

E-Notes

Energy Efficiency Notes

Reducing Energy Consumption of Drink Coolers

Background

Drink coolers can use a considerable amount of electrical energy. Modern coolers incorporating lighted fronts have a peak amperage varying between about 6 amps and 12 amps (at 120 volts) depending on the size and manufacturer of the machine.

A machine running 24 hours per day throughout the year will use a lot of electricity. Some recent measurements done on a drink cooler rated at 8.5 amps indicated that the unit had an average power consumption of 220 watts. (With the compressor on, the consumption was 525 watts). If operated 365 days per year at an average consumption of 220 watts, the electricity consumption would amount to \$135 at an electricity cost of 7 cents per kilowatt-hour.

Energy Efficiency Measures

There are a number of low-cost energy efficiency measures that can be implemented on the drink coolers to lower the electricity bills.

1. De-lamp the light fixtures inside the units.
2. Use a good quality appliance timer on the unit. The timer can shut off the cooler during the period that the building is unoccupied. If the unit is off for 12 hours per day, the annual electrical bill will be cut in half.
3. If the drink cooler is in a seasonally operated facility such as a curling rink, skating rink, outdoor swimming pool, or school, ensure that the cooler is unplugged during the months when the facility is vacant.

Savings From Efficiency Measures

1. If two 40 watt fluorescent tubes are removed, the annual electricity saving will be \$49 using electricity at a price of 7 cents per kilowatt-hour.
2. A good quality industrial timer costs about \$75. If the timer is placed on a drink cooler that uses \$135 a year, and the drink cooler is off for half the time, the simple payback period is just over one year. Less expensive automotive block heater timers are available for about \$35.

Points to Watch

1. If your facility does not own the drink cooler, let the drink cooler supplier know that you are implementing these energy measures because of the energy cost savings.
2. Purchase a high quality timer. Inexpensive residential timers available for less than \$15 are not likely to give the trouble-free years of service you desire.
3. Because of the stored heat in the drinks, one can set the timer to turn off the drink cooler one or two hours before the facility closes in the evening. By the same token, one should also set the timer to turn on the drink cooler one or two hours before the facility opens in the morning.
4. Do not use a timer on any food appliance such as a freezer or refrigerator where there is a possibility of food spoilage.

Availability of Appliance Timers

Most electrical wholesalers stock the 120 volt 24 hour timers. Ask for an industrial quality timer with hourly time divisions able to switch a 15 amp motor load. A minimum expected life of 10 years should be specified.

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