take off the micro switch.
5. Replace the defect micro switch with a new one.
6. Re-install the front and rear plates.

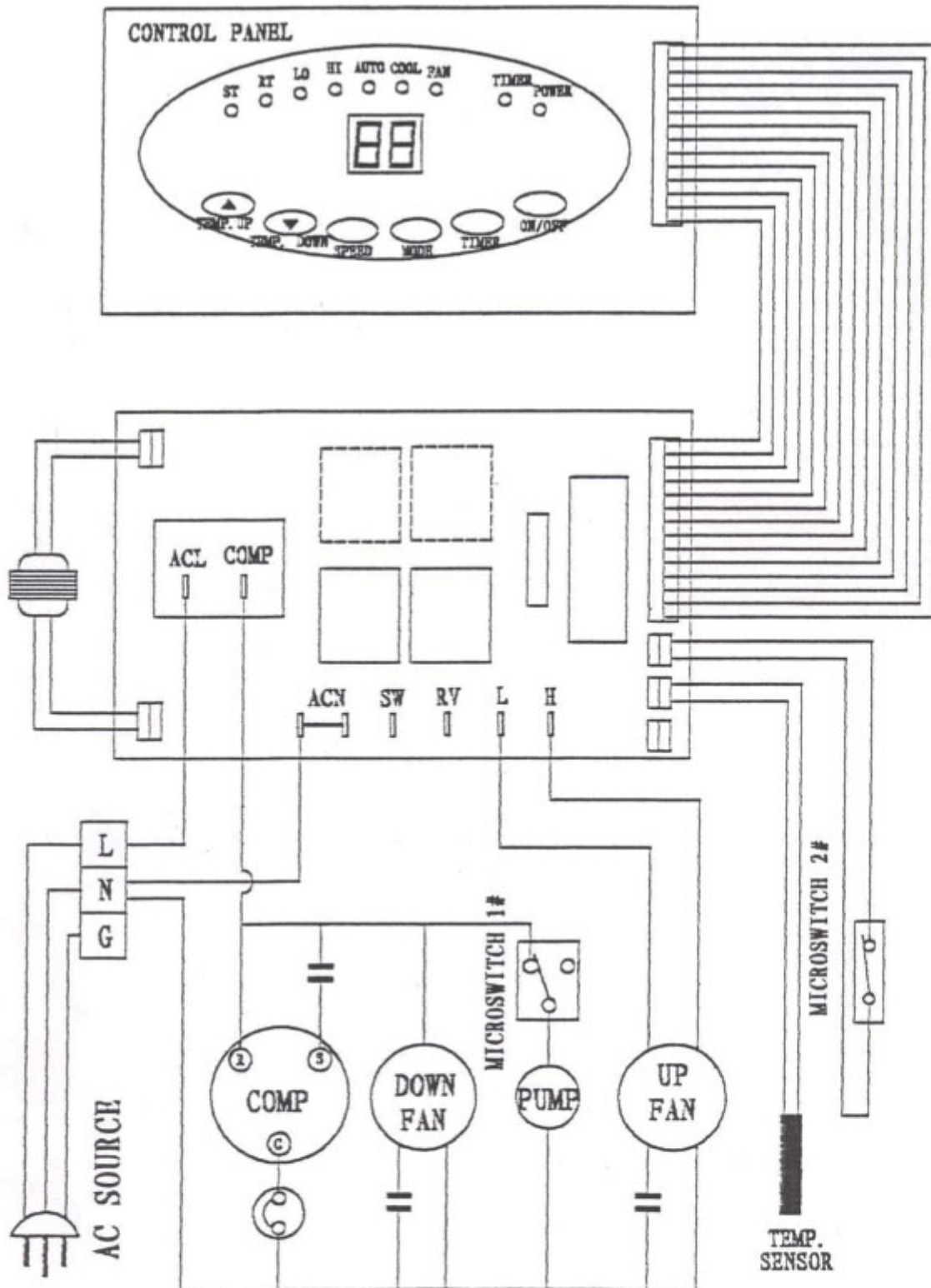


REPLACING THE P. C. BOARD or TRANSFORMER

1. Take off the front & rear plates.
2. Remove the name plate for the control panel.
3. Take off the main P.C. board or take off the LED P.C. board / transformer from the water dispenser.
4. Replacing the defect main P.C. board, LED P.C. board or transformer with a new one.
5. Re-install the control panel, front and-rear plates in the opposite steps.



**Diagram for AC-6000R, AC-9000R, AC-12000R
AC-N6KR, AC-N9KR, AC-N12KR**



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 $2M\Omega$.
- Make sure the whole cooling system is of no leakage.
- Make sure the fan can operate normally and will not hit the other parts.
- Make sure the compressor can operate normal, without abnormal noise.
- Set the machine to max. cooling and high ventilation, after 30 minutes, put your hand on the evaporator, check whether it is making 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.