



KLABS Lyophilizer 4L with 8 Manifold



Product Description

The KLABS Lyophilizer 4L with 8 Manifold is a high-performance freeze dryer designed for efficient drying of biological, pharmaceutical, chemical, and food samples. Utilizing advanced lyophilization technology, the system preserves the structure, stability, and bioactivity of sensitive materials by removing moisture under high vacuum and low-temperature conditions. The 8-manifold configuration allows simultaneous processing of multiple samples, making it ideal for research laboratories and industrial applications.



Working Principle

Lyophilization (Freeze Drying) is an advanced dehydration process that removes moisture from frozen samples through sublimation, where ice transitions directly into vapor without passing through the liquid phase.

- Applying controlled heat to convert ice into vapor.
- Using a high-efficiency vacuum system to extract moisture.
- Capturing vapor via a low-temperature condenser, where it re-solidifies into ice. This ensures preservation of structure, stability, and bioactivity of sensitive materials.

Features

- Intuitive Touchscreen Interface for simple and user-friendly operation
- Power Failure Auto-Recovery Function ensures seamless restart after power interruption
- Real-Time Display of condenser temperature, sample temperature, and vacuum level with graphical visualization
- Precision Calibration System for vacuum and temperature, ensuring long-term operational accuracy
- Programmable Restart Function allowing users to define recovery parameters after shutdown
- Intelligent Alarm & Safety Prompts to prevent operational errors
- High-Precision Vacuum Measurement System for accurate process control
- Smart Vacuum Pump Control with temperature-based start/stop automation
- Integrated Oil Mist Filtration System for cleaner and safer operation

Application/Uses

- Pharmaceutical Research Laboratories
- Biotechnology Laboratories
- Universities & Educational Institutions
- Clinical & Diagnostic Laboratories
- Food Processing & Food Research
- Biological Research Centers
- Vaccine & Serum Development
- Chemical Laboratories

Accessories

Vacuum Pump

Drain Tube

Silicone Vacuum Hose

Vacuum Pump Tool Kit

Funnel

Vacuum Filter

Coupling Set with Seals

Rectangular Trays

Display Stand

Instruction Manual

Touchscreen Display Module

Test Report

Technical Specifications

Model	KFD-460M	KFD-480M
Condenser Temp. Range	-60°C	-80°C
Freeze Drying Area	0.12 m ²	0.12 m ²
Configuration	Manifold	Manifold
Tray Dimensions	200mm x 4	200mm x 4
Ultimate Vacuum Level	<10Pa	<10Pa
Refrigeration System Type	Single Cascade	Dual Cascade
Display Interface	7" Touch Screen Display	7" Touch Screen Display
Tray Spacing	70mm	70mm
Ice Condenser Capacity	3 to 4 L/24h	3 to 4 L/24h
Operating Ambient Temp.	15 to 25 °C	15 to 25 °C
Permissible R. Humidity	≤ 70%	≤ 70%
Defrost System	Heating Coil	Heating Coil
Vacuum Pump Type	Double Stage Oil-Lubricated Rotary Vacuum Pump	Double Stage Oil-Lubricated Rotary Vacuum Pump
Vacuum Pump Speed	1400 RPM	1400 RPM
Vacuum Pump Oil Capacity	0.8 Liter	0.8 Liter
Vacuum Pump Noise Level	54 dB	54 dB
Power Consumption	950 W	950 W
Power Requirements	AC 220V / 50 Hz	AC 220V / 50 Hz
Device Dimensions	393 x 500 x 450 mm	393 x 500 x 450 mm
Total Shipping Weight	106 kgs	106 kgs