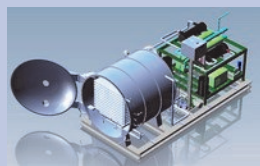


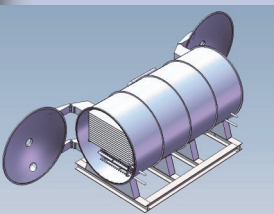
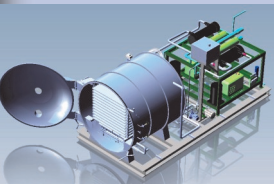
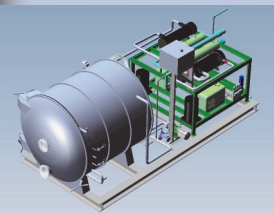
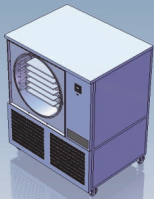


# FD4 Eco. Freeze Dryer

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Line id:siamfreezedry  
Hot line: 081-899-0952

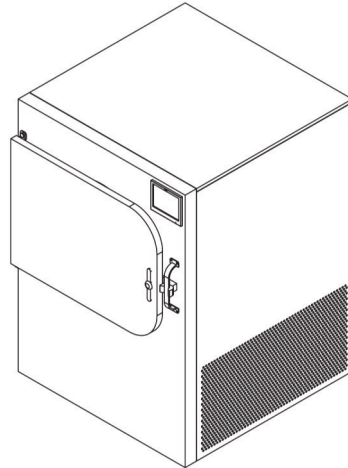


**Epsilon Co., Ltd.**  
[www.siamfreezedry.com](http://www.siamfreezedry.com) e-mail: [pokinb@gmail.com](mailto:pokinb@gmail.com)



## 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 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 clear acrylic to allow visual monitor both product and vapor condenser. The chamber made from stainless steel SUS304 with diameter 350mm and 360mm depth.

## Shelves

Shelves made from stainless steel consist of 5 shelves(4 useable). Product tray made from SUS304 provide 2 set per machine

## Vapor Condenser

Condenser is wrapped type with coil around the chamber. 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 gas defrosting (hot water is an option and recommendation).

## Refrigeration

The FD4 lab.Freeze dryer has 1 hermetic compressor, air cooled condensing unit with non-cfc refrigerant



## Vacuum System

The vacuum pump system has capacity approximately 6 cubic meter per hour. Vacuum pump type are NADE 2 stages rotary with ultimate pressure  $4 \times 10^{-3}$  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 system is silicone sheet heater 24V DC control by PID temperature controller

## Instrumentation

All instruments used complied national safety standard. Vacuum pump and vacuum gauge: NADE, Compressor: Tecumche or equivalent, PLC: Mitsubishi or equivalent.



### Product testing

A wide range of product to be tested by FD4 Eco. 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

FD4 Eco. freeze dryer has a quality acceptance by factory testing are 4 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 4 kg. of ice.

### Overall Specifications

- Overall Dimensions: 600mm wide x 550 mm depth x 1000 mm height
- Number of shelves: 5
- Shelves capacity : 0.3 sq.m.
- Refrigeration: 0.5 kW Compressor
- Refrigerant: R404a
- Shelves temperature: -25C to +60C
- Heating : Silicone sheet heater
- Ice Condenser: wrapped type
- Ice condenser capacity: 6kg per 24hours
- Ice condenser temperature: -40C (ambient 25 degree C)
- Vacuum pump: NADE 2 stages rotary vane pump
- Power requirement : 1.5kW 1phase 220V
- Weight : Approx. 200KG

Specifications subject to change without prior notice



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