

CoolBot Limitations

The CoolBot™ is easy to install and low maintenance — repairs are almost non-existent. While cheaper to install and more energy efficient, the CoolBot as a system paired with an air conditioner unit does not have all of the same functions and capabilities as a walk-in cooler system. Below we outline how the CoolBot compares.

CoolBot systems take longer to cool down vs. larger commercial units

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.

CoolBot systems recover slower after opening the door.

CoolBot systems function well when the doors to the cooler do not have to be opened frequently. For businesses where products need to be retrieved and placed in the cooler more than 6 times an hour, the CoolBot may not be the best method of temperature control. Each time the door is opened, heat is added to the system and the CoolBot may not maintain your desired temperature. 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.

Poor functionality below 36°F/2°C.

The reason why a CoolBot system has poor 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 hours for the cooler to reach that temperature and the door should not be opened often. A smaller room and larger air conditioner (like an 8' x 8' room and a 24,000 BTU air conditioner) assists in reaching and maintaining below 36°F/2°C temperatures.

You can't freeze things with a CoolBot.

The CoolBot system does not have the functionality to reach and maintain temperatures below freezing. In a small space with R-30 insulation that does not require frequent access, with an air conditioner 2 sizes larger than in the chart, 33°F/1°C is the lowest temperature you could achieve.

Running through the winter.

Any air conditioner will shut down if the ambient temperature reaches freezing. If your AC has, “automatic restart” it will come back on automatically as soon as the ambient temperature rises a few degrees above freezing. A bigger problem after several days of below freezing temperatures would be that your walk-in cooler would get too cold. In this case, we recommend a little blower style heater on a pass-thru thermostat set a few degrees below the CoolBot setting to maintain a steady temperature in your cooler.

Automatic restart when power is lost.

CoolBots start up automatically, and retain previous settings upon restarting. If the electricity blinks on and off not all models of air conditioners automatically 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.

Room is too big or the air conditioner is too small for 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 won't cool a 10' x 15' room efficiently. Follow the sizing recommendations and the air conditioner should run less than 25% of the time if you've insulated the room well.




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

The industry standard for walk-in coolers is 4 inches of rigid foam insulation; the R-value of the room should be at least 24 if the temperature will be maintained below 40°F/5°C.

Rooms that have small gaps or holes.

Even the smallest gaps, such as ones below a door, lose a lot of cold. Any cooler, especially older models, should be sealed as much as possible to avoid electricity waste. Use caulk or spray foam insulation in the seams and corners.

Here's a good way to look at it:

-  **If you want to be at or above 37°F/3°C** and you open the door less than 5 times per hour the CoolBot may limit up-front costs and reduce electricity bills over a standard cooling system.
-  **If you need to keep things at 36°F/2°C** and you open the door less often and you don't mind that it takes a few hours to get down to 36°F/2°C a CoolBot won't save nearly as much electricity over a conventional system, but still limits up-front costs.
-  **If you need to be under 34°F/1°C** the CoolBot may only be feasible if the air conditioner is oversized and the door is never opened.