

ОДЕСЬКА НАЦІОНАЛЬНА АКАДЕМІЯ
ХАРЧОВИХ ТЕХНОЛОГІЙ

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**ХОЛОДИЛЬНА ТЕХНІКА ТА ТЕХНОЛОГІЯ.
ПРОЦЕСИ ТА АПАРАТИ ХАРЧОВИХ ТЕХНОЛОГІЙ**

JUSTIFICATION OF THE CHOICE OF HOUSEHOLD AND COMMERCIAL REFRIGERATION EQUIPMENT

Romanenko E.S., ONAFT, Odesa

One of the challenges that arise when starting a business in the field of food retail is the choice of refrigeration equipment for food storage. Well-chosen refrigeration equipment will allow ready meals to look appetizing, attracting the attention of customers. In addition, it will provide the technology of the production process - used in the processing of raw materials. Sandwiches, desserts, salads will remain edible for a long time [1].

When choosing refrigeration equipment, you should pay attention to the following technical characteristics:

- number of compressors. Depends on the purpose of the refrigeration equipment. There are single-compressor, two-compressor, and three-compressor refrigerators;

- among single-compressor refrigerators, there are two-chamber and single-chamber models, but such refrigeration equipment is energy-intensive. Dual-compressor - mostly large refrigerators with two chambers. The main advantage of two-compressor models is energy savings. Three-compressor refrigerators are appropriate in the presence of a wine cabinet or a separate chamber of the freshness zone [2].

- sound power level. Indicates how loud the refrigerator will work. Modern manufacturers call "quiet" that kind of refrigerators with a noise level of 30-40 dB [3].

- temperature of high-quality storage in a refrigerating and powerful freezer, ° C.

- rated power consumption, W. Here you need to consider the class of energy consumption. It is marked from the letter A +++ to G. That is, class A refrigerators are considered energy-saving, while A +++ devices are more than twice as good in this respect.

Equipment such as commercial refrigerated display cases is becoming widespread in all kinds of trade halls, supermarkets, and grocery stores. Various organizations that specialize in fast food, confectionery, catering also make good use of these installations.

Before choosing, we need to determine the temperature of the refrigerator.

Depending on the type of product and its storage temperature, choose the appropriate temperature. In this regard, shop windows are divided into:

- low-temperature - from 0°C to -18°C. It is applied to storage of the frozen fish, semi-finished products, ice cream, and other products.

- average temperature - a mode from 0°C to +10°C (the most widespread). Used for storage and demonstration of sausages, fish, cheese, dairy products, and confectionery.

- combined - from -5°C to +5°C. Suitable for dairy and sour milk products, and fresh meat [4].

Depending on the type of product, the presence or absence of product packaging, showcases are divided into:

- showcases with dynamic cooling - the use of forced blowing with the cold air of the inner space of the chamber (used to cool packaged products for more efficient and uniform cooling);

- showcases with static cooling. The natural movement of cold air is used (used to cool confectionery products, cheese, sausages, and other open products).

Open or closed showcases used in self-service mode:

- open showcase. The main advantage is a convenient format for contact with the consumer, easy availability of products.

- a closed showcase or a showcase with a door. Used with built-in hinged or sliding doors. The main advantage is a significant reduction in heat gains and energy savings.

Wall-mounted refrigerated display cases, which are used in self-service mode, are placed along the walls of the retail space, usually lined up in display lines [5].

Depending on the type of product, the appropriate type of display cases is selected:

- vertical medium-temperature showcases, used for dairy products, drinks, packaged sausages, etc.;

- vertical low-temperature showcases are used to accommodate frozen semi-finished products, seafood, and other frozen products;

- horizontal gastronomic showcases are used for placing and selling cheeses, sausages, meat products, seafood by weight or used in the self-service mode for packaged products;

- confectionery showcases are used for placing confectionery products in the form of cakes and other confectionery products and can be used not only in sales areas of shops and supermarkets but also in HoReCa establishments.

Conclusions

When choosing refrigeration equipment, it is important to pay attention not only to appearance but primarily to technical characteristics, such as:

- installation volume and power indicators;

- number of compressors;

- economy, energy efficiency, and electricity supply;

- noise level.

Following these simple tips, you can buy good refrigeration equipment that will not cause any inconvenience and will work perfectly for many years.

Scientific adviser: PhD, associate professor Volchok V.O.

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VACUUM FOOD STORAGE

Tretyakova O.V., ONAFT, Odesa

Vacuum packaging is an efficient way to store food. Today, in retail chains, you can find a lot of products packed under vacuum. But the question arises – how safe is it and how does vacuum storage affect the taste of products and their benefits.

Creating a vacuum means removing air from the contents of the package. The oxygen in the ambient air contributes to reactions in food products that cause deterioration during storage. Therefore, removing the oxygen will save quality characteristics and will extend the shelf life of food for a certain period.

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