

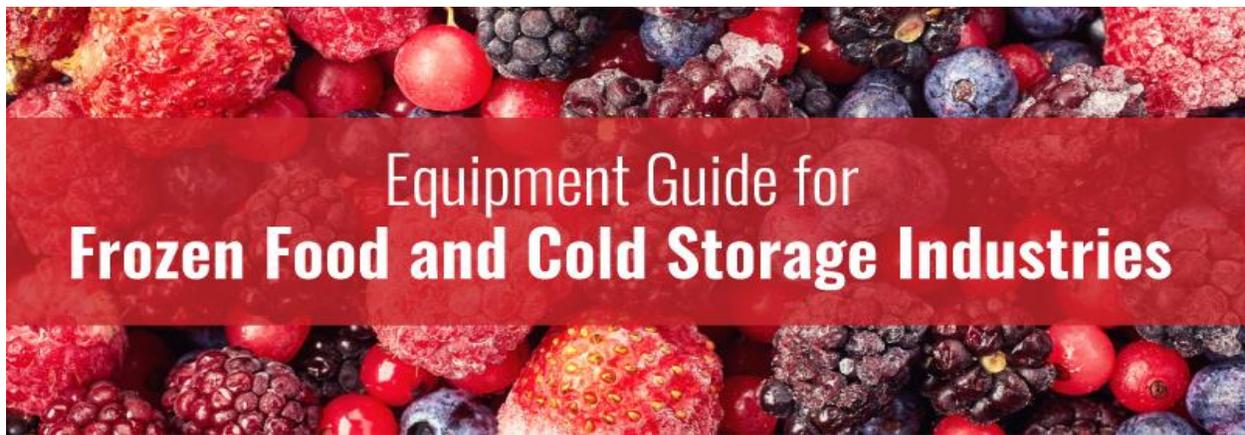


## Equipment Guide for... **Frozen Food Storage**

Article adapted from [Cherry's Industrial Equipment](#)

While national frozen food trends show things like organic and all-natural ingredients, a variety of flavour and style, healthier options and pricing all playing a vital role in this growth, it doesn't end there. There's an entire frozen food warehousing facility behind the scenes playing an integral part in storing these frozen foods with a focus on preserving the flavors and ingredients while maintaining labor efficiency to keep costs down.

Below is a frozen food storage equipment guide to provide you with insight into the must-have equipment to streamline logistics, keep costs down and most importantly, keep your products preserved and protected before they go from your warehouse to the store shelves.



### **Guidelines for Frozen Food and Cold Storage Warehousing**

Before we get into these key pieces of equipment, it's important to understand some of the guidelines for frozen food and cold storage warehousing. Anytime you're dealing with food and a specific temperature, you should be following certain guidelines. For frozen food warehouses, several resources are available to help you as you maximize your storage space and the quality of the products that are stored there.

#### **Capacity**

Warehouses are always concerned with capacity, especially when it comes to frozen foods and cold storage. It's particularly important because product capacity needs to match the storage facility space, but also because of the refrigeration needed to keep all the products at the appropriate temperature. The ratio of refrigeration to space needs to be precise. There also needs to be sufficient space between stacks and walls to make sure airflow is maximized. Stacks of products should utilize pallets for this purpose.



#### **Melbourne Quality Assurance**

ABN 46 975 405 936  
PO Box 308, FAIRFIELD VIC 3078 AUSTRALIA  
janette@melbourneqa.com or www.melbourneqa.com  
Mobile 0466 377 371

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### Temperature

The second guideline is regarding the actual temperature of your storage facility. In addition to ensuring the ratio of refrigeration to capacity is correct, it's important to maintain the designated air temperature for the particular frozen food being stored in your facility.



So you may monitor the temperature, each storage area should have two or more accurate and calibrated temperature measuring devices and at least one continuous recording device. Temperatures in each storage area should be recorded and reviewed by management every day, and those temperature logs should be saved for four years.

### Refrigeration

In addition to making sure your refrigeration equipment is appropriate for the size of your warehouse and that the temperature is monitored closely, the refrigeration equipment should also include an alarm system that activates when the equipment fails — either due to a power outage or some other emergency. Having a contingency plan in place is recommended should a failure occur outside of business hours, as deterioration of the frozen food would be at risk.



### Material Handling

As much as possible, material handling and packaging operations — like casing and palletizing — should be done in the cold storage area to reduce frozen food exposure to any source of heat or humidity that would ultimately affect the quality of the product. When items need to be moved either from storage to shipment or vice versa, frozen food should be moved quickly through any loading areas that are not refrigerated.



### Shipments

When a new shipment of frozen products arrives at the warehousing facility, its temperature should be checked. If any frozen foods have a temperature of 15°C or warmer — or the product is damaged in any way — staff should notify a manager to ensure special handling based upon the condition of the product. Before shipments are accepted for storage, they should be code marked for organization and identification purposes.



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Mobile 0466 377 371

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To achieve many of these guidelines, you'll require the right equipment. The three **must-have pieces of equipment** that will get the job done for you in your frozen food warehouse are:

1. Pallet retrievers
2. Freezer spacers/plastic pallets
3. Stretch wrappers

### Must-Have Pieces of Equipment

#### [1] Pallet Retrievers (aka Pallet Changers)



These big pieces of equipment help you remove freezer spacers, combine loads and change out pallets safely and efficiently.

Model designs differ, but many of them use a combination of components that rotate stacks of products and pallets to make storage adjustments fast and easy. They can adjust based on the size of the stack you want to move. Then, they slide below the stack and above it and tilt it back until you can easily reach the pallets, freezer spacers and products to make adjustments in your storage as needed.

The alternatives to a pallet retriever are more **manual labor** or using **forklifts** for a means they aren't designed for. Both of these methods take a significantly longer amount of time and produce an unsafe environment. Upgrading from a manual labor process will help improve your bottom line, as the efficiency of a pallet retriever is something unmatched by human hands.

Pallet retrievers should be designed to handle heavy workloads. They should feature simple controls, reliable components and easy operation to help you maximize your frozen food logistics. Examples of pallet retrievers and what they can help your business achieve:

- **PSR model pallet:** Remove freezer spacers, change out pallets and combine loads in seconds with our PSR model pallet. Slide a platform above the stack of products you want to access and then tip them back onto their side for you to modify.
- **VBED model:** Free up valuable dock space — pull slats, freezer spacers and divider sheets in seconds with our V-bed retriever model. This design is ideal for around the clock use and accessing slats and spacers, as it tips back into a "deep V."

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- **SR2 model:** Insert and remove freezer spacers, tip whole pallets and separate layers in a matter of minutes with our SR2 model. This model is a perfect fit for frozen food storage, as it allows you to insert and remove spacers at different points within the stacks of products.
- **Inline systems:** Automate your retrieval process, free up space and reduce forklift movement with one of our inline systems. These systems add a Chain Driven Live Roller (CDLR) conveyor — the conveyor feeds the stack of products into the pallet retriever, which then lays the load on its side for removal of spacers and/or pallet replacement.

### [2] Freezer Spacers/Plastic Pallets



Freezer spacers play an important role in the frozen food and cold storage industry. These spacers are used to minimize product freeze time, saving on utility costs. With these spacers, cold air can move between layers of products resulting in consistent freezing for the entire pallet load. Once the products have reached a certain temperature, you can remove the spacers between stacks of products.

Older pallets are made of wood, not plastic. While they serve the same purpose, the plastic freezer spacers are often preferred, especially for frozen food storage. Wood is susceptible to mold, rot and insects, and over time, it breaks down and wears out because it's biodegradable. All of these are concerns, especially in the frozen food industry, as food contamination can ruin products and cause profit loss.

Many plastic spacers are made with FDA-compliant, heavy-duty plastic that is cleanable, stackable, reusable and recyclable. Overall, they are simpler to maintain and more lightweight, making them easier to move and store.

Freezer spacers are also available in FDA-compliant plastic, which is ideal for any food storage. They are hygienic, consistent in weight and dimension, chemical-resistant, recyclable and reusable. Their specific configurations, capacities, and airflow vary giving you the ability to choose the type that works best for your warehouse organization.

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Mobile 0466 377 371

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### [3] Stretch Wrappers



Stretch wrappers are pieces of equipment that provide an efficient way to unitize and secure pallet loads with plastic film. In the frozen food industry, stretch wrap also influences the rate at which food thaws and freezes, so choosing the best wrap for your industry and the best tool to help you wrap is especially important.

While the exact method to applying plastic wrap differs depending on the type of stretch wrapper you have, these pieces of equipment are built to help you wrap pallet loads quickly and with additional tension on the plastic wrap, which protects your food products from both damage and theft.

Stretch wrappers vary greatly in size, beginning with portable units that come ready to navigate large frozen food warehouses all the way up to large, conveyorized models that take up over 250 square feet. The specific type you need depends on a few difference specifications — how much space you have, your maximum load size and your production speed. A variety of options are available, giving you the opportunity to streamline your frozen food logistics.

Regardless of what specifics you're searching for, you should know there are several benefits to using any particular type of stretch wrapper. For example, if you're considering a stretch wrapper as an alternative to hand wrapping, you're sure to notice a difference in your bottom line. Stretch wrappers save time on manual labor and also use at least 30 percent less film, giving you savings on your supplies.

### **Benefits**

#### **Return on Investment**

You may end up spending more up front for a new piece of equipment, but once you have it, it's going to save you money in several different ways. The first is labor costs — a job that used to take a few people an extended period is now quickly done by an operator and a new piece of equipment.

The second big way upgrading equipment can save you money is in time. A machine works faster than manpower, and a newer one is likely to have a greater capacity and speed than an old one. Over time, this translates to more output and in turn, higher profits.

#### **Efficiency**

While all equipment upgrades are likely to have a positive impact on efficiency, custom-designed material handling equipment takes that efficiency to a new level. Custom equipment is designed specifically for your process, precision-

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made to address every job you have for it with a flawless performance. When your process runs that much smoother, you get closer to achieving peak efficiency.

### **Worker Safety**

Believe it or not, more than 80 percent of reported musculoskeletal disorder cases occurred in the freight and stock moving industries in 2015. Newer equipment comes with the latest safety features, and custom-designed equipment gives you the opportunity to dictate what safety features are most important for your employees. Ergonomic features are possible to get on material handling equipment, which dramatically reduces strain and fatigue, benefitting your workforce.

### **Equipment Life**

Older equipment is more likely to break down. Upgrading to newer equipment or choosing custom-designed gives you the opportunity to get a tool that is built to take on what you need it to, but also to ensure that the equipment you have was made for the capacity of job you're using it for. Sometimes our uses evolve, but equipment stays the same. In the end, that can result in shorter equipment life and an unsafe environment for employees.

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