

# Pilot Freeze Dryer



## Introduction

Biobase freeze dryer (square cabinet) is made of SUS304 material, and the silicone oil circulation heating is used to ensure the uniformity of the cooling and heating of the shelf. The temperature difference is only 1°C after the temperature balance of the shelf. The temperature of the cold trap can reach -80°C. Adapted to the samples containing organic solvent and drying and process conditions to explore (food drug processing, dehydration, soil preparation, etc.).

## Features

- \* Pre-freezing, drying in-situ, easy to operate, good drying effect.
- \* Inflatable (discharge) valve adopts safety diaphragm valve, which can be connected to inert gas source, and is filled with inert gas after drying to extend the shelf life of the material.
- \* Freeze-drying curve optimization control technology, which can control the cooling rate during the pre-freezing stage, and control the heating rate of the sample and the vacuum value of the current stage in the sublimation and analytical drying stages.
- \* 10-inch true color touch screen.
- \* Can save hundreds of process recipes, each group contains 50 temperature control sections to improve process optimization rate.
- \* Intelligent data recording system, real-time recording and display of cold trap temperature curve, sample temperature curve, vacuum degree curve, export data can be browsed and printed by computer and various operations to facilitate process optimization and drying effect verification.
- \* Flexible manual + automatic control mode, manual mode used for groping process, automatic mode used for batch production.
- \* Real-time alarm display and historical alarm query function for fault diagnosis and equipment maintenance.
- \* User level and password can be set and decentralized for operation management.

## Technical Parameters

Model	BK-PFD50S	BK-PFD50T	BK-PFD100S	BK-PFD100T	
Type	Standard	Stoppering	Standard	Stoppering	
Freeze Drying Area	0.7m <sup>2</sup>	0.5m <sup>2</sup>	1.03m <sup>2</sup>	1.15m <sup>2</sup>	
Shelf Temperature	-55°C~+70°C(no-loading)				
Cold Trap Temperature	<-80°C(no-loading)				
Vacuum Degree	≤1 Pa(no-loading)				
Water Capture Capacity	≥10kg/24h		≥15kg/24h		
Cold Trap Volume	40L				
Cold Trap Size (Diameter*H)	Φ300*560mm				
Drying Chamber Size (W*D*H)	410*410*560mm	610*510*560mm	580*410*560mm	700*600*740mm	
Shelf Size (W*D*H)	Shelf:480*360*18mm	Shelf:410*410*18mm	Shelf:480*360*18mm	Shelf:480*600*18mm	
Qty. of Shelf & Tray	Shelf:4+1,Tray: 4	Shelf:3+1,Tray: 3	Shelf:6+1,Tray: 6	Shelf:4+1,Tray: 4	
Sample Loading Capacity (Liquid)	7L	5L	10L	11L	
Height Between Trays	70mm	70mm	100mm	100mm	
Tray Temperature Difference	±1°C				
Refrigerant	R404A + R23				
Condenser Cooling Mode	Air cooling				
Defrost Mode	Natural defrosting (Option electric defrosting)	Electric defrosting	Electric defrosting	Electric defrosting	
Total Qty. of Vial	Φ12mm	3705		8624	
	Φ16mm	/	2058	/	
	Φ22mm		1050	2460	
Vacuum Pump	8L/S(29m <sup>3</sup> /h)		15L/S(54m <sup>3</sup> /h)		
Optional Accessory	Import vacuum pump; Vacuum pump anti-return valve; Oil mist filtration system; Vacuum adjustment device				
Silicone Oil Heating Rods Consumption	1000W		1600W		
Total Consumption	5.5kW	6.5kW	6.5kW	7.5 kW	
Power Supply	AC380V, 50Hz/60Hz (Three phase, Standard); AC220V, 50/60Hz(Single phase, Optional)				
Main Body Weight	600kg	800kg	700kg	1000kg	
External Size(W*D*H)	823*1008*1420mm	911*1405*1983mm	876*1190*1720mm	1823*1144*2014mm	
Packing Size (W*D*H) And	Main Body	1223*1300*1720mm /630kg	1300*1700*2220mm /830kg	1276*1400*2020mm /730kg	2200*1444*2314mm /1030kg
	Vacuum Pump	820*350*520mm/75kg			