

Food Freeze Dryer



Application:

1. Food Preservation: Freeze drying is used to extend the shelf life of various food products, including fruits, vegetables, meats, and dairy, by removing moisture and preventing microbial growth.
2. Space Food: Freeze-dried foods are commonly used in space exploration due to their lightweight and long shelf life, ensuring astronauts have nutritious meals during missions.
3. Emergency Food: Freeze-dried food is a popular choice for emergency food storage because it remains edible for an extended period and requires minimal storage space.
4. Outdoor Activities: Freeze-dried meals are lightweight and convenient for hikers, campers, and backpackers, providing a source of nutrition while on outdoor adventures.
5. Ready-to-Eat Meals: Freeze-dried ingredients are used in the production of instant soups, noodles, and other ready-to-eat meals that require only hot water for preparation.
6. Dietary Supplements: Some dietary supplements, such as vitamins and probiotics, are freeze-dried to maintain their potency and ensure accurate dosing.
7. Pet Food: Freeze-dried pet food products are available, offering a convenient and nutritious option for pet owners.

Product Advantage:

1. Aerospace-grade aluminum alloy partition material, good temperature uniformity.
2. High-efficiency mixed refrigerant medium with a lower freezing point and a higher boiling point, high heat exchange efficiency, and a long service life.
3. Optimization control algorithm for drying curves, allowing control of product heating rate and vacuum level during the drying stage.

4. Professional gas flow guidance design and control technology, strong water capturing capability, and high drying efficiency.
5. Industrial-grade embedded touchscreen + dedicated SH-HPSC-III modular controller, stable and reliable system, high control accuracy.
6. Professionally designed FD-MANAGER control system, capable of saving multiple sets of process formulas and adjusting processes in real-time during drying, enhancing process optimization.
7. Flexible manual + automatic control modes, manual mode for process experimentation, automatic mode for batch production.
8. Precise sensor calibration function to ensure the accuracy of process parameters during long-term use.
9. User-level and password settings for operation management with differentiated permissions.
10. Optional powerful upper computer control system, capable of recording, storing operational data, curves, and alarm records for up to ten years, improving product traceability; also convenient for observation, operation, and fault diagnosis.
11. Customization available based on user requirements.

Technical Parameters

Model	BK-FFD5	BK-FFD10	BK-FFD20	BK-FFD30	BK-FFD50	BK-FFD100	BK-FFD200
Freeze	5.1m ²	10.2m ²	21m ²	30.3m ²	50m ²	100m ²	200m ²
Drying Area	≤10Pa						
Vacuum Level	≤-55°C						
Cold Trap Temperature	≤-55°C						
Maximum ice capacity(kg/B)	80	160	320	480	800	1600	3200
Shelf Temperature Range(°C)	-40~+90	-40~+90	-45~+90	-45~+90	RT~+90	RT~+95	RT~+95
Shelf Size(mm)	1650*624	1650*624	1750*936	1750*1248	2930*1248	5800*1200	12000*1200
Number of Shelf Layers(pcs)	5+1	10+1	13+1	14+1	14+1	15+1	15+1
Loadable Materials(kg)	50~75	100~150	200~300	300~450	500~750	1000~1500	2000~3000
Pre-freezing method	In-situ freeze-drying	In-situ freeze-drying	In-situ freeze-drying	In-situ freeze-drying	Freezing chamber + 2 material carts	Freezing chamber + 4 material carts	Freezing chamber + 8 material carts
Dimensions(mm)	2500*1800*2400	3200*1800*2400	4300*2500*2500	6000*2300*2700	10000*2750*3000; 3000*1800*2400; 1900*2000*2400	10000*2750*3000; 3000*1800*2400; 1900*2000*2400	13000*2750*3000; 3000*1800*2400; 1900*2000*2400
Power Supply	AC380V 50Hz						
Overall Power	24kw	45kw	60kw	90kw	120kw	200kw	300kw