

OPTI COOL

FAQ ABOUT GLYCOL PACKAGES

WHAT IS A “GLYCOL” OR “CHILLER” PACKAGE AND WHAT DOES IT DO?

Water cooled refrigeration equipment typically run cooling fluid around the refrigeration coils to absorb the heat and carry it out of the machine. Conventionally, the machine is connected to a water source (city water) and when the machine is freezing, a valve in the machine opens allowing the water to run through the refrigeration coil. The heated “waste” water is then run to a drain. Factors such as the cost of water, state and local codes, as well as environmental considerations make this “dumping” of water costly, impractical and/or a violation of local codes.

A “glycol” system, or more correctly a “closed loop” system takes this heated “waste” water and pumps it through a cooling coil or “radiator” outside of the store to cool it and re-circulate it through the machines thus avoiding water usage and waste.

IN ITS SIMPLEST FORM, A “GLYCOL PACKAGE” IS NOTHING MORE THAN A RADIATOR AND A PUMP.

WHAT DOES GLYCOL HAVE TO DO WITH IT?

The “glycol” everyone is referring to is PROPYLENE GLYCOL, not the ethylene glycol used in automotive anti-freeze. Propylene glycol is a non-toxic, food grade product the serves as an anti-freeze and an anti-corrosive. The automotive type; ethylene glycol is highly toxic and is considered an environmental hazard by the E.P.A.

What many people don't know is that the addition of propylene glycol to a closed loop system reduces its efficiency and its ability to cool at higher outside temperatures.

WHAT IS A “CHILLER”?

A chiller (chilled water system) is a roof “package” that essentially reverses the cooling process that takes place in the yogurt machines. It uses refrigeration to remove heat from the coolant and then cools the refrigerant through a condenser (radiator) where it exhausts outside.

The advantage of a chiller is that it cools the glycol below outside temperature thus allowing the yogurt machines to work more efficiently in extremely hot areas where the outside temperatures are over 105° more than four hours a day for more than 15 days a year.

The disadvantages of a chiller are its initial cost which can be double that of a conventional glycol package, and its cost of operation which can easily be 500% more than a conventional glycol package when considering electric cost and additional required maintenance.

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IF A GLYCOL PACKAGE IS SO SIMPLE, WHY ARE SOME SYSTEMS SO PROBLEMATIC?

The theory is simple, but the application to multiple yogurt machines becomes very challenging, especially to those suppliers not intimately familiar with specific machine function and operation. The problems become amplified when “tech support” for the glycol package manufacturer is unfamiliar with the service, operation, user training, and long term adjustment parameters of the yogurt machines.

The key is to understand the interaction of every aspect of the system under all possible operating conditions. Line size, pump output, distance to roof coil, number of bends in the lines, volume of liquid in the system, restrictions in piping, types of valves installed, yogurt machine requirement for pressure and volume of coolant, optimum temperature of coolant for maximum refrigeration efficiency, provisions of the system to maintain optimum temperature, volume, and pressure with no machines operating all the way to all machines operating, ability of the system to expel entrained air in the coolant, and the efficiency of the condenser coil itself to effectively cool the liquid in high ambient conditions are some of the factors that must be integrated into the design and construction of the final product.

Without consideration for all of the factors listed above, you may have bought a radiator with a pump **with more down time and problems than you bargained for.**

WHAT MAKES YOUR SYSTEM A BETTER CHOICE?

First, we work both sides of the fence, so to speak. We not only build glycol systems, we sell and install soft serve machines. That’s maximum motivation to get it right! We can’t blame a problem with the machines on our glycol package; and we can’t blame a performance issue of our glycol system on the machines. What does that mean to you? NO FINGER POINTING!

Second, our over 30 years experience with closed loop systems for the soft serve industry has given us the depth of knowledge to “get it right” the first time; no excuses. It doesn’t just work “on paper, ” it works at your store.

Third, the multiple advantages of an OPTI-COOL© closed loop glycol package can result in substantially lower installation costs (about \$1000 less), lower power costs and far less down time.

Finally, we know that one size does not fit all. From installation on a multistory building to downstairs in an underground garage to hundreds of feet away across a mall roof, each system can be custom modified to adapt to your specific needs and installation requirements.

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WHAT IF IT GETS REALLY COLD WHERE I AM?

We've got you covered on this one. The glycol concentration can protect from freezing down to -50° F. Optional strip heaters can keep the fluid temperature as high as 35° if desired.

WHAT IF IT GETS REALLY HOT WHERE I AM?

Depending on where you are located, the average high temperatures during the hottest time of the year, the number of hours per day these temperatures can be expected, the number of days per year they are expected to occur, and your sensitivity to using the built in "city water" bypass feature, we have developed a number of options to meet your specific needs.

These can include an automatically activated spray mist system, a small additional "booster" coil located in the store that automatically activates as needed, or an add-on chiller package that only activates when needed during the hottest times. We would be happy to discuss the most economical options with you.

WHAT MAINTENANCE IS REQUIRED ON THE GLYCOL PACKAGE?

Maintenance requirements are minimal:

- ◆ Monthly, re-pressurize the system by opening the city water supply for approximately 1 minute.
- ◆ Once in the spring, and once in late summer or early fall have the condenser coil cleaned, preferably with a high pressure garden hose and sweeper nozzle.
- ◆ In the fall, in areas where freezing temperatures are possible, have the glycol concentration checked and brought to a level to prevent freezing at the lowest expected temperatures.
- ◆ At least once every other year have the entire system flushed with clean water and refill with the appropriate glycol mixture.

DO I HAVE TO RECHARGE THE SYSTEM WITH GLYCOL IF I USE CITY WATER BYPASS?

Not if you follow the operating instructions given to you at start up.

WHAT IS THE WARRANTY?

One year parts and labor.

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