

Technologies worth attention:

- **Blast chiller/freezer**— this is not a new device when it comes to technology. The difference in freezing technology lies in the fact that the ordinary product which cools down sometimes dries out for a very long time. Cooling in a natural way, the product evaporates - means it loses its weight, the product becomes drier - it also changes its quality. With freezing, the evaporation process is kept to a minimum. Between the temperature of 55 - 25C is the moment of the greatest hygiene hazards, i.e. the moment when we can multiply putrefactive bacteria (a group of aerobes) responsible for spoilage of products. The churning out of large portions of the food being prepared may pose major hygienic risks. During the shock freezing process, the water crystals that form are microcrystals that do not break the structure of frozen things (vegetables, fruits). We will therefore keep the structure or shape of the frozen product. (-25 ° C).
- **Sous-vide** is a method used to store ready-made dishes or for cooking. It was created in the mid-1970s by a Frenchman - Georges Pralus (known as the father of sous vide), in order to increase the quality of prepared dishes. This method allows to preserve the original appearance and structure of the product in the cooking process. For sous vide we need two devices: a temperature circulator and a vacuum generating device. Until recently, this equipment was expensive, which was in some sense a barrier for some chefs who wanted to take on this new method. Nowadays devices are found more frequently at affordable prices even for individual clients.

The cooking technique itself is not complicated - the food is put in a bag and using an air pump, the vacuum removes oxygen. The finished sack with the raw material is put into the water, where the temperature circulator is connected and the appropriate temperature is set on it, depending on the raw material in the bag. The device works on the principle of a heater, on which we can set any temperature and working time.

The main advantage of cooking with using the sous vide is a smaller reduction of the starting product (about 10%) than during traditional cooking (about 20%). By vacuum packaging of raw materials, we can extend their shelf-life. Thanks to the protective packaging, the raw material is more protected against air and other negative factors, which prevents the growth of aerobic bacteria. As for the taste of dishes, it is more special and delicate, and their structure remains intact. What's more, this technique promotes the preservation of vitamins and microelements, and does not require as many spices and herbs as with traditional cooking. This is due to the fact that natural juices are retained in dishes.

Dish	Temperature [oC]	Cooking Time
Sirloin	63	1.5h
Roulade with bacon	60	1.5h
Salomon Fillet	55	12 min
Cod	68	12 min
Pork belly	68	48h
Pork shoulder	68	48h
Pork ribs	68	48h
Lamb shoulder	68	48h
Lamb Sirloin	50	2h
Roe Sirloin	50	2h
Soft-boiled eggs	62	2h
Mackerel	50	12 min
Filet mignon	65	15 min
Foie Gras	65	20 min
Artichokes	80	45 min
Beetroot	80	45 min
Cream brulée	90	45 min
Strawberry	65	45 min
Duck Fillet	65	20 min

- Vacuum Packaging-** the plastic bag or container is sealed, which causes the process of spoilage of food products to be halted or slowed down. Thanks to vacuum packaging, the shelf life of food products is extended up to three to five times. The taste and vitamins are preserved. Food products are protected in this way from drying, oxidation, bacteria and mold.

Vacuum packaging is a fusing process that is recommended for fresh food products and must be combined with low temperatures, i.e. a product packed using vacuum must be stored in a refrigerator or a freezer to obtain the best results.