

# STALWART

## Bench Top Freeze Dryer STFD-10 Series



STFD-10B



STFD-10BH



STFD-10S

## Introduction

STFD-10 series benchtop freeze dryers are designed for lyophilizing light sample loads. It is an extremely compact unit for freeze-drying products either in flasks, vials, ampoules or bulk. Large capacities of condensation (3 kg/24 h) in the minimum possible space.

Full 5 inch color touch screen controller, continuously monitors freeze-drying process. It also provides fully automatic functioning, with the possibility of manual actuation.

Bulk shelf models are for freeze-drying of bulk and raw materials. Stoppering shelf models are for vials and serum. Flask shelf is optional accessory upon request.

STFD-10 series can be supplied with or without electric heating function. Users can choose according to product freeze drying requirements.

## Features

- Full color touch screen with LyoWise operation system:
  1. Real time display of collector temperature & vacuum level
  2. Automatic control of freeze-drying process, program can be set by users
  3. Can be switched to manual operation mode at any time needed, to realize entire control of freeze-drying process.
  4. Record vacuum rate, cold trap temperature, material temperature, shelf temperature, USB port for data download
  5. Alarms for temperature and vacuum level, guarantee the safety and stability of operation.
- The cold trap cavity and material shelf are made of 304L stainless steel, corrosion-resistant and easy to clean.
- Material pre-freezing function.
- Automatic defrost for easy use.
- The cold trap drying chamber is made in aviation-class plexiglass transparent material, which can observe material status clearly.
- World-class compressor, optimized single compressor cooling system, high efficiency, fast cooling, lower power consumption & environment friendly.
- Various drying accessories to process flasks, vials, ampoules or bulk.

## Specification

Item	Model	STFD 10B	STFD 10BH	STFD 10S
Feature	Drying Chamber type	Standard type	Manifold type	Stoppering type
	Ice Condenser capacity	3Kg/24h		
	Final condenser temperature	≤-60°C		
	Effective shelf area	0.1m <sup>2</sup>	8x250ml flasks	0.05m <sup>2</sup>
Shelf	Shelf layers	4	/	3
	Shelf tray dimension	Diameter Φ210 mm Φ180 mm		
	Height between shelves	50mm	/	50mm
	Shelf heater	Optional	/	Optional
Refrigerant system	Refrigerant gas	Mixed CFC free,HCFC-free		
	Number of compressors	1		
	Cold trap cooling rate	20°C to -40°C ≤30min (no load)		
Control	Controller	5 Inch color touch screen controller with LyoWise operation system		
	Freeze-drying Process	User Programable optional	/	User Programable optional
	Data Storage	Yes		
	USB port	Yes		
	RS232 port	Yes		
	Auto defrost	Yes		
Power	Voltage	220v50hz,220v60hz,110v60hz		
	Current	Main unit 5A		
	Total power	1250W	1400W	1250W

## Specification

Vacuum pump	Vacuum pump	Yes
	Vacuum degree	$\leq 5\text{Pa}$ (no load)
	Vacuum pumping rate	from standard atmospheric pressure to $10\text{Pa} \leq 10\text{min}$ (no load)
	Vacuum rate	2L/s
Main unit	Vacuum leakage	$3 \times 10^{-2}$ pa L/s
	Material	304
	Condenser trap material	SUS304
	Sensor type	PT100
	Material sensor	$\pm 4$
	External dimensions (L×W×H)	610*610*460mm
	Weight	90kg