

Evaporative cooling concept

To counter periods of extreme temperature that affect in-house environments and therefore production, Coolair Evaporative Cooling Pad Systems are used with outstanding success. When large quantities of air are pulled through Evaporative Cooling Pads that are saturated with water, a substantial cooling effect is realized due to the evaporation of that water. Used in conjunction with Coolair fans, a temperature reduction of 10-25 degrees is commonplace.

Suited for virtually all geographic locations, the Coolair Evaporative Cooling System delivers the greatest economic benefits to areas where higher temperatures during longer periods of time are normal.

What is an Evaporative cooling?

Evaporative Cooling Pads (Evap Pads) are a product developed for horticultural and agricultural cooling applications. Evap Pads are made of a specially formulated cellulose paper, impregnated with insoluble anti-rot salts, stiffening saturants and wetting agents. Evap Pads have a cross fluted configuration that provides maximum cooling when warm air passes through the wet Evap Pad material.

Features of Evaporative cooling pad

- Evap Pads will not sag, rot or develop holes.
- With proper care and maintenance, Evap Pads will last for 5 years or more.
- There is no carry-over of water droplets to enter the house.
- The neat appearance of Evap Pads compliments modern buildings.

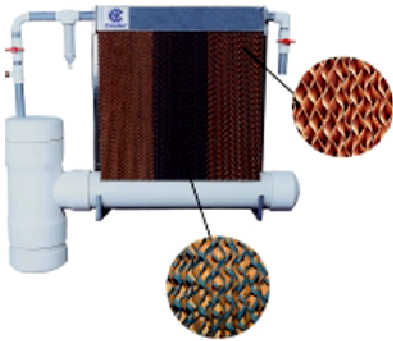
Compatible building design

Optimum results would, of course, be obtained through the use of a house built specifically for a Coolair Evap Pad System installation. As this is not always a feasible approach, the Evap Pad System is also designed to be compatible with any modern, airtight, insulated house.

Suggested layout design

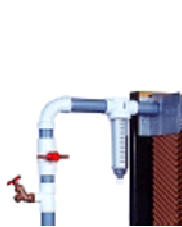
For greenhouse applications, the Coolair Evap Pad will be the most productive when the system is centered on the plants to be cooled. Specific placement should be such that the upper portion of the pad itself is on the same level as the top of the crop to be cooled. For poultry or livestock houses, preferable pad location is in the end of the building opposite that of the fan installations. The air should be drawn the length of the building except in cases where the resulting air velocity surpasses the comfort levels of the poultry or animals confined. In these instances, pad placement is recommended on both ends of the house while fan installation should be set for both sides of the middle. A third consideration for placement of pads is the same side as the summer prevailing winds with fan installation on the opposed side.

The Evaporative cooling pad

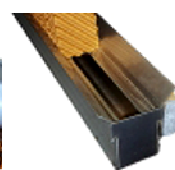


Evap Pads are 4" or 6" thick, 12" wide with height increments every 12" from 24" to 96". The Evap Pads are positioned adjacent to each other to form a continuous pad of the required height and length. The Evap Pads are made of specially formulated cellulose paper, impregnated with insoluble anti-rot salts, stiffening saturants and wetting agents. 4" Evap Pads up to 48" tall and 6" Evap Pads up to 72" tall are self-supporting, and therefore they do not require wire baskets or other supporting materials. The

pads are held in place by component parts of the system. Tall pad supports are required on 4" pad systems over 48" tall and 6" pad systems over 72" tall. In addition to the standard Evap Pad, Edge-coated pads, which help reduce algae growth or build-up, are also offered



PVC SYSTEM



ALUMINUM SYSTEM

- System length 5' to 60' - System height 2' to 8'
 - Completely self-contained
 - Sump included
 - Multiple pump designs available. For longer systems, consult your American Coolair representative
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- System length 5' to 100' - System height 2' to 8'
 - Ideal when large amounts of cooling is needed
 - Multiple pump designs available. For longer systems, consult your American Coolair representative

THE PUMP AND SUMP

The pumps are sized for the system to supply at least $\frac{1}{2}$ gallon of water per minute per linear foot of pad system. The integral PVC sump and trough hold an adequate water supply for systems up to 60' long and 8' high.

THE PUMP AND SUMP

The pumps are sized for the system to supply at least $\frac{1}{2}$ gallon of water per minute per linear foot of pad system. The sump should be purchased locally and be sized for at least $\frac{3}{4}$ gallon capacity per square foot of pad area.

WATER DISTRIBUTION SYSTEMS

The water distribution systems for both PVC and Aluminum designs are composed of the water distribution PVC pipe with metered outlet holes, top and bottom pad support material, water distribution pipe cover, water return trough, water filter, float and volume control valves and various parts and fasteners.

EVAPORATIVE COOLING PAD AREA REQUIREMENTS

For system designs to suit the specific needs for your type of building and atmospheric conditions, you may wish to consult your American Coolair representative. However, as a general guide, you can use the following system recommendations to insure proper cooling in your building:

For 4" pad systems: Use 1 sq. ft. of pad per 250 CFM.

For 6" pad systems: Use 1 sq. ft. of pad per 400 CFM.

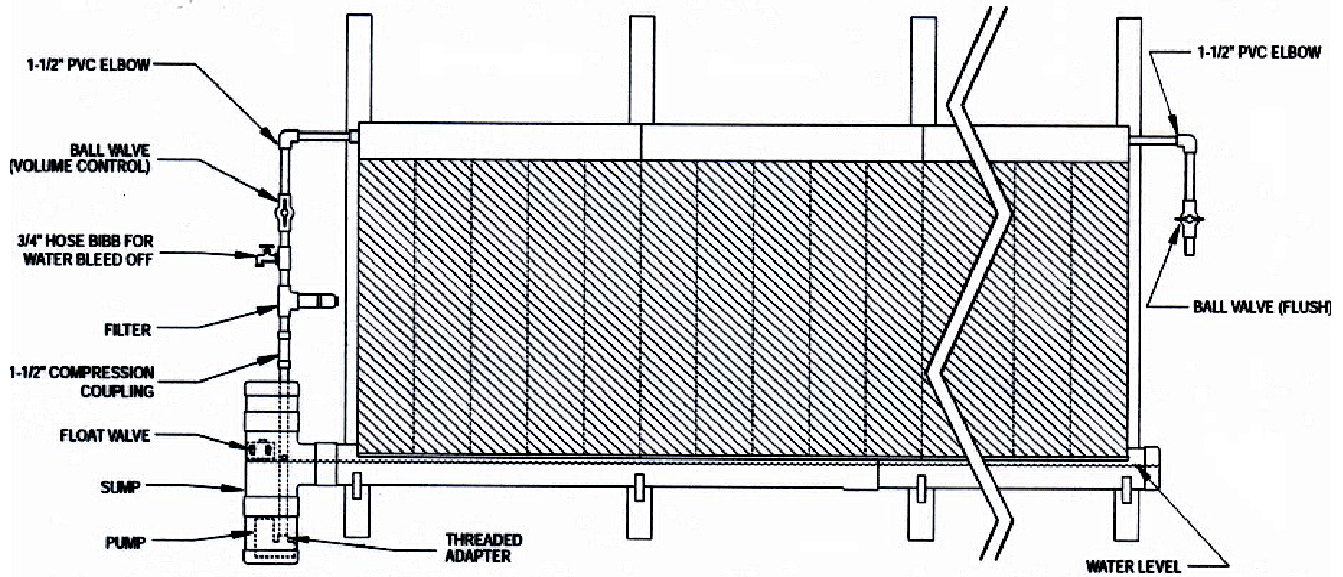
Example: A building has 6 fans that produce 20,000 CFM each for a total flow of 120,000

CFM through the building.

4" system — $120,000 \div 250 = 480$ sq. ft. of pad required

6" system — $120,000 \div 400 = 300$ sq. ft. of pad required

PVC EVAPORATIVE COOLING SYSTEM (SHOWN WITH A SUBMERSIBLE PUMP)



ALUMINUM EVAPORATIVE COOLING SYSTEM (SHOWN WITH A CENTRIFUGAL PUMP)

