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Uses and Purpose of Freezer Room and Freeze Drying Machine by [Rodsi Bhatia](#)

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Freezer rooms are items that are commercially used for storing and preserving food. These equipments are even used for medicinal purposes. Freezer rooms are extremely portable and can be kept anywhere and anytime. They can of different shapes and sizes and these freezer rooms are completely different from the ones which you see at your place.

These equipments are expensive and occupy a large space. These kinds of equipments are even used in bars and restaurants. The ones which are used for household purposes are less expensive compared to the ones used in laboratories for several research and development projects. They are more or less similar to freezer a room, the only difference is the temperature for both the items varies. The temperatures of freezer rooms are normally from -1 to -5. Another important factor, besides temperature range is that the equipment needs to be energy efficient, as it is an important part of setting up a freezer room.

If we discuss about freeze drying, it is a dehydration process which is usually used to preserve delicate materials, so as to make them much more suitable for transportation. Freeze drying machine usually work by freezing the material and then reducing the pressure in order to allow the material that is frozen to sublimate from solid state to gas phase.

This process was developed somewhere around the Second World War to preserve blood for battle field injuries, without even damaging the organic nature of plasma. Since that time, this process is used for preserving or processing various types of products. These applications are not limited to processing of food but they are used in production of synthetic skin, restoration of water damaged documents and processing of pharmaceuticals. The entire process takes place in four stages i.e. pretreatment, freezing, primary drying, and secondary drying.

Freeze drying food includes freezing of food and then basically removing the moisture in food and then sealing the food in a tight storage. These foods can be preserved and stored for good amount of time and can be eaten with least amount of preparation, and you will notice that they will taste similar to the original ones. Though, initially they were used for preserving blood for battle fields, but now they are even used for storing and preserving of food materials.

There are some foods that are extremely suited for freeze drying process. Coffee, slices of chicken, beef, lobster all these items can be freeze- dried. All types of fruits and vegetables can be even freeze dried and items such as olives and nuts can be also processed through freeze drying.

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Rodsi Bhatia is a great author. She writes article for Laboratory and Educational Science Instruments. You can also find information about cooling equipments, Centrifuge, a [Cooling Incubator](#) and a [Laboratory lyophilizer](#).

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