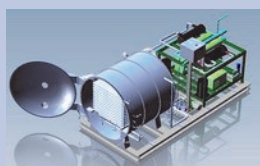




FD20 Pilot Freeze Dryer

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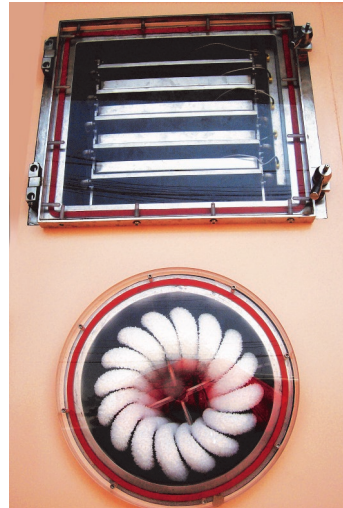
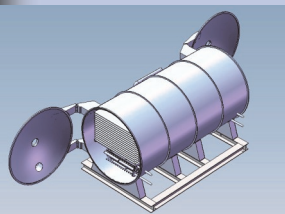
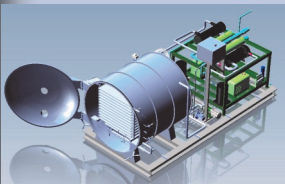
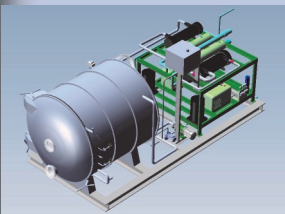
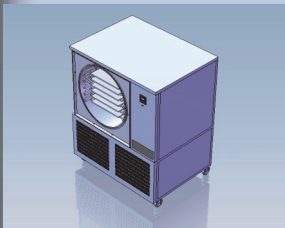


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General

The Chamber is mounted within an enclosed stainless steel SUS304 (SUS316 is an option) frame with 4 casters wheel (2 for lock) to easy to move. All equipments such as Vacuum pump, refrigeration unit, control system are mounted within the frame. All machines are tested from factory before delivery



Chamber and door

The rectangular 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 clear acrylic to allow visual monitor both product and vapor condenser. The chamber made from stainless steel SUS304 with dimension 550mm x 550 mm and 650mm depth.

Shelves

Shelves made from stainless steel flat both side complied to hygienic standard consist of 7 shelves(6 useable). Product tray made from SUS304 provide 2 set per machine

Vapor Condenser

Condenser coil produced from stainless steel tube size 20 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 and high efficiency.

Refrigeration

The FD20 Pilot Freeze dryer has 1 bitzer 2 stage compressor, water cooled condensing unit with non-cfc refrigerant (normally are R404a)



Vacuum System

The vacuum pump system has capacity approximately 28 cubic meter per hour. Vacuum pump type are Edwards 2 stages rotary with ultimate pressure 4 x 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 and vacuum gauge: Edwards, Compressor: Bitzer, PLC: Omron, Electrical system are telemecanique.



Product testing

A wide range of product to be tested by FD20 pilot freeze dryer such as dietary supplementary, fruit, foods, vegetable.

Smart Program

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



Capacities and cycle time

FD20 pilot freeze dryer has a quality acceptance by factory testing are 20 kg per batch and capable to continuous operated on demand per batch as the standard of freeze dryer process.

The capable of vapor condenser capacity of ice within 24 hours equates 20 kg. of ice.

Overall Specifications

Overall Dimensions: 1200mm wide x 1200 mm depth x 1950 mm height
Number of shelves: 7
Shelves capacity area: 1.96 sq.m
Refrigeration: 6 kW Bitzer 2 stages Compressor
Refrigerant: R404a
Shelves temperature: -45C to +70C
Heating and cooling medium: Silicone oil
Ice Condenser: SUS304 20mm pipe coil
Ice condenser capacity: 20kg per 24hours
Ice condenser temperature: -65C
Vacuum pump: Edwards 2 stages rotary vane pump
Power requirement : 10kW 3phase 380V
Weight: Approx. 900kg

Specifications subject to change without prior notice



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