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The CoolBot™ temperature controller is easy to install and low maintenance — repairs are almost non-existent. While more cost effective and more energy efficient, the CoolBot system, when paired with an air conditioner unit, does not have all of the same functions and capabilities as a traditional walk-in cooler system. Below we outline some of the challenges you may face with a CoolBot.

### **CoolBot systems take longer to cool down.**

Air conditioners have less surface area that air blows over and a much lower volume of air that is moved around.

When you turn on a CoolBot system in an 85°F/30°C cooler, the temperature will decrease to 45°F/7°C in about 20 minutes. However, the time it takes to drop the cooler down below that takes exponentially longer. It can take another 30 minutes before you reach 40°F/4°C, and an additional 30 minutes to reach 38°F/3°C.

### **Slow temperature recovery after opening the door.**

CoolBot systems function well when the doors to the cooler do not have to be opened frequently. Each time the door is opened, heat is added to the system and the CoolBot may not maintain your desired temperature.

For businesses where products need to be retrieved and placed in a cooler more than 6 times an hour, the CoolBot may not be the best method of temperature control. If you would still like to use a CoolBot when the doors to the cooler are opened many times in an hour, we recommend using an AC unit with higher BTUs (British thermal units), as outlined in our AC Unit Size and Brand Recommendations manual. Strip cooler curtains can also be added to doorways to minimize the loss of cold air.

### **Limited performance below 36°F/2°C.**

The reason why a CoolBot system has limited functionality at lower temperatures, is similar to why there is a long temperature recovery time. Temperatures can be maintained below 36°F/2°C, but it will take longer for the cooler to reach that temperature and the door should not be opened often. A smaller room, quality insulation, and a larger air conditioner (like an 8-ft. x 8-ft. room and a 18,000 BTU air conditioner) assists in reaching and maintaining temperatures below 36°F/2°C.

### **Minimum low temperature restrictions.**

The CoolBot does not have the functionality to reach and maintain temperatures below freezing. Even in ideal conditions, the lowest temperature you can achieve with a 24,000 BTU air conditioner is 33°F/1°C.

### **Running through the winter.**

Whether or not the CoolBot system has the capability to run in the winter months, depends on the air conditioner used. We recommend LG Electronics, Haier, Danby, and Samsung Electronics brands because they have an increased chance of running in colder temperatures. Choose your air conditioner brand carefully if you need it to maintain specific temperatures through the winter; models with automatic restart are easiest to work it.

### **Automatic restart when power is lost.**

In the case of power failure, CoolBots start up automatically when power returns and retain previous settings upon restarting. If the electricity blinks on and off not all models of air conditioners automatically restart. If your air conditioner does not have automatic restart, you may have to manually turn the air conditioner on and off to get it running again. The auto-restart feature is usually advertised on the outside of the box.

### **Air conditioner is not compatible with size of the room.**

It is important to match the power of the air conditioner to the size of the room. A 5,000 BTU air conditioner will not cool a 10-ft. x 15-ft. room efficiently because the space is too large. Follow the manufacturer's sizing recommendations to be sure your AC is the right size from the room. Using a proper sized AC unit in a well-insulated room could result in your cooler needing to run less than 25% of the time.

### **Additional Temperature Considerations:**

**If you want to maintain temperatures at or above 38°F/3°C** in a space where the door is opened less than 5 times per hour, the CoolBot may limit up-front costs and reduce electricity bills over a standard cooling system.

**If you want to maintain temperatures at 36°F/2°C** in a space where the door is opened less often, a CoolBot may not save nearly as much electricity when compared to a conventional walk-in cooler, but it still limits up-front costs.

**If you want to maintain temperatures at 34°F/1°C**, the CoolBot may only be effective if the air conditioner is oversized, the room is well-insulated (>R25), and the door is rarely opened.

### **Rooms that have less than industry standard cold-room insulation.**

To maintain temperatures below 40°F/5°C, use an industry standard level of insulation. Industry standard for walk-in coolers is R-25, this can be accomplished by using at least 4 inches of rigid foam insulation depending on the brand you select. Layer the insulation and add the R-values of the layers; insulate over studs rather than between them.

### **Rooms that have small gaps or holes.**

Even the smallest gaps, such as ones below a door, can decrease the efficiency of the Coolbot. Any cooler, especially older models, should be sealed as much as possible to avoid losing cool air and electricity waste. Use caulk or spray foam in the seams and corners of your cooler, as well as weather stripping around doors and windows. Plumber's pipe insulation may be used to seal around the exterior frame of the air conditioner in lieu of spray foam.