

GMC EVAPORATIVE AIR COOLER

TECHNICAL MANUAL



Thank you for your choice of GMC evaporative air cooler.

This manual provides you with information of GMC evaporative air cooler technical data, wire diagram, installation, operation, maintenance and troubleshooting. Please read this manual carefully before operation.

We believe that cooling and fresh air of GMC evaporative air cooler will bring you with comfort and health.

GMC EVAPORATIVE AIR COOLER –IMPORTANT NOTES

- 1- After turning on the cooler, be sure that water pump should work for 3 minutes first, let water evenly distributed onto cooling pads, then start fan and adjust fan speed. This step is very important to prevent water drop from splashing on motor and helpful to prolong motor lifespan.
- 2- Ensure the single-phase voltage is $\pm 5\%$. Too low or high voltage may cause damage to cooler.
- 3- Before running cooler, please fill water tank with water, otherwise, cooler can not work properly or even cause damage to water pump.
- 4- Do not use cooler inside an enclosed space; the places must be sufficiently ventilated.

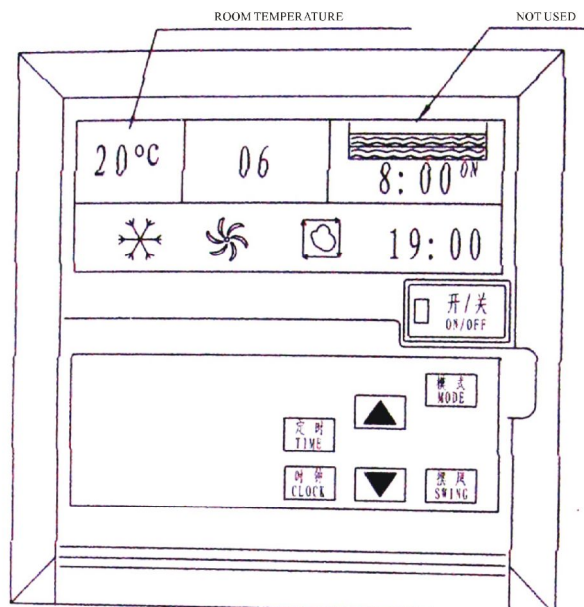
GMC EVAPORATIVE AIR COOLER –TECHNICAL DATA

Technical data of GMC Evaporative Air Cooler AB18 Variable speed			
Motor	Single-phase Six-speed Variable-frequency motor	Effective space	120-150M ²
Power supply	220V 50 Hz	Water supply	20-30L/H
Motor power	0.55-1.1 KW	Air outlet size	670 mm × 670 mm
Fan type	Axial	Net Weight	58 kg
Pump type	submersible	Gross Weight	68 kg
Fan size	590 mm	Dimension	1070mm×1070mm×1090mm
Airflow	900-18000M ³ /H	Air outlet size	670 mm × 670 mm
Wire	3 M	Control system	LCD display

GMC EVAPORATIVE AIR COOLER –INSTALLATION TIPS

- 1-The supporting frame must be strong and firm enough to bear the weight of cooler and maintenance technician.
- 2-The cooler installation must be horizontal, not acclivitous, otherwise, water will overflow from the cooler water sump.
- 3- Ensure that drainage elbow is installed properly; keep it from cooler duct to avoid the water drops go into the duct when it is windy.
- 4-The cooler should be installed at least 3 M away from the vicinity. Provide a minimum of 1 M of clearance to any side of the cooler that requires access for maintenance.

GMC EVAPORATIVE AIR COOLER –USE INSTRUCTION OF SINGLE PHASE, 6- SPEED VARIABLE





1- ON/OFF


When the power is on, press ON/OFF to start or stop the machine.

2- MODE

Press MODE to choose three operation modes: COOL, FAN or DRAIN.

COOL:  is the cooling figure. The water pump will run for three minutes first, water is evenly distributed onto cooling pads, and then the fan starts. Press ▲▼ to adjust airflow from 1-6.

FAN:  is the fan figure. At this moment, the water pump does not work, only fan delivers airflow. Press ▲▼ to adjust speed from 1-6.

DRAIN: ; the drain figure. When draining, the arrowhead runs.

3- TIME SETTING

Press TIME for the first time, you can set time of cooler start, adjust its starting time by pressing ▲▼; Press TIME for the second time, you can set time of cooler stopping, adjust its stopping time by pressing ▲▼. Press TIME until the number flickers for three seconds, the time setting of cooler starting and stopping is cancelled.

4- CLOCK

CLOCK is for clock setting. Adjust clock by pressing ▲▼.

5- SWING

Not used.

GMC EVAPORATIVE AIR COOLER – MAINTENANCE

1- If the cooler is used in very sandy and dusty areas, cooling pads should be often cleaned to ensure cooling efficiency. When cleaning, do not use high pressure water, hot water (up to 40 °C) or chemical detergents.

2- Clean cooler water sump every half year to keep the cooling air clean and fresh.

3- Drain the water from water sump after the first 24 hours of new cooler operation, the odor will not smell any more.

4- To prevent the cooler freezing and worms, do shut up water supply and keep the water sump dry if the cooler will be leaved unused for a long time. Cover it in sandy or snowy weather if necessary.

5- Make sure that all the cooler screws are not loose to prevent cooler from shaking severely when its operation.

GMC EVAPORATIVE AIR COOLER –TROUBLESHOOTING

No	Malfunction	Check	Solution
1	No menu on LCD panel (only for LCD cooler)	1. Check if cooler is energized. 2. Check if signal wire connection is correct. 3. Check if main control board goes wrong.	1. Plug again and ensure power supply 2. Turn off and re-connect signal wire. 3. Replace main control board or fuse.
2	LCD is out of control (only for LCD cooler)	1. Check if LCD main control board is burned up.	1. Replace main control board. 2. Replace display panel.
3	Blurry display (only for LCD cooler)	1. Open controller bottom cover and check if circuit board is dusty and/or contaminated. 2. Open controller bottom cover and check if circuit board is wet.	1. Clear off dust. 2. Properly blow off moisture.
4	“Er” displayed on control panel (only for LCD cooler)	1. Check if temperature sensor has problem.	1. Replace temperature sensor.
5	Cooler stops automatically after 20 min when cooling (only for LCD cooler)	1. Check if water level is too low.	1. Increase water pipe pressure. 2. Adjust float valve, make water level 7-10 CM high. 3. Replace water inlet valve.
6	Fan fails to deliver airflow	1. Check if motor is damaged. 2. Check if fan blades are stuck. 3. Check if LCD main control board is damaged.	1. Replace motor. 2. Adjust fan blades position. 3. Replace contactor. 4. Replace capacitor. 5. Replace LCD main control board.
7	Cooler fails to deliver cooling air flow	1. Check if there is water in the sump. 2. Check if the water level is too low. 3. Check if pump is in good condition.	1. Increase water pipe pressure. 2. Adjust float valve, make water level 7-10 CM high. 3. Ensure pump wire is connected. 4. Clean pump. 5. Replace pump.
8	Small airflow delivery	1. Check if there is impurity in cooling pads.	1. Clean cooling pads with normal city water; do not use high pressure water and any chemical detergent.
9	Drainage valve leaks	1. Check if there is too much impurity in water sump. 2. Check if water level is too high in water sump. 3. Check if drainage valve rubber ring is in good condition. 4. Check if pump is damaged.	1. Clean water sump. 2. Make water level 7-10 CM high. 3. Replace valve rubber ring. 4. Replace pump.

10	Water overflow from cooler	<ol style="list-style-type: none"> 1. Check if water level is too high in water sump. 2. Check if cooler is installed horizontally. 3. Check if sealing ring of float valve is in good condition. 4. Check if float valve is damaged. 	<ol style="list-style-type: none"> 1. Adjust float valve and make water level 7-10 CM high. 2. Adjust cooler installation horizontally. 3. Replace sealing ring of float valve. 4. Replace float valve.
11	Water drops splash from cooler	<ol style="list-style-type: none"> 1. Check if inner water pipes fall from joints. 2. Check if elbows fall from joints. 3. Check if cooling pads are blocked. 	<ol style="list-style-type: none"> 1. Fix inner water pipes again. 2. Fix elbows again. 3. Clean cooling pads.
12	Water drops splash from duct	<ol style="list-style-type: none"> 1. Check if drainage outlet is installed properly. 	<ol style="list-style-type: none"> 1. Extend drainage outlet length with pipe.
13	Violent vibration when operation	<ol style="list-style-type: none"> 1. Check if screws are loose. 2. Check if fan blades deform. 	<ol style="list-style-type: none"> 1. Fix screws. 2. Replace fan blades.

GMC EVAPORATIVE AIR COOLER –FAULT CODE

<p>Fault code</p> <p>E1:Motor Overcurrent</p> <p>E2:Overvoltage</p> <p>E3:Undervoltage</p> <p>E4:Phase-missing</p> <p>E7:Overload</p> <p>F6:Communication Link failure</p>

Evaporative Air Cooler Single-Phase 6-Speed Variable Circuit Diagram

