



TOP PRESS VACUUM FREEZE DRYER

Top Press Vacuum Freeze Dryer is an advanced dehydration method based on the principle of sublimation. It rapidly freezes the material at a low temperature, and in a controlled vacuum environment, the frozen water molecules transition directly into water vapor and escape. The material remains at a consistently low temperature (frozen state) throughout the process, with ice crystals evenly distributed. This prevents concentration due to dehydration and eliminates issues like foaming or oxidation caused by water vapor.

APPLICATIONS

Freeze-dried products retain a spongy texture, exhibit no shrinkage, rehydrate effectively, and have minimal water content. Once properly packaged, they can be stored and transported at room temperature for extended periods.

Freeze dryers are widely used for freeze drying, strain preservation, and related applications in biological research, medicine, pharmaceuticals, the chemical industry, food processing, and educational institutions.

This process helps preserve heat-sensitive substances, maintains nutritional value, prevents oxidation, and avoids the need for additives. The resulting dried material is porous and sponge-like, dissolving quickly and completely when water is added, almost instantly returning to its original state.

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CYFD-12 / CYFD-18

FEATURES

- **Efficient Cooling:** Rapid cooling with a uniform temperature across the cold trap's inner wall, enhanced by professional gas diversion technology for superior water capture.
- **Eco-Friendly Refrigeration:** Features a Secop compressor with hybrid, single-machine, environmentally friendly refrigeration technology.
- **Integrated Pre-Freezing:** The cold trap includes a sample pre-freezing function, eliminating the need for ultra-low temperature refrigerators or liquid nitrogen.
- **Advanced User Interface:** A 7-inch color LCD touch screen offers a user-friendly interface with lock screen functionality. Optional remote control is available via mobile devices or computers.
- **Comprehensive Monitoring:** Displays key parameters such as cold trap temperature, vacuum level, sample temperature, and run time. Simplified operation includes misoperation permission management.
- **Data Management:** Supports viewing, exporting, and deleting data. Freeze-drying data is automatically saved and can be exported via USB.
- **Versatile Applications:** Compatible with ampoules, vials, glass flasks, plasma bottles, or trays for freeze-drying.
- **Pre-Freezing & Defrosting:** The cold trap enables independent pre-freezing of samples and includes a one-click defrost function.
- **Maintenance Alerts:** Built-in reminders notify users of necessary instrument maintenance.
- **Vacuum Monitoring:** Features a vacuum alarm to promptly alert users if vacuum levels are outside normal ranges.
- **Precision Control:** Includes a high-precision micro-adjustable vacuum valve.

- **Durable Design:** Equipped with a stainless steel, anti-corrosion vacuum connecting pipe and a standard KF25 vacuum quick coupling clamp.

TECHNICAL SPECIFICATIONS

Model	CYFD-10 Top press type		CYFD-12 Top press type		CYFD-18Top press type	
Freeze dried area	0.08 m²		0.08 m²		0.09 m²	
Cold trap temperature	-60 °C (optional -80 °C)					
Catching water volume/batch	4KG				6KG	
Standard vacuum degree	≤ 5 Pa (no-load)					
Ultimate vacuum	0.1 Pa					
Pumping speed	2L/s				4L/s	
Material tray	180mm, 3 layers in total		180mm, 3 layers in total		240mm, 4 layers in total	
Disc spacing	100mm					
Bottled loading number of vials	Vial Φ 12mm: 560 pieces v Φ 16mm: 318 pieces Vial Φ 22mm: 165 pieces		Vial Φ 12mm: 560 pieces v Φ 16mm: 318 pieces Vial Φ 22mm: 165 pieces		Vial Φ 12mm: 630 pieces v Φ 16mm: 358 pieces Vial Φ 22mm: 180 pieces	
Eggplant shaped flask	100ml*2 150ml*2	250ml*2 500ml*2	100ml*2 150ml*2	250ml*2 500ml*2	100ml*2 150ml*2	250ml*2 500ml*2
Overall power	950W (including vacuum pump)				1100W (including vacuum pump)	
Machine size	520W * 600D * 400H mm		480W * 600D * 770H mm		560W * 560D * 980H mm	
Machine net weight	48KG		63KG		88KG	

Model	CYFD-10 Top press type	CYFD-12 Top press type	CYFD-18Top press type
Packaging size	740W * 810D * 850H mm	620W * 850D * 920H mm	630W * 670D * 1500H mm
Total weight with packaging	98KG	140KG	150KG
Voltage	AC220V 50Hz or 110V/60Hz		
Application environment	Ambient temperature $\leq 35^{\circ}\text{C}$		
Operating noise of the entire machine	$\leq 55\text{dB}$		



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