



# Compact freeze-dryers



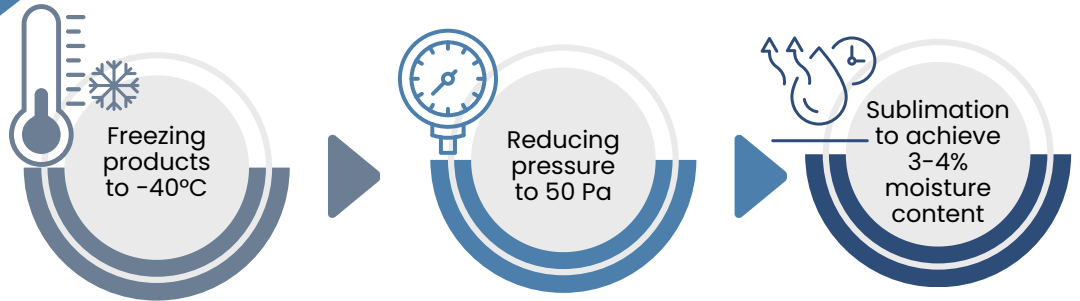
Take a step forward with FrostX freeze-dryers!



## What is freeze-drying?

Freeze-drying is the optimal drying method that preserves the full flavor, structure, and nutritional value of products. It is a technique based on the process of sublimation, ensuring cost-effective storage and long-lasting freshness of food without the use of preservatives.

### Process flow



## Advantages of freeze-drying:

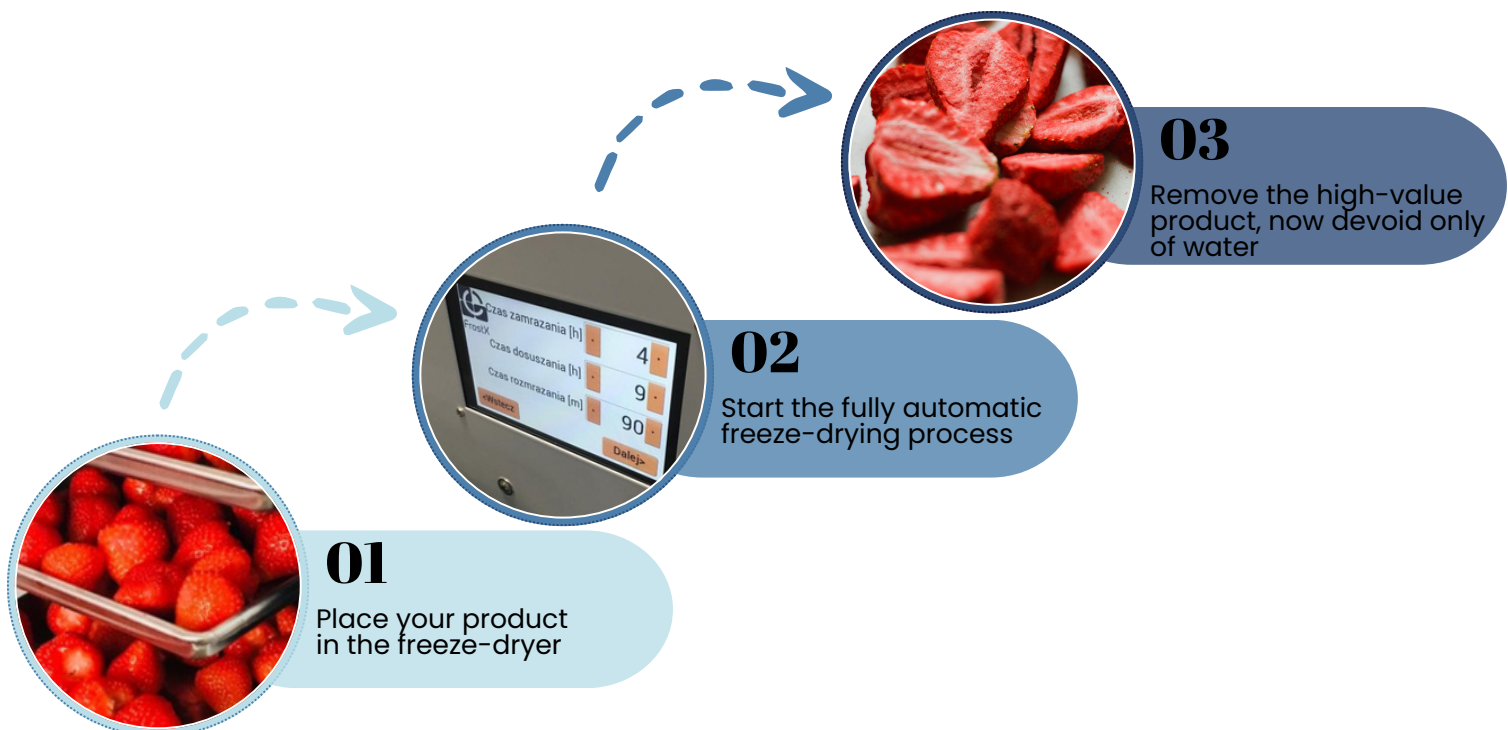
**Longevity of products**  
Freeze-drying provides food with a long shelf-life while maintaining freshness, which is particularly beneficial for its storage and extended preservation.

**No need for preservatives**  
This method does not require the addition of any preservatives, making the products healthy and natural.

**Preservation of nutritional values**  
Freeze-dried products retain nutrients, vitamins, freshness, and durability.

**Easy storage conditions**  
Freeze-dried products can be easily stored in simple packaging such as Doypack bags or jars, which reduces costs, facilitates sales, and logistics. Storage does not require refrigeration or freezing of products.

## Freeze-drying in FrostX devices



## How can freeze-drying increase your profits and reduce costs?

At FrostX, we understand the needs of our customers - from large enterprises to small businesses and individual applications.

By investing in our equipment, you gain:

- ✓ **Reduction of food waste:** fewer spoiled products mean more savings. Convert losses into high-margin products
- ✓ **Introduction of high-margin products:** offer new, unique products at higher prices in your range
- ✓ **Lower business operating costs:** reduced transportation and storage costs thanks to lighter and more durable products
- ✓ **Increased attractiveness of your products:** improved market position through new products that are long-lasting, high-quality, and have higher margins
- ✓ **Effective inventory management:** access to high-quality products all year round
- ✓ **New markets:** easy access to online sales and export opportunities



## In which industries are food freeze-dryers used?

**Farmers and orchardists**



**Restaurants and bakeries**



**Food processors**



**Dietary supplements**



**Beekeeping**



**Education and research**



**Outdoor i survival**



**Cosmetic industry**

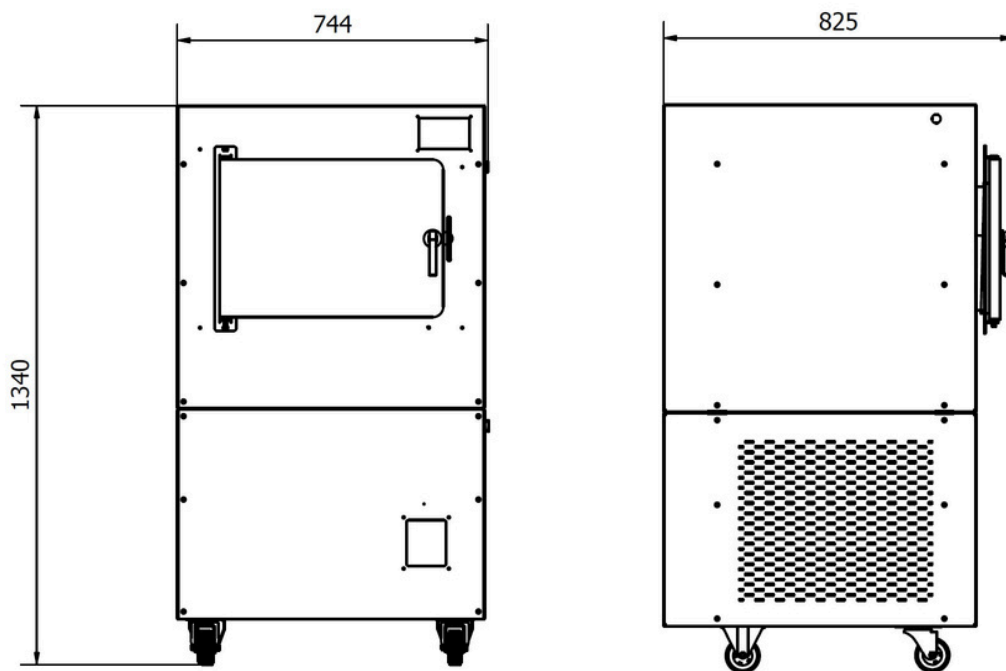


# What products can you freeze-dry with FrostX equipment?






... and many others

# Series M – FrostX compact freeze-dryers



Dimensions in mm

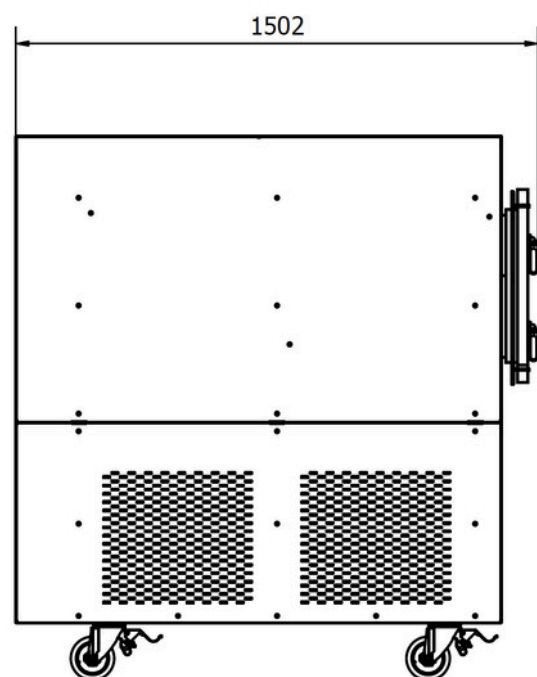
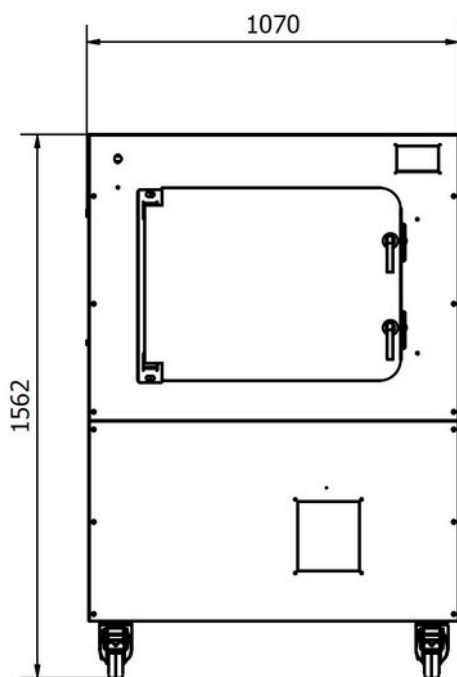
## Dane techniczne

	Model		
<b>Freeze-dryers Series M</b>	 <b>FrostX 7</b>	 <b>FrostX 10</b>	 <b>FrostX 15</b>
Maximum load [kg]	7	10	15
Power supply [V]	230		
Number of heating shelves	4	5	8
Number of product trays	4	5	8
Average energy consumption [kWh/h]	0.95		
Powder-coated steel casing	in standard	in standard	-
Stainless steel casing	optionally	optionally	in standard
Casing color	white	any from the RAL palette	-
Option to choose casing color	optionally	in standard	-
Weight [kg]	195	198	205
Tray dimensions [cm]	40 x 47		
Working area [m2]	0.75	0.94	1.5
Spacing between shelves [cm]	6	5	3
Product freezing function	in standard		
Rapid defrost system for the chamber	optionally	optionally	in standard

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<https://frostx.com/en/#frostx-m>






## Series L - FrostX compact freeze-dryers with enhanced efficiency



Dimensions in mm

## Dane techniczne

	Model		
<b>Freeze-dryers Series L</b>	 <b>FrostX 30</b>	 <b>FrostX 40</b>	 <b>FrostX 50</b>
Maximum load [kg]	30	40	50
Power supply [V]	400		
Number of heating shelves	5	7	8
Number of product trays	10	14	16
Average energy consumption [kWh/h]	2.3		
Stainless steel casing	in standard		
Weight [kg]	510	523	536
Working area [m <sup>2</sup> ]	2.9	4.15	4.66
Tray dimensions [cm]	53 x 55		
Spacing between shelves [cm]	6.5	4.5	4
Product freezing function	in standard		
Rapid defrost system for the chamber	in standard		

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## Series LAB - laboratory freeze-dryers



**Series LAB is ideal where data collection and detailed knowledge of the freeze-drying process are crucial.**



- **Precision control:** pressure setting accurate to 1 Pa and temperature to 1 K for the highest process precision
- **Real-time monitoring:** continuous parameter readings on an LCD display ensuring constant control
- **Data archiving:** ability to connect to a PC and collect data every second for comprehensive analysis
- **Advanced diagnostics:** multipoint temperature measurement provides a complete view of the process in the chamber
- **Integration with your equipment:** capability to connect additional modules inside the vacuum chamber, expanding the device's functionality
- **Process optimization:** use of advanced algorithms and procedures to control the process flow

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## Accessories



### Product trays

Additional product trays enhance work comfort. They allow for earlier preparation and freezing of products for freeze-drying. The trays are approved for contact with food.



### Transport Carts

Carts for transporting product trays. There are 6 carts available, each dedicated to a specific freeze-dryer model. The carts are made of powder-coated steel with stainless steel elements.



### Oil

Specialist oil designed for lubricating vacuum pumps. It provides very good lubricating properties and proper heat dissipation. Regular replacement ensures a long period of trouble-free operation.



### Silicone mats

Using silicone mats makes it easier to remove dried products from trays without damage and protects the tray surface from scratches.

# Why is it worth investing in FrostX freeze-dryers?



**Favorable purchase price**



**Ease of obtaining subsidies**



**Low energy consumption from 0.95 kWh/h**



**Very short return on investment time from about 1.5 years**



**Low operating costs**

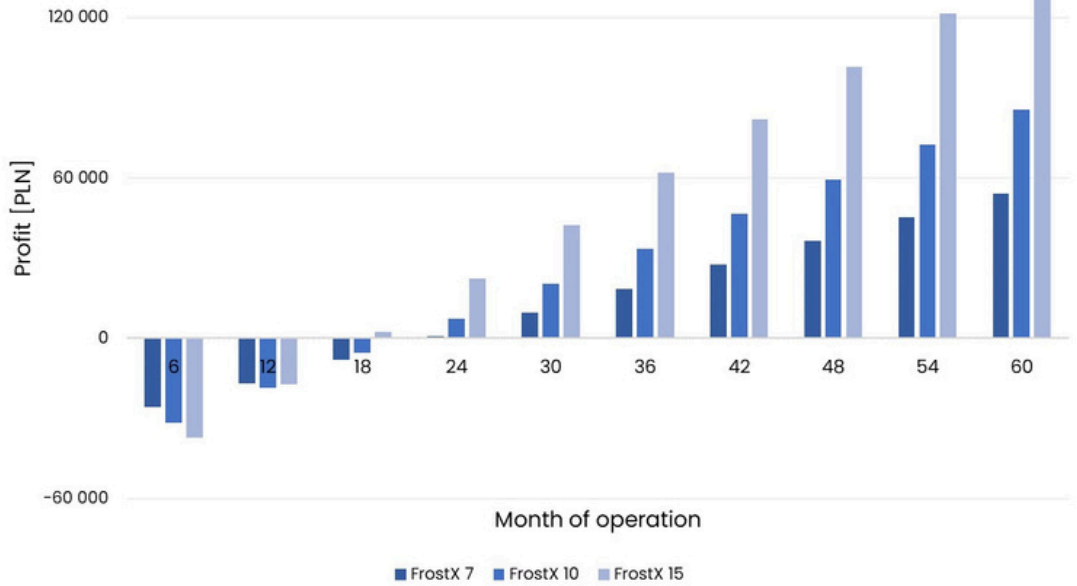


**Production of high-margin products**

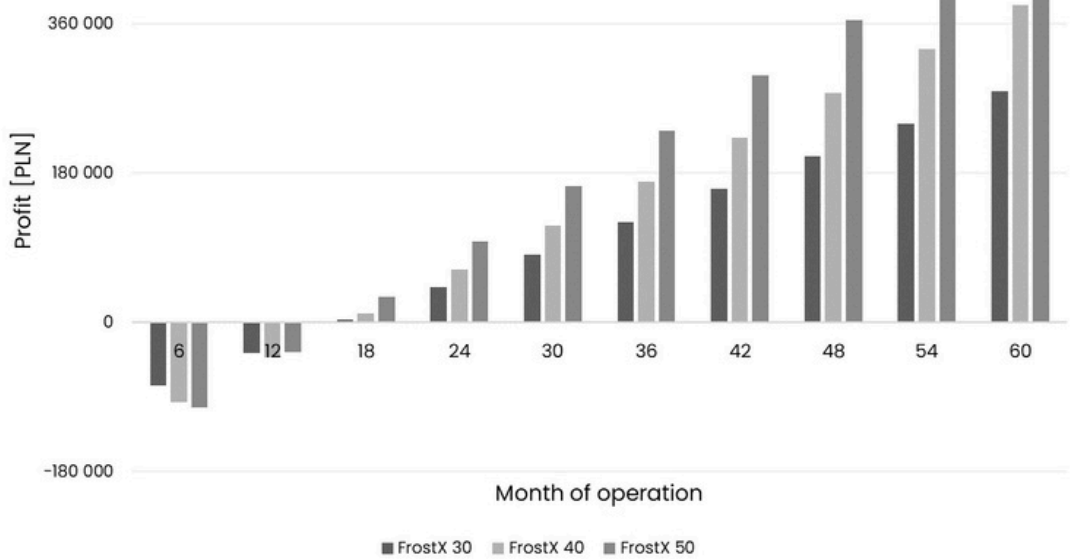


**Possibility of large-scale business scalability**

**Economic effect for FrostX M series freeze-dryers\***



**Economic effect for FrostX L series freeze-dryers\***



\* Data represents cumulative profit including investment costs and is illustrative, mainly due to market price volatility and the nature of the venture.

## FrostX – compact freeze-dryers for you!

FrostX is a Polish manufacturer of freeze-dryers that began operations in 2019. From the very beginning, it has focused on creating and implementing innovative, proprietary technologies. FrostX's research and development activities aim to develop new solutions that contribute to the high quality and reliability of the devices.

### Why FrostX freeze-dryers?

- ease of use
- mobile design
- internal vacuum pump
- ability to freeze-dry both fresh and frozen products
- approximately 2.5 times greater efficiency due to the rectangular vacuum chamber compared to a typical cylindrical chamber
- eco-friendly refrigerant with a GWP of 3
- low energy consumption
- up to 24 months warranty
- attractive purchase price
- very short return on investment time
- high process efficiency



**Where do our freeze-dryers operate?  
Map of our clients**

### What do our customers say about us?



*After purchasing my first freeze-dryer from FrostX, I noticed a significant increase in profits from my strawberry plantation. I quickly decided to acquire another device and now sell strawberries all year round. It's the best investment I've ever made.*

**Mr. Arthur - strawberry farmer**



*Investing in freeze-dryers has revolutionized our offering. Initially, we focused on freeze-drying fruits, but now, thanks to this technology, we create comprehensive healthy snacks. Evolving from individual products to a full range of snacks demonstrates how FrostX devices open new opportunities for our company.*

**Ms. Julia - director of a healthy snack production company**



*Thanks to FrostX freeze-dryers, I can create unique and creative dishes that set my restaurant apart. Preserving taste and nutritional values while minimizing losses is a huge advantage for me.*

**Chef Mark - restaurant owner**



*Integrating freeze-dried ingredients in our cosmetic products has achieved a new level of durability and effectiveness. FrostX freeze-dryers are an invaluable tool in our pursuit of innovation.*

**Ms. Anna - R&D manager at a cosmetics company**

## Contact us!

Do you have questions?

Want to learn about our offer or find out more?

Contact our technical-commercial consultant!



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Service Specialist



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**We invite you to a meeting at our headquarters in Gliwice** - you will see our devices in action, get acquainted with the technology, and discuss any questions you have with our specialists.



**Video conference** - we also offer a video conference during which we will present our freeze-dryers and answer your questions!



**Freeze-dry your product** - if you are curious about how the freeze-drying process of your product goes, we encourage you to send samples to our headquarters. We will conduct the freeze-drying and then send you the finished product along with a detailed report describing the process and results.



## Our address:

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## Kontakt

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