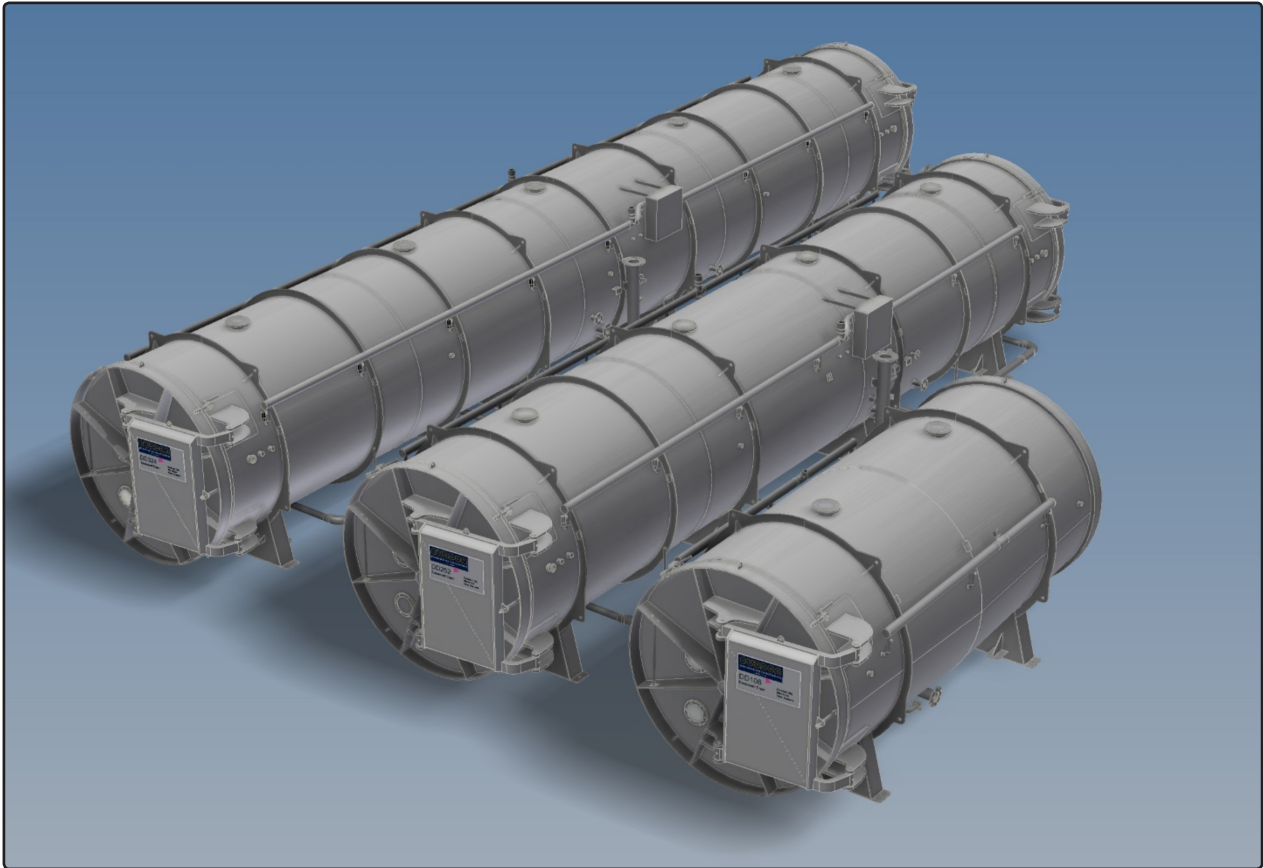


**COMMERCIAL CONDUCTIVE BATCH FREEZE DRYER  
MODEL SPECIFICATION SHEET**

**Document Restoration Dryers  
DD108 / DD252 / DD324**



Revision: V9.1 2023

## A LITTLE BACKGROUND

### Experience and Expertise

Cuddon Freeze Dry has been developing and manufacturing freeze drying equipment since 1963. With nearly 60 years experience and more than 400 installations worldwide, our products are highly respected.

Cuddon freeze dryers are MAF approved and used in the following industries:

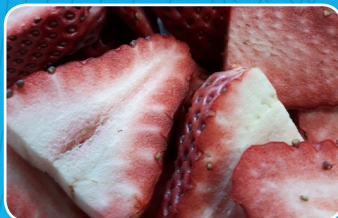
- Dairy
- Food Processing
- Research
- Nutraceuticals
- Pet Food
- Disaster Recovery



### 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.



McARTNEY STREET  
PO BOX 64  
BLenheim  
NEW ZEALAND

T: +64 3 578 4299  
F: +64 3 578 4294  
E: sales@cuddonfreeze-dry.com  
W: cuddonfreeze-dry.com

## General

The Cuddon Restoration Freeze Dryer is designed for the drying of documents, books and other artefacts that require removal of moisture. The current range of machines will dry from 108 to 324 boxes. Design specification is 7kg water removal per box.

### Box Size

Cardboard library box with dimensions of 320mm x 400mm x 270mm high Supplied by client.

### Chamber

Carbon steel, blasted SA 2½ inorganic zinc and high build top coat. Two x viewing ports in door. Double hinged door to provide correct alignment. 180° opening arc.

### Ice Condenser

Secondary refrigerant @-40 Celsius pumped from machinery Skid reduces refrigerant charge and operating cost.

### Shelves/Trolleys

Trolleys are constructed carbon steel with powder coated finish. Trolleys are temperature controlled to 70°C. All piping and accessories are supplied to give a controlled drying rate.

### Vacuum System

A combination of Roots Blower and Single stage vacuum pump give efficient pump down time. The drying pressure is controlled and the pump is stood down when working pressures are achieved.

### Refrigeration

Bitzer compressor maintains the vapour condenser temp of -35°C to -40°C. A remote air cooled condenser is installed and heat recovery is a option for preheating defrost water.

### Control System

The Cuddon control system comprises a PLC and touch-screen colour HMI that can be interfaced to the clients LAN and assessed remotely for observation and control. Mimic screens display live data including product and process temperatures and system pressures.

	DD108	DD252	DD324
Chamber	5200mm L 2340mm W 2510mm H	11400mm L 2530mm W 2460mm H	14200mm L 2530mm W 2460mm H
Chamber material	Painted Carbon Steel		
Trolleys / Shelving	3 x product trolleys with shelf heating.	7 x product trolleys with shelf heating.	9 x product trolleys with shelf heating.
Boxes per Trolley	36 (12 boxes per shelf)		
Shelf Intermediate Distance:	380mm		
Total Load	108 boxes 7kg moisture per box	252 boxes 7kg moisture per box	324 boxes 7kg moisture per box
Ice condenser capacity	756kg ice	1764kg ice	268kg ice
Nominal Drying Time	8 days		
Shelf heating temps	+10°C to +80°C		
Heating	Electric		
Heating fluid	Ethylene Glycol		
Secondary Refrigerant Fluid	Temper55 (Non Toxic, Non Combustible)		
Power Requirement (Nominal)	42kW, 50 or 60Hz	70kW, 50 or 60Hz	115kW, 50 or 60Hz