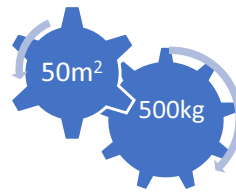


Freeze dryer FD-500



FD-500 Freeze dryer introduction

FD-500 freeze-drying machine is the smallest radiant freeze-dryer with blast freezer, rail system and trolleys. The FD-500 freeze drying machine is a separated structure. The chamber is one individual unit, and refrigeration, vacuum and heating systems are assembled in another unit. Blast freezer (IQF) is a separated unit used for quickly freezing products to -35°C becoming ice. And the ice is sublimated in a vapor and removed out of the product, collected on a low temperature vapor condenser inside the freeze-drying machine. The product is dried 100% natural, without shape changing, color changing, nutrition lost, flavor lost, longer shelf time without additives and preservatives. The FD-500 industrial freeze-drying machine is widely used in food industry to freeze dry fruits, vegetables, plants, meat, sea food, cooked food, milk, coffee, pet food etc.

12 to 18 hours fast freeze dry

The fresh product is pre-frozen to -35°C in an individual quick freezer before entering freeze dryer. High heat transfer coefficient heating plates (thermal property: $160\text{W}/\text{m}\cdot\text{K}$) are used to speed up freeze drying process. The efficiency of thermal is 11.42 times higher than traditional freeze dryers. To finish a batch of production, it takes 12-18 hours only for many kinds of food.

30-50% energy saving

Freeze-dry consumes a lot of power. To save energy, solar heating and steam is introduced to large scale freeze-dry system. The heat from refrigeration system is recycling, and the working load of compressor is reduced to 75-50% load at the middle and late stage of freeze dry, adjusted automatically according required cooling capacity. Ice on the vapor condenser could be recycled and filtered for re-use. By shorten the freeze-drying time and introducing energy saving technology, the KEMOLO freeze dryers could save 30-50% energy compared with traditional dryers.



Technical specification

Model	FD-500
Capacity	500kg/batch
Vapor Condenser Temperature ($^{\circ}\text{C}$)	-45°C
Shelf Temperature ($^{\circ}\text{C}$)	Ambient temperature to max. 100°C
Product Cooling	In IQF (-35°C)
Shelf Area	50.0m^2
Trolley	Included
Rail I steel, elbow & IQF	Included
Refrigeration compressor	Screw type
Refrigerant	R404A (Users provide)
Cooling way	By air/water cooling
Vacuum system	Vacuum pump + booster
Ultimate vacuum level (Pa)	10 Pa
Installed power	83 kW
Defrost way	By hot water
Control system	PLC with HMI; Manual & Auto control, Records
Installation area (m^2)	130m^2
Chamber—over all dimension	$5600*2250*2800\text{mm}$ (L*W*H), SUS304
Estimated Weight (kg)	11000kg