Typical Applications

Our freeze dryers are suitable for a wide range of applications

- Preserving the product characteristics of the original substances
- Preserving the original form (animal preparations, archaeological objects or owers)
- Conditioning the material (freeze-dried fruit)
- Chemical analyses (trace element analyses of foods, sludge or soil)

Advantages of Freeze Drying

- **Protein will not be denatured**
  Freeze-drying is carried out at low temperature. Many heat-sensitive substances such as proteins and micro-organisms will not denature or lose biological activity
- **Low temperature non- volatile**
  When drying at low temperature, the loss of some volatile components in the substance is very small, which is suitable for drying chemical products, medicines and foods
- **Keep the original structure**
  Since it is dried in a frozen state, the volume is almost unchanged, and the original structure will be maintained
- **Fast reconstitution with water**
  The dried material is loose and porous, in the form of sponge. After adding water, it dissolves quickly and restores its original properties
- **Powder non-oxidizing**
  Since drying takes place under vacuum with very little oxygen, oxidizable substances are protected
- **No deterioration after dehydration**
  Drying can remove more than 95% - 99% of the water. Samples can be stored immediately after drying







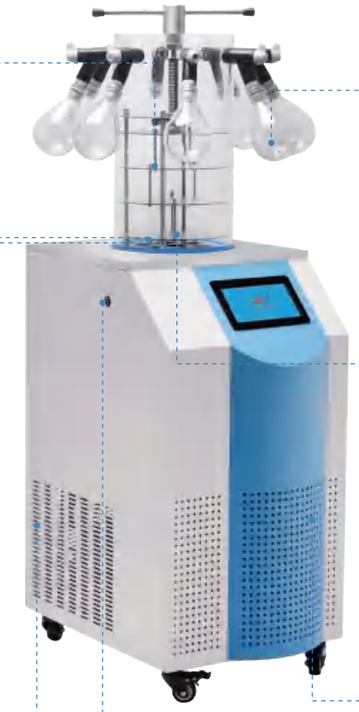

Cap type material rack, suitable for directly sealing penicillin bottles after freeze-drying

Large volume stainless steel cold trap with no inner coil inside, allowing for independent freeze-drying of samples

Design insulation cover with card slot method, reduces cold lost during pre freezing process, saves energy, and prevents condensation



Quality compressor with low cold trap temperature and strong water harvesting ability



Multiple external freezedrying bottles, suitable for simultaneous freeze-drying of multiple samples

All stainless steel countertop, corrosion-resistant, easy to clean, unique bridge breaking design at the top of the cold trap, added insulation layer to avoid condensation and frost on the countertop



Efficient air-cooled condenser, using aerodynamic fan blades, can improve heat dissipation capacity and save more energy

Equipped with USB interface, capable of exporting freeze-dry data, facilitating user information management

More Configurations



Stainless steel drying drum



20 stainless steel drying rack



24 stainless steel drying rack



Wide mouth freeze-drying bottle

Laboratory Scale - Console

Economic:
CTFD-18S; CTFD-18T; CTFD-18P; CTFD-18PT

Classic:
CTFD-18S-U; CTFD-18T-U; CTFD-18P-U; CTFD-18PT-U

Premium:
CTFD-18S-UPlus; CTFD-18T-UPlus; CTFD-18P-UPlus; CTFD-18PT-UPlus



CTFD-18S
CTFD-18S-U
CTFD-18S-UPlus



CTFD-18T
CTFD-18T-U
CTFD-18T-UPlus



CTFD-18P
CTFD-18P-U
CTFD-18P-UPlus



CTFD-18PT
CTFD-18PT-U
CTFD-18PT-UPlus

Product Parameters

Model		CTFD-18S CTFD-18S-U CTFD-18S-UPlus	CTFD-18T CTFD-18T-U CTFD-18T-UPlus	CTFD-18P CTFD-18P-U CTFD-18P-UPlus	CTFD-18PT CTFD-18PT-U CTFD-18PT-UPlus
Basic Information	Type	Standard chamber	Standard chamber	Standard chamber with 8 port manifold	Standard chamber with 8 port manifold
	Final Condenser Temp (°C)	-60 or -80	-60 or -80	-60 or -80	-60 or -80
	Vacuum Degree (Pa)	<10	<10	<10	<10
	Condenser Volume (L)	28	28	28	28
	Freeze Drying Area (m^2)	0.18 or 0.27	0.135	0.18 or 0.27	0.135
	Water Condenser Capacity (Kg/24h)	6	6	6	6
	Qty of Shelf	4 or 6*	3	4 or 6*	3
	Material Loading Capacity/Shelf (mL)	450	450	450	450
	Material Loading Capacity (mL)	1800 or 2700	1350	1800 or 2700	1350
	Manifold	/	/	8 pieces	8 pieces
	USB Interface	Y	Y	Y	Y
	Drying Chamber (Standard)	Transparent acrylic			
	Vacuum Pump	Standard model: 2XZ-4**; Speed: 2.2L/S			
	Control System	Microprocessor, touch screen			
	Ultimate Vacuum (Pa)	Economic: 1 Classic and Premium: 0.6 for -60°C/0.3 for -80°C			
	Noise (dB)	<66			
Electrical Requirement	Electrical Voltage	220V			
	Electrical Frequency	50Hz, 60Hz			
	Power (Kw)	1.2 or 1.7			
Size Information	Condenser Chamber Dimension (φ*Hmm)	300*420			
	Sample Tray Dimension (φ*Hmm)	240*20			
	Sample Shelf Dimension (φ*Hmm)	250*391	276*518	250*391	276*518
	Sample Shelf Distance Average (Hmm)	81 or 51***	71	81 or 51***	71
	Host Size (W*D*Hmm)	567*710*940			
	Vacuum Hood Dimension (upperp/lowerq*Hmm)	300*450			
	Exterior Dimension (W*D*Hmm)	560*710*1390	560*710*1450	560*710*1390	560*710*1450
	Host Net Weight (Kg)	85 or 100****			
Package Information	Host Package (W*D*Hmm)	790*630*1180			
	Vacuum Hood Package (W*D*Hmm)	410*410*640			
	Vacuum Pump Package (W*D*Hmm)	220*580*370			
	Weight (Kg)	150 or 170****			

Model Selection

Series	Economic	Classic	Premium
Control System			
Controller	7 inch LCD touch screen	PLC controller	
Authority Levels	No	Three-level account password authority management 	
Alarm System			
Alarm Method	Text prompt	Buzzer alarm + screen text prompt 	
Refrigeration System Monitoring Alarm	No	Yes 	
Vacuum Pump Maintenance Alarm	Text prompt	The maintenance time of the vacuum pump can be independently set and modified 	
Vacuum Pressure Alarm	No	No	Yes 
Data Tracking			
Historical Data	With historical data checking function	Large-capacity storage module can store more than 1000 space freeze-drying curves and alarm records 	

Series	Economic	Classic	Premium
Vacuum System			
Vacuum Gauge	Accuracy 1 Pa	Stable and reliable accuracy 0.01Pa 	
Minimum Vacuum Pressure	1 Pa	0.6 Pa	
Vacuum Pump Protection Function	No	Yes	
Vacuum Pump Protection Temperature Setting	No	Yes Vacuum pump begins to work automatically when condenser chamber reaches the setting temperature	
Vacuum Degree Control	No	No	the required vacuum pressure can be set and modified, so that the vacuum pressure of the freeze dryer can work under the set value 
Customized Setting of Freeze-drying Process	No	No	40 programs can be set 
Structure			
Countertop Insulation Structure	Stainless steel countertop, common thermal insulation design	Unique bridge design on the countertop of condenser chamber 	
Drain and Inflation Port	Drain and inflation shares one port	Drain and charge port separated, independent drain valve and charge valve 	
Nitrogen Filling Valve	Optional	Standard	Standard
Components Testing			
Manual Test	No	Manual test function of main functional components, allows autonomous checking of every single component 	
Electric Heating			
Shelf Electric Heating Function	Optional (12, 18)	Optional (12, 18)	Standard (12, 18)
Defrost Function for Condenser Chamber	Optional	Optional	Optional