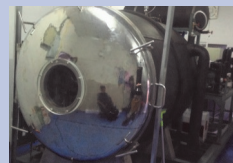
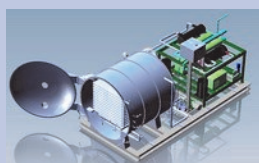




FD50 Pilot Freeze Dryer

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Hot line: 081-899-0952
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Epsilon Co., Ltd.
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General

The Epsilon FD-50 Freeze Dryer has been designed after careful consideration of all the factors necessary for food freeze drying techniques. The FD-50 General Purpose Freeze Dryer is capable of drying a variety of biologicals such as fruit and vegetables and diverse products such as blood/plasma, mushrooms to mussels. Epsilon Co.,Ltd. has been developing and manufacturing freeze dry and vacuum drying equipment for over 15 years.



Chamber and door

The round shape chamber has product loading/unloading door. The door has smooth and easy lock system with correct alignment and sealing against chamber. The door made from SUS304 with clear acrylic to allow visual monitor both product and vapor condenser. The chamber made from stainless steel SUS304 with diameter 1100mm and 1100mm depth.



Shelves

Shelves made from stainless steel flat both side complied to hygienic standard consist of 8 shelves.(4.86 sq.m)
Product tray made from SUS304 provide 2 sets per machine

Vapor Condenser

Condenser coil produced from stainless steel tube size 19 mm. Refrigeration of the coil is by direct expansion valve via thermostatic valve.

Defrosting

Defrosting ice from the vapor condenser after a product cycle is hot water to make a rapid process for high volume.

Refrigeration

The FD50 Freeze dryer has 1 water cooled condensing unit with non-cfc refrigerant. Bitzer 2 stage compressor is standard.

Vacuum System

The vacuum pump system has capacity approximately 40 cubic meter per hour. Vacuum pump type are Edwards 2 stages rotary with ultimate pressure 4×10^{-3} mbar. Vacuum pump connected to the chamber isolated by electric vacuum solenoid valve. The pump features an automatic isolating valve to hold the chamber pressure in the event of power failure or vacuum value not reach as set point.

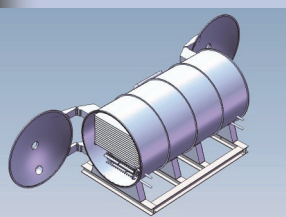
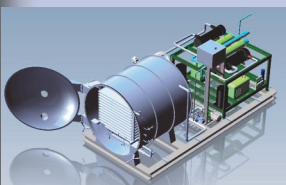
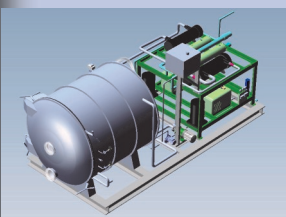
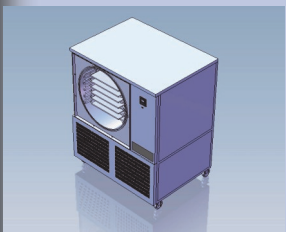
Heating System

The heating fluid is silicone oil and is circulated by in magnetic drive pump, allow heated or cooled fluid to be circulated through the plates. A cooling heat exchanger is provided in the circuit.

Instrumentation

All instruments used complied national safety standard.

Vacuum pump: Edwards, vacuum gauge: Edwards, Compressor: Bitzer, PLC: Omron, Electrical system are telemecanique.



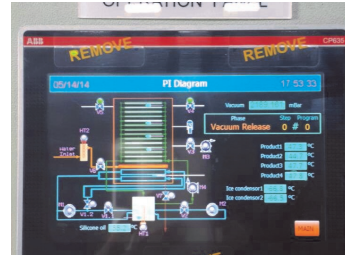


Smart Program

User friendly and easy to access step by step for user guide.
Easy to storage data by flash drive through PLC

Product testing

A wide range of product to be processing from freeze dryer such as dietary supplementary, fruit, foods, vegetable, medicine.



Capacities and cycle time

FD50 freeze dryer has a quality acceptance by factory testing are 50 kg per batch and capable to continuous operated on demand per batch as the standard of freeze dry process.

The capable of vapor condenser capacity of ice within 24 hours equates 50 kg. of ice.

Overall Specifications

- Overall Dimensions: 1800mm wide x 1500 mm depth x 2200 mm height
- Number of shelves: 8
- Shelves capacity area: 4.86 sq.m
- Refrigeration: 12 hP Bitzer 2 stages Compressor
- Refrigerant: R404a
- Shelves temperature: -40C to +70C
- Heating and cooling medium: Silicone oil
- Ice Condenser: SUS304 20mm pipe coil
- Ice condenser capacity: 50kg per 24hours
- Ice condenser temperature: -65C
- Vacuum pump: Edwards 2 stages rotary vane pump or equivalent
- Power requirement: 25kW 50 amp, 3 phase 380Volt
- Weight : Approx. 2500kg.

Specifications subject to change without prior notice



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