

# CUDDON

## FREEZE DRY

### MODEL SPECIFICATION SHEET:

# FD5.5

- **Stainless steel**
- **5.5kg capacity**
- **0.55m<sup>2</sup> shelf area**



#### Cuddon FD5.5 Specification:

Chamber - Over all dimensions	900mm wide x 762mm deep x 1863mm high.
Insulation	Amaflex
Vapour Condenser Capacity	5.5 kg in a 24hr period
Number of shelves	5 heat plates (4 useable)
Usable Shelf Area (m <sup>2</sup> )	0.53 m <sup>2</sup>
Ice Capacity (kg)	5.5 kg
Shelf Dimensions (Depth is 445mm)	300 mm
Shelf Spacing (mm)	37mm
Shelf Temperature	-20°C to +60°C
Shelf Cooling Rate (+40°C to -20°C) (Min)	≤ 60
Shelf Heating Rate (°C / Min) (approx.)	1
Product Trays	S/S 2B finish - 4 per set (2 sets supplied)
Energy consumption ( based on 80kg of ice over 24hr period)	2 kWh / kg of wet product 2.2 kWh / kg of wet product if air cool condenser is used
Heating / Cooling medium	Ethylene Glycol @50%
Power Requirement	2.5kW, 50 or 60 Hz, single phase
Weight	340kg (approx.)



MANUFACTURERS OF QUALITY FREEZE DRYING EQUIPMENT SINCE 1963

[www.cuddonfreezedry.com](http://www.cuddonfreezedry.com)

ISO 9001

BUREAU VERITAS  
Certification



# FD5.5 Specification Summary...

## A LITTLE BACKGROUND

### Experience and Expertise

Cuddon Freeze Dry has been developing and manufacturing freeze drying equipment since 1963. With over 40 years experience and more than 100 installations worldwide, our products are highly respected. Cuddon freeze dryers are MAF approved and used in the following industries:

- Dairy
- Nutraceutical
- Food Processing
- Pharmaceutical
- Research
- Disaster Recovery



### Quality and Service

All Cuddon Freeze Dry manufacturing is completed under ISO9001 accreditation. This ensures consistency, reliability and quality workmanship. Cuddon Ltd has been ISO9001 certified since 1993. Our dedicated staff pride themselves on providing world-class after sales service via the Internet, telephone or in person where required.



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### Turn-Key Service

Unless otherwise specified, Cuddon Freeze Dry sales include CIF freight to your nearest international seaport, installation/commissioning/staff-training by Cuddon engineers, and a full 12-month warranty.

### Capacity and Cycle Time

Cuddon Freeze Dry's quality acceptance test is to sublime and condense the vapour condenser capacity of ice within 24 hours. For the FD5.5, this equates to 5.5kg of ice.

### General

The chamber is mounted within an enclosed steel frame with castors for easy manoeuvrability. The vacuum pump, refrigeration unit and the pipe work are all mounted within the enclosed frame. The plant is pre-wired and is comprehensively tested in our factory before delivery.

### Chamber

0.475m diameter x 0.56m long, fabricated from T304 stainless steel.

### Heating Plates/Shelves

Plates fabricated from T304 stainless steel, allowing an even internal distribution of the heating or cooling medium. Shelf spacing can be factory set during manufacture to suit individual loading. Two sets of T304 stainless steel product trays are supplied as standard.

### Vapour Condenser

Manufactured from T304 stainless steel tube. The assembly is bolted as a permanent fixture inside the vacuum chamber. Refrigeration of the coil is by direct expansion via a thermostatic valve.

### Defrosting

Defrosting ice from the vapour condenser after a product cycle is by water. Hot water is recommended to assist in rapid defrosting.

### Refrigeration

The FD5.5 has one refrigeration unit which controls the stainless steel vapour condenser temperature, and the glycol heat exchange temperature. Refrigeration condenser is air cooled

### Vacuum System

The vacuum pump has a capacity of about 10m<sup>3</sup> per hour and is connected to the chamber. A valve located above the vacuum pump is a two-position valve and either allows a vacuum break to vent the chamber, isolating the pump, or connection to the chamber for freeze-drying. The pump features an automatic isolating valve to hold the chamber pressure in the event of power failure.

### Heating System

The heating fluid is glycol based and is pumped by a centrifugal pump through a circuit which allows heated or cooled fluid to be circulated through the plates on demand of the electronic temperature controller.

### Instrumentation

Edwards 503 vacuum gauge, Shimaden SR93 temperature controller, Omron H7ET run hour meter, Telemecanique panel switches.