Types of Walk-Ins

There are two basic types of walk-ins: **prefabricated** and **built-in**. Prefabricated units, the focus of this guide, come with urethane panels that are sized according to the specifications of the product or built to order depending on the manufacturer. They provide many great benefits including easier expansion and relocation. Built-in units are also very popular and often consist of insulation that is covered with structural tiles on the walls and floors. These units can be built to meet the exact needs of your space but can't be moved or changed as easily as prefabricated units.

	PREFABRICATED	BUILT-IN
Benefits	• Versatile; you can change the configuration as your business grows. • Less expensive; fewer contractor / installation fees. • Less disruption to your business.	• Unlimited sizes. • Built exactly to fit your needs.
Drawbacks	• May be limited by available sizes and configurations. • May not be as long lasting as built-in units.	• Not as easily expanded or altered to accommodate business growth. • More expensive to build.

Elements of a Walk-In

There are differences between walk-in coolers based on type as well as manufacturer, but at their simplest, a prefabricated walk-in cooler is just a large insulated box with a cooling system. The components can be summed up in a very short list: **panels**, **floor**, **door**, and **refrigeration system**.

The Panels

Basically sandwiches made of foam insulation and thin metal sheets, panels range from 3 1/2" - 5" thick and keep the walk-in at the correct temperature for storing your fresh or frozen foods. They are generally made with a 24 to 26 gauge galvanized steel, aluminum or aluminum-coated steel, painted steel, or stainless steel that is called the skin. Panels also often have embossed patterns in the metal to help maintain a professional look, provide additional strength, and reduce the appearance of wear and tear.

Pressed inside the skin is dense insulating foam to ensure energy efficiency. Some options come with extruded polystyrene foam insulation but the most common insulating material is foamed-in polyurethane. Extruded polystyrene is a high-performing insulator with great moisture resistance. While most materials break down and lose R-value over time, polystyrene retains its insulating ability longer. Polyurethane is also a great insulator; however it may not stand the test of time as well as other materials.

When shopping for a walk-in, look for high-quality insulation materials with low thermal transference and high R-value. This will help to reduce temperature loss and cut energy costs associated with operating the unit.

The effectiveness of insulation is stated as its R-value. The higher the R-value, the better the insulating properties of the material.

The Floor

Depending on the space you have, models with and without floors are available. Floor materials differ between manufacturers, but many will be made of smooth aluminum.

Depending on the amount of traffic your cooler will see in a given day, you may need to look into upgrading to a more durable floor.

For applications where fully-loaded transport carts or heavy shelving units will be used, an aluminum floor may not be practical. In cases like this, it might be better for your business to purchase a floorless model since this type must be installed on a ground-contact concrete floor. A concrete pad is more durable so that it can stand up to heavier use; just be aware that it may take additional planning and construction before the unit can be set up.

The Refrigeration System

The most complex part of the unit is the refrigeration system. To bring it down to basics, you'll want to know how much power the system will need in order to operate, where that power will be coming from, and how much clearance and ventilation the system will need. All of these are things that could affect the configuration that you choose.

Smaller walk-in coolers typically require a 1/2 hp compressor to hold temperatures at or below 41 degrees Fahrenheit. Walk-in freezers often need a larger compressor—around 1 hp—to maintain those colder temperatures. Remember, the larger the walk-in the more powerful the refrigeration system will need to be.

While shopping around, also keep in mind that your space may limit your options when it comes to the location of the refrigeration system. If you have a very low ceiling, or can't install the proper ventilation, you may need to go with a side-mounted or remote configuration.

TYPE	WHAT TO KNOW
Remote Systems	• Less expensive to purchase. • Sits outside the building to reduce the walk-in's ventilation needs. • Charged with refrigerant on site. • Must be assembled and installed by a qualified technician.
Pre-Assembled Remote Systems	• Sits outside the building to reduce the walk-in's ventilation needs. • Pre-charged with refrigerant. • Most parts are already assembled. • Must be installed by a qualified technician.
Top Mount	• Self-contained and completely pre-assembled.

TYPE	WHAT TO KNOW
	• On standard units the evaporator coil may hang down inside the cooler box. With some variations the evaporator coil is located on top of the box for more usable interior space. • Discharges heat into the building when used on indoor units, which puts added strain on the HVAC system. • Must be installed by a qualified technician.
Side Mount	• Similar to top mount systems, but may be mounted with bolts or brackets to a side panel. • Reduces interior shelf space due to the evaporator coil. • Great for buildings with low ceilings. • Must be installed by a qualified technician.

The Door

A very important element of any walk-in, the door must provide access while still preventing cold air from escaping. Plus, the door is the most abused part of the walk-in and needs to be able to stand up to frequent use. Purchasing a unit with a self-closing door mechanism, high quality door hinges and latches, along with well-fitting gaskets can help it last longer and prevent loss of cold air for greater energy efficiency. Other options that you may see include a small window in the door for viewing or door locks to keep your food secure after hours.

The door location is different from one model to another. Check out the diagram on each product page to see exactly where the door will be located on that particular unit.

Making a Decision: A Purchasing Check-List

Now that you know about the different components that make up most prefabricated walk-in coolers, it's your job to find the right one for your business. What should you consider in the process? There are many variables, but here are a few basic things that you can nail down right now.

Fresh or Frozen?

Do you need refrigerated or frozen storage space? A basic question, this is the first point that you'll need to decide. Not all coolers will maintain the same holding temperatures. Walk-in refrigerators will hold food below 41 degrees Fahrenheit, while walk-in freezers will keep food frozen near 0 degrees Fahrenheit. The physical differences are small, but they can greatly impact your choices. A refrigeration system for a walk-in

freezer will be larger and more powerful than a system for a cooler. Plus, freezer panels will be thicker to help maintain the colder temperatures.

One Size Doesn't Fit All

We offer a wide range of sizes from 48" to 120" wide and 70" to 168" long. With capacities from 105 cu. ft. to 860 cu. ft. you'll find the size you need, but how can you determine what that size is? Sizing depends on several factors, but the first thing to consider is how much food you need to store. A good rule of thumb is that 1 cu. ft. of storage space will hold approximately 28 lb. of food. According to this formula, storing 50 lb. of chicken should take about 1.8 cu. ft. of storage space. By carefully planning what foods you will store and how often you will be receiving supplies, you can calculate the right size to meet the needs of your business.

CU. FT. OF STORAGE SPACE	FOOD STORAGE CAPACITY (IN LB.)
1 cu. ft.	28 lb.

Remember when deciding on the size of your new cooler that you should also be guided by:

- The size of the space you have available, including the height of the ceiling.
- The amount of additional storage space you need right now.

- The amount of additional storage you will need within the next ten to fifteen years as your business continues to grow.

Consider Your Space

Will the cooler be installed indoors or outdoors? For indoor installation, remember that you are limited by the space you have or the space you can build.

If it will be installed outside, you'll need to choose a cooler that is designed for outdoor use and ensure that the area is prepped for installation.

- A rain roof prevents water from leaking into the box. This can be as simple as metal flashing installed over the roof seam or as extensive as a polyvinyl roof system with connectors and a rain hood over the door.
- For areas with freezing winters, the unit may require a winterizing kit. This will include a compressor cover, a heater to warm the oil in the compressor for proper circulation, and various other components to help your cooler operate properly in freezing conditions.
- In addition, you may choose to purchase an interior heater kit that will keep refrigerated items from freezing when the ambient outdoor temperature is consistently below 32 degrees Fahrenheit.

Proper Ventilation

All coolers will require a little extra space around all sides for ventilation, so it’s important to figure this into your calculations from the start. Though this may differ slightly from one unit to another due to manufacturers’ recommendations, a minimum of 1" clearance from interior walls is required. In addition, make sure there is space to leave at least 2" between the top of your walk-in and the ceiling.

Delivery and Installation

The logistics of delivery and install can sometimes be a headache, especially with something as large as a cooler. You’ll want to be prepared when the unit shows up so that delivery goes as smoothly as possible. Also think about how much of an

impact the delivery will have on your business. If you're closed for renovations or outfitting a startup, you probably won't need to worry about disturbing customers when your new cooler is delivered. If you are operating as normal, however, you might want to consider how to lessen the disturbance that your customers and staff will feel. A couple ways to do this might be to:

- Schedule delivery and install during a slow period.
- Wait until after you are closed for the day to schedule delivery.
- Warn staff ahead of time so they can be prepared.

Ease of Use

When considering a walk-in, think about who will be using it and make sure that they will be able to do their jobs effectively. You'll want to look at easy-to-read temperature displays for monitoring purposes, smooth and simple door operation, and quick programming of the refrigeration system when considering features and benefits of different models. If your business uses an HAACP plan, then consider temperature monitoring and recording systems to help ensure that proper temperatures are maintained at all times for optimal food safety.

Energy Consumption

This is a simple concept. Use as little energy as possible to get the job done right. No matter what unit you choose, you'll want to be sure it's installed correctly to limit leaks and help the refrigeration system run as efficiently as possible. Also, once the cooler is set up, make sure that your shelving layout is designed for efficient access and effective air flow. This will keep the refrigeration system from working any harder than it has to.

Most coolers—especially walk-in freezer units—should be installed on insulated floors with thermal barriers under each wall panel. Proper insulation and thermal breaks reduce the amount of temperature transfer and help a cooler operate more efficiently.

Another way to save energy is to purchase a unit that uses LED lighting since this type of light uses up to 90% less energy than traditional bulbs. Many newer models come with LED lights as a standard feature.

Cleaning, Sanitation, and Maintenance

To clean and sanitize your walk-in cooler or freezer, use an approved cleaning solution like 4 oz. of bleach in a gallon of water or NYCO Products Clean Freezer walk-in cleaner. Be sure to follow the manufacturer's directions when cleaning to achieve the best results. Some other accessories that can be helpful when cleaning a cooler include mops, brushes, sprayers or buckets, and safety apparel like gloves and protective glasses.

Keep the door in good condition to maintain the unit's energy efficiency. By keeping dirt and debris out of the door seal, you'll extend the life of the door and the gaskets. If any of the gaskets start to wear out, replacing them is a relatively inexpensive way to keep your cooler in top condition.

Make sure that the condenser coils are kept clean. When they become clogged, it puts additional strain on the compressor and can cause the refrigeration system to give out.

Mildew and bacteria can grow on the walls, ceiling, and floor inside a walk-in cooler or freezer. It's a good idea to regularly wipe down all surfaces to prevent the growth of harmful microorganisms. Also, avoid using corrosive chemicals and high-pressure hoses as these can damage the panels' metal skins.

When Should I Buy a New Cooler?

A walk-in cooler can last for many years of service if it is properly maintained, but it loses some of its effectiveness after many years in your restaurant. Since new technology is continually being released, it's recommended to replace a walk-in every 15 years or so. Do you think you may need to replace a walk-in freezer or cooler earlier?

It could be time for an upgrade when:

- Starting up a new business or branch location.
- Your old cooler is notably less efficient than it used to be.

- You start to notice wear on the exterior like metal skins deteriorating or separating from the foam insulation.
- The interior starts to collect condensation or frost build-up—this is an indication that the seal is no longer sufficient to prevent air from leaking in and out.

Other Items You May Need

Once your cooler is installed, there are still many items you'll need to get it ready for use. To maintain your cooler and ensure that it continues to work properly, we offer everything from cleaning solutions to refrigeration thermometers. And don't forget about shelving and racks! Check out our assortment of walk-in accessories to make sure that you have everything you need once your cooler is up and running.