Climate RENTAL SOLUTIONS

EVAPORATIVE COOLER

MODEL: MEC 7, 12 & 20

OWNER'S MANUAL

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

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INTRODUCTION

WHY USE EVAPORATIVE COOLERS IN YOUR WORKPLACE?

- Evaporative cooler requires little space, has a low initial cost, is economy and simple to operate and requires minimal scheduled maintenance.
- Due to the design and construction of the cooling pads, cooling efficiency is normally maintained near optimum throughout the life of the pads. (Approximately eight years)

HOW EVAPORATIVE COOLING WORKS

Evaporative cooling is the same process your body uses to cool itself. When you perspire, and air moves across your skin, a portion of the perspiration (water) evaporates. Evaporation requires heat to change liquid water-to-water vapor and this heat is taken from your skin, producing the cooling effect.

In an evaporative cooler, the cellulose cooling pads take the place of your skin, water instead of perspiration wets them and a fan moves the air. The air blows across the cooling pads and evaporates moisture. Heat is drawn from the pads and the air, dropping the air temperature and producing the cooling effect. The cooled air is then forced through a building or space and displaces the warm air out building openings, cooling the surroundings. In addition, air velocity increases the cooling effect as it moves over the skin of people in the airflow path.

Evaporative coolers are portable and use the latest technology to provide large volumes of cool air, efficiently and inexpensively for cooling small to medium size areas. Simply adding more units can accommodate larger areas. With proper sizing and application, an evaporative cooler can lower the effective air temperature by up to 20°.

SAFETY RECOMMENDATIONS

READ AND SAVE THESE INSTRUCTIONS!

- This is an electric device with moving components. There is the possibility of fire, electric shock, or injury to persons. Ensure all the safety recommendations are adhered to in order to minimize this risk.
- Disconnect all power and unplug the unit before you inspect, clean or perform maintenance on the components of the unit.
- Never reach into the unit when it is running; you could become entrapped by the v-belt or injured by the rotating fan blades.
- The frame edges may be sharp; do not run your hand along them. Be careful and wear gloves when you reach under the frame to inspect the PVC pipes and mesh socks.
- A GFCI (Ground Fault Circuit Interrupter) is recommended for use with this product.
- If pads and grates are removed for servicing, they must be replaced prior to operating unit.

UNIT DESCRIPTION

The evaporative cooler is a completely self-contained, portable unit capable of delivering 15 MPH velocity of air with a temperature drop of up to 20°. The unit is composed of:

- Level-controlled water supply system
- Cooling pad assembly
- Motor-driven fan
- Frame and housing

The bottom is made of high impact poly and holds approximately 40 gallons at normal operating level (about 6" deep).

A float-operated valve automatically maintains proper water level when the unit is connected to a water supply.

The bottom rests on, and is fixed to, a rugged steel support frame. Four casters (2 locking, 2 regular) are attached to the underside of the steel frame.

A pump draws water from the bottom and discharges it through the vinyl hose to the PVC pipes located above the cooling pads. The PVC pipes distribute water onto the top of the cooling pads;saturating them. Excess water drips back into the bottom through the holes in the cooling pad support channels.

The cellulose cooling pads sit in support channels and are held in place by the tray and pad support plate.

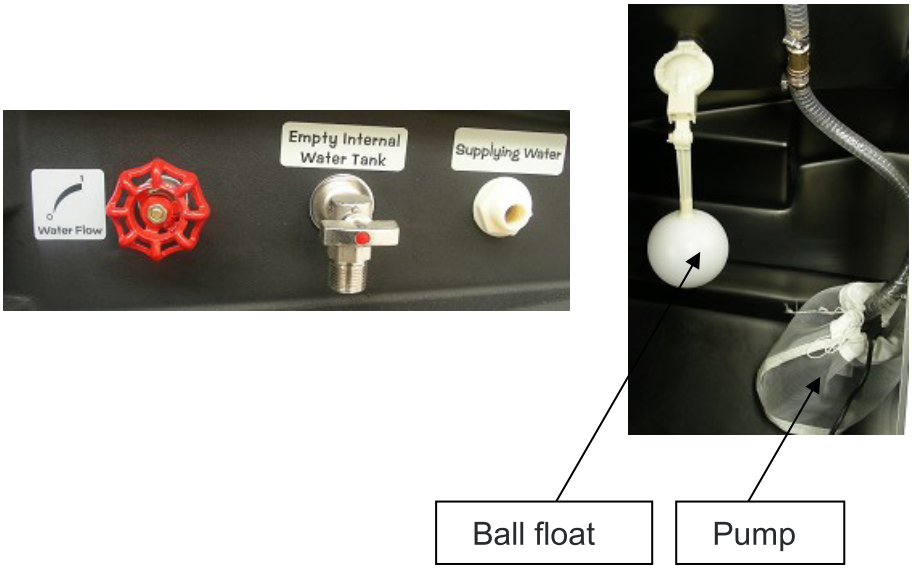
The fan draws room air through the cooling pads where it picks up moisture and cools by evaporation. The fan blade then discharges the cooled air.

PARAMETER LIST

Major technique parameter

Model / Specification	MEC12	MEC20	MEC40
Air Volume (m^3/h)	0-12000	0-20400	0-38000
Power (w)	370	370	750
Voltage (V/Hz)	230/50	230/50	230/50
Speed	variable	variable	variable
Water tank capacity (L)	115	200	300
G.W (Kg)	78	105	168
Dimension (mm)	H1560 W1270 D680	H1800 W1600 D780	H2130 W1910 D920
Refrigerated area (m^2)	100-170	200-230	300-370

WATER SUPPLY SYSTEM



The water can be supplied continuously with an ordinary garden hose by attaching it to the supplied hose adapter to the fill connection, or it can befilled manually.

With a continuous water supply connected, the float valve in the bottom rises and falls with the water level. A linkage attaches the float to the shutoff valve in the fill connection. As the water level rises to normal operating level (about 5" deep), the float valve shuts off the water supply.When the water level drops, the float valve reopens to maintain a normal operating level.

After unplugging the unit, the bottom can also be manually filled with a hose or bucket; if a hose connection is impractical. Simply remove any of the pad sections and place the hose, or pour the water, directly into the bottom. When you fill the bottom manually it can be filled to a higher level, but make sure someone monitors the filling operation to avoid overfilling and flooding.

Turn "water flow" to 1 can increase air humidity.
Turn "water flow" to 0 can reduce air humidity.

Note: Water damage due to overfilling is not covered by the warranty.

Note: When you run the unit and manually fill it, check the water level frequently so it does not run dry. Operating the pump without water will damage it or reduce its service life. This is not covered by the warranty. The cooling effect also stops if the pads are dry.

COOLING PAD ASSEMBLY

Unit placement and other considerations

The unit(s) should be placed at one end of the building and an appropriate exhaust fan should be at the opposite end to pull the cool air from the unit and discharge the warm air out of the building.

Try to get all the air flowing in the same direction. Do not direct other fans against the unit. It will counter the airflow and stop the cooling effect.

Obstructing the airflow from the unit severely reduces the cooling effect.

Avoid using ceiling fans as they disrupt the airflow from the unit.

Use as many exhaust fans as possible to create a natural draft through the building. This will enhance the performance.

UNPACKING AND INITIAL SETUP

The Evaporative Cooler is shipped upright on a pallet. The unit is fully assembled and ready for service except for thoroughly cleaning manufacturing dust from the cooling pads before running it for the first time.

CAUTION: Be careful when you move the unit. Avoid jarring or dropping the unit to prevent damage to the bottom.

1. Cut the straps that wrap the unit.
2. Remove the shrink wrap.
3. Ensure the switch is OFF and the unit remains unplugged.
4. Remove the pad support plate from the back of the unit by removing all the set screws.
5. Remove the cooling pads from the unit. Pull pad out and then lift out of drain rail. With one pad out, the rest can be easily removed in the same manner.
6. Inspect the entire unit for shipping damage.

Note: If you notice any damage to your unit, contact your dealer immediately.

7. Thoroughly clean all four cooling pad sections using a garden hose.

Note: Do not use cleaning fluids or other chemicals to clean the pads as they can cause foaming during operation. Use only clean water. Refer to page 9 for approved cleaners.

8. Remove the drain cap from the underside and rinse with a hose to flush any manufacturing dust, etc. from the unit.
9. Replace the drain cap.
10. Replace the pads.
11. Proceed to "Normal Setup".

REGULAR CLEANING

The frequency with which the unit is cleaned will depend on the environment in which it is used. The more dirty the environment the more often it will need cleaning. In most cases the unit will need to be cleaned weekly.

Caution: The pads should be dry before you handle them, as they are stronger when dry than when they are wet and less susceptible to damage.

If they are wet, run the unit in the HIGH VENT position until they are dry. After cleaning, let the pads air dry before you replace them.

1. Turn the switch to OFF and unplug the unit.
2. Check the pads for cleanliness. If they are dirty, remove and clean by spraying with a garden hose, water only. If they are not dirty you will still need to remove the cooling pads to clean the inside of the unit. Dirty cooling pads reduce the unit's effectiveness.
3. Use a garden hose to rinse out the bottom and the inside of the unit. The dirt that accumulates is removed from the air during operation, as the unit also acts as an air filter.
4. Remove the drain cap from the underside of the unit and let the unit drain completely. Rinse out any remaining dirt.
5. Replace the drain cap (finger tighten only).
6. Replace the cooling pads once they are dry.

Note: With proper use and regular cleaning, the cooling pads will last about two seasons. If you handle them wet and are abusive, however, they will be easily damaged. Refer to page 15 for recommended conditioning and cleaning chemicals.

NORMAL STARTUP

NOTE: Some splattering may occur until pads are conditioned (may take several uses).

1. Move the unit to the place where it will be run. Do not attempt to lift or move the unit once it is filled as damage to the unit or a large spill may occur.

Note: When you decide where to place the unit, make sure there are no obstructions in the way that will disrupt or block the airflow. Make sure the unit is level at all times. Keep the unit at least three feet away from walls or other obstructions that will interfere with airflow into the unit.

2. Check to insure the drain cap is in place and secure.
3. Connect the garden hose to the brass hose adapter. Check that there is a washer in the hose connection's female end.
4. Open the water supply valve and check that water enters the bottom through the float valve by removing one

cooling pad. Allow the unit to fill and check that the float valve completely shuts off the water.
5. If you are manually filling, remove one or more cooling pads and fill the bottom with a bucket or hose.
6. Visually monitor the filling operation to avoid overflowing and causing spill damage.
7. Plug the unit into an outlet.
8. Turn the switch to the low cool position, then to high cool if more air is desired.

CAUTION: Do not run the pump without water in the bottom or you will damage the pump. Running the pump dry will void the warranty on the pump.

NORMAL SHUTDOWN

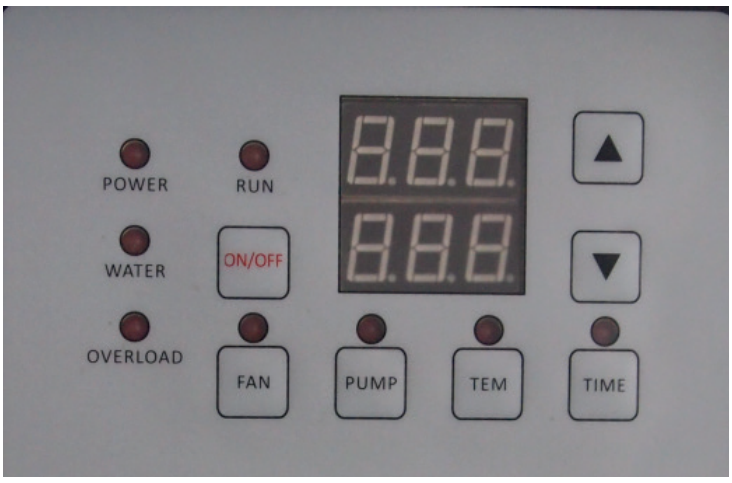
1. Turn the switch to the High Vent position, and let the unit run until the cooling pads are dry. This will maximize the life of the pads.
2. Turn the switch to the OFF position. Unplug the unit if you are going to clean the pads or inspect the components.
3. Shut off the water supply.
4. Drain the bottom if you are going to clean it or store it. It can be done two ways:
   a. Remove drain cap from bottom of unit.
   b. Attach garden hose to hose fitting labeled drain. Place valve handle in the drain position and put switch to pump only.

Note: Monitor water level and shut pump off when unit is empty. DO NOT RUN PUMP DRY.

5. If the unit will be stored for the season, insure the cooling pads are completely dry, and then remove them. Wrap them in plastic bags or store them in a clean place where they will not be damaged or get dirty. The unit should be cleaned thoroughly before storing.

CONTROL

Abridged General View:



1. Key:

Run/Stop: Press this key to run/stop the system.
Fan: Press this key to enter the fan speed interface, press up and down key to adjust the speed. Keeping the key depressed continuously (more than three seconds) will enter the nature style.
Pump: Press this key to RUN/STOP the pump (keeping the normal water level is necessary).
TEM: Press this key to set the temperature, the DS1 display the current testing temperature, DS2 display the setting temperature, press down and up key to adjust the setting temperature.

TIME: Adjust the time, press the down and up key to set the time, the Factory default is 60 minutes.
UP: When adjust the numerical value, press this key to increase the value, which add numerical value for 1, and Keeping the key depressed continuously to add the value for 10.
DOWN: When adjust the numerical value, press this key to reduce the value, which reduce numerical value for 1, and Keeping the key depressed continuously to reduce the value for 10.

2. Status Display and Operation

1. Press "RUN/STOP" key, the LED light on, DS display 888888, after one second, the power light and the run light on, the DS display the last close the system status. The first time opening the system, the DS display RUN, rotate speed display 050, Operation to enter the nest step.
2. Press the "Fan" key, enter the normal mode, the corresponding fan light on, press "DOWN" and "UP" to adjust the rotate speed, the minimum value is 000,the maximum value is 100(the minimum value and the maximum can be adjusted)
3. Keeping the "FAN" key depressed continuously, enter the normal mode, the fan light flicker, the DS display the different rotate speed value(the upper/lower limiting value of the normal mode can be set)
4. When the water level is lower, the water light on; When the water level is normal, press the "pump" key to run the pump, and the pump light on, display the running status.
5. Press the "TEM" key, the DS1 display the current testing temperature, DS2 display the setting temperature, press down and up key to adjust the setting temperature. The temperature range is 10°C - 40°C could be cycling set.
6. Press the "TIME" key, the DS1 display the time, press "DOWN""UP" key to adjust, the minimum set time is 5 minutes, and the maximum value is 600 minutes. Keeping the "TIME" key depressed continuously to start, and stop by Keeping the key depressed continuously once more.
7. When the system at the condition of fan overload, time setting, and temperature setting, can't to adjust the fan speed. Only the DS display the corresponding function, could have corresponding setting.
8. At the power off status, press "up" "down" key at the same time, and then press the "run" "stop" key could set the upper limit of the fan normal mode by "up", then press "time" key could set the lower limit of the fan normal mode by "down", and the "cyc","Err", "SPH"and the "SPL".

3. System Parameter Setting

The System Parameter Setting could set and use the machine conveniently.

a. The common functions as follows

Parameter	Initialization	Limits	Function
Normal Mode	000	000-100	Adjust the fan speed
Temperature	26.0°C	0-40°C	Set the temperature according to different requirements
Time	060	5-600 (minute)	Set the running time according to different requirements

b. Special function as follows:

Parameter	Initialization	Limits	Function
up	100	50-100	Adjust the upper limit value of the normal mode
do	000	0-50	Adjust the lower limit value of the normal mode
cyc	060	30-600 (S)	The time from minimum to maximum
Err	00.0	-5.0-5.0	Adjust the temperature departure, make the test more standard
SPH	100	50-100	Maximum value of the fan speed
SPL	000	0-50	Minimum value of the fan speed

According to different fan to set the Min/Max value of the fan speed when leave the factory.

PARTS LIST

Item	Description	Item	Description
1	Top housing	5	Black power cord
2	Logo labeled	6	Logo moulded
3	Control panel	7	Support frame
4	Protective screening	8	4" caster with brake

Item	Description	Item	Description
9	5/8" ID vinyl hose	14	Spray deflector plate
10	3-ing fan blade	15	Electrical motor cord
11	Evaporative cooler motor	16	Switch to motor pump and water level electrical pigtail
12	Motor/fan mounting bracket	17	water level visible range
13	Brass ball valve and pump		

TROUBLESHOOTING

COOLING PADS NOT WETTING

1. Make sure the unit has water.
2. Check to insure the control switch is in the proper position.
3. Make sure the pump is running.
4. Pump is running but no water:
   a. Ensure hose is connected.
   b. Ensure the impeller on the inside of the pump turns freely.
5. Pump is not running:
   a. A certified electrician must check wiring from pump to pump selector switch.
   b. If the wiring is correct, replace the pump.

FOAMING

Foaming is generally caused by a dirty water supply or contaminated water in the bottom.

1. If foaming occurs, stop the unit, drain it and flush the bottom and insides thoroughly with clean water.
2. Clean the pads and do not use any kind of chemical cleaners. Refer to the "Regular Cleaning" section for proper procedure for cleaning the pads.

3. Reassemble, refill and restart.

LINE CLOGS OR OBSTRUCTIONS (Little or no water flow)

Depending on the cleanliness of the water and the amount of dirt, dust, etc. in the supply air, you may have to clean the PVC pipes from time to time.

Your own experience will dictate the frequency.

1. Turn off the unit and unplug it.
2. Remove the pads.
3. Locate the two PVC pipes in the top housing. Each PVC pipe is secured to an elbow connector by a hose. Remove this clamp from both PVC pipes.
4. Grip the opposite end of each PVC pipe with pliers and gently twist it out of its "Y" connector.
5. Direct a jet of water at the series of outlet holes in the PVC pipes to blow them clear.
6. Direct the water nozzle into the end of each pipe and blow them clear. Inspect them for cleanliness and repeat if necessary.
7. Replace the PVC pipes taking care to ensure the water outlet holes are facing inwards at 90° towards deflector plate.

Note: Ensure you push the PVC pipes fully onto the elbow, and attach hose clamps.

ODOR CONTROL

Water source needs to be of good quality and regular maintenance is imperative.

LIME OR SCALE BUILDUP

Insure water source is of good quality and regular maintenance is being conducted. Water Conditioner is available from the factory.

SPLATTERING

If more or less water is desired, adjust PVC ball valve

LEAKING

Out Bottom
Check for cracks on the bottom. If a crack is found, repair it by using a Repair Kit or replace the entire bottom. Insure drain cap is installed and hand tightened (drain cap must have gasket inside).

WARRANTY

We warrant to the original purchaser that our products which prove to be defective in material or workmanship within one year (unless otherwise specified) from date of purchase will be repaired or replaced at the option of us

What is Not Covered By The Warranty

The warranty does not cover:

1. Installations not made in accordance with installation instructions;
2. Where the operation of the product varies substantially from our operating instructions;
3. Malfunctions resulting from misuse, negligence, alteration, accident or lack of performance of required maintenance;
4. Loss of time, inconvenience, loss of use of the product, or other consequential damages.

The above constitutes our sole warranty.

THERE IS NO WARRANTY OF MERCHANTABILITYAND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF.

Products with warranty periods that exceed our standard one-year warranty are listed below. These products are subject to all other provisions as stated in our Warranty.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