

Vacuum Freeze Dryer– FT33

The Armfield Vacuum Freeze Dryer is a compact unit with an insulated working chamber 300mm in diameter and 370mm deep.

It incorporates a built in refrigeration system and temperature-controlled heating system.

With the working chamber and condenser chamber constructed from stainless steel, it offers excellent corrosion resistance and can be easily sterilised.

**COLOUR TOUCHSCREEN WITH A GRAPHING FACILITY
CLEAR ACRYLIC LIDS FOR PROCESS OBSERVATION**



FT33MKII

Features / benefits

- ▶ The unit is operated via a colour touchscreen with a graphing facility to show temperatures and vacuum level in real-time
- ▶ The products can be frozen in the chamber before drying
- ▶ The unit is designed for freeze drying biologically heat-sensitive materials contained in beakers or other vessels
- ▶ It can be considered to be a small-scale replica of commercial-scale pharmaceutical and food production machines

Description

The FT33MkII Freeze Dryer comprises a cylindrical working chamber 300mm in diameter and 370mm deep mounted adjacent to a 210mm-diameter condenser chamber in a painted stainless steel cabinet. Both chambers incorporate a clear acrylic lid on an 'O' ring seal.

Products to be freeze dried may be frozen in the working chamber prior to drying. Drying rate may be controlled by the application of heat to the working chamber via a heating element with temperature controller. The unit is controlled via a touchscreen display, with real-time plotting of temperatures and vacuum level.

Ice build-up in the condenser chamber can be observed through the acrylic lid. The chamber is defrosted by an electrical heater and the ice plug may be removed whole via the lid or allowed to melt totally and drained through the drain plug. A vacuum pump of 150 l/min capacity is supplied and stands beside the freeze dryer. An oil mist filter is fitted as standard.

The refrigeration system will give a no load condenser chamber temperature of -55°C.

A thermostatic expansion valve automatically adjusts the extraction rate to handle large quantities of vapour. The unit is provided with magnetic shut-off valves, electrical overload and overheat protection devices. A membrane panel with touch-sensitive switching and LCD controls refrigeration, vacuum pump, heating and defrost.

Ordering specification

- ▶ A vacuum freeze dryer with a top-loading working chamber 300mm in diameter and 370mm deep with refrigeration and heating, 210mm diameter refrigerated condenser chamber
- ▶ The chambers have clear acrylic lids for process observation. The refrigerant is R507 (non CFC) and the condenser chamber no load temperature is -55°C
- ▶ The working chamber has four mobile temperature probes
- ▶ A membrane panel with touchsensitive switching and liquid crystal display controls refrigeration, vacuum pump, heating and defrost
- ▶ A vacuum pump with a capacity of 150 l/min is provided

Requirements

Scale



- ▶ Electrical Supply: Single phase (see Ordering codes)
- ▶ FT33MkII-A: 220-240V/1ph/50Hz
- ▶ FT33MkII-B: 120V/1ph/60H

Technical specifications

Condenser Chamber

Temperature Range	20-200°C (±1°C)
Ice capacity	3kg
No load temp	-55°C

Working chamber

Heater rating	300W
Refrigerant	R507 (non CFC)

Overall dimensions

Length	0.570m
Width	0.915m
Height	0.512m

Packed and crated shipping specifications

Volume	0.8m ³
Gross weight	170Kg

Essential Accessory

- ▶ 6 shelf rack for acrylic chamber

Ordering codes

- ▶ FT33MkII-A: 220-240V / 1ph / 50Hz
- ▶ FT33MkII-B: 120V / 1ph / 60H

Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

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