



Product Overview

The Laboratory Freeze Dryer is a compact and high-performance unit designed for efficient freeze-drying of biomedical and research samples. It is ideally suited for laboratory-scale applications in **pharmaceutical, biotechnology, chemical, and food industries**.

Freeze-drying (lyophilization) technology ensures the preservation of heat-sensitive biological materials such as **antibiotics, vaccines, blood products, hormones, enzymes, and tissues**, maintaining their structure and activity after drying.

This system combines reliability, user-friendly operation, and precise control, making it an essential instrument for research and production of thermally unstable materials.

Salient Features

- **Intuitive LCD Touch Screen:** Simplifies operation and real-time monitoring of process parameters.
- **Data Management:** Built-in historical data inquiry and USB interface for data export.
- **Efficient Refrigeration System:** Cascade refrigeration technology ensures fast cooling and stable low temperatures.
- **Integrated Pre-Freezing Function:** Pre-freezing shelf can be used as a guide barrel to accelerate drying rate.
- **High-Quality Construction:** Ice condenser trap and operation panel made of stainless steel for enhanced durability.
- **Transparent Drying Chamber:** Allows clear visual observation of samples for safe operation.
- **Adjustable Stainless-Steel Shelves:** Flexible configuration for various sample sizes and volumes.
- **Large Capacity Ice Condenser:** Without internal coils, ensuring uniform cooling and

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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easy maintenance.

- **Reliable Performance:** Designed for long-term stability and consistent vacuum conditions during the drying process.

Technical Specifications

Parameter	Specification
Type	Standard Chamber with 8-Port Manifold
Freeze Drying Area	0.12 m ²
Tray Quantity	4 pcs
Height Between Trays	50 mm
Cold Trap Temperature	≤ -60°C (No Load) (-80°C optional)
Cold Trap Capacity	6 L
Cold Trap Size (Diameter × Height)	φ219 × 140 mm
Vacuum Degree	≤ 5 Pa
Water Capture Capacity	3-4 L / 24 h
Tray Size (Diameter × Height)	φ200 × 20 mm
Freeze Drying Time	36 hours
Loading Capacity per Shelf (Liquid)	1.2 L
Total Loading Capacity (Liquid)	2.4 L
Drying Chamber Size (Diameter × Height)	φ260 × 420 mm
Refrigerant	-60°C: R600a, R23 / -80°C: R404a, R23
Cooling System	Standard: Air Cooling / Optional: Water Cooling
Power Supply	220V, 50 Hz (Optional: 220V, 60 Hz)
Power Consumption	1300 W
External Dimensions (W × D × H)	640 × 610 × 550 mm
Package Size – Main Body (W × D × H)	735 × 720 × 760 mm
Package Size – Accessory (W × D × H)	720 × 605 × 560 mm
Gross Weight	Main Body: 80 kg (-60°C) / 98 kg (-80°C) Accessory: 45 kg

Standard Accessories

- Vacuum pump (2 L/s)
- Material trays (4 pcs)
- Drying rack (1 pc)

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- Transparent acrylic drying chamber cover (1 pc)
- Conical-mouth flasks: 100 ml × 2, 200 ml × 2, 250 ml × 2, 500 ml × 2
- Switch valves (8 pcs)
- Acrylic bucket

Optional Accessories & Customization

- Equipment moving frame
- Vacuum pumps with alternative specifications
- Vacuum regulation and oil mist filter
- Automatic air intake and automatic water discharge
- Custom configurations available upon request

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