

## LAB AND PILOT FREEZE DRYERS

Sysbiotech offers a broad range of solutions for developing and optimization of freeze drying process for your application. You can start from lab-scale unit with easy operating features to test your process and product and handle your lab samples. Pilot systems has full set of necessary functions to scale up your process further to industrial scale.

New lab-scale systems with fully automatic controller coming soon.

### Standard features:

- Condenser made of stainless steel
- The possibility of defrosting by refrigerant hot steam
- Extremely reliable compressor
- Manual or automatic operation mode
- Convenient control panel

Laboratory scale desktop freeze dryer



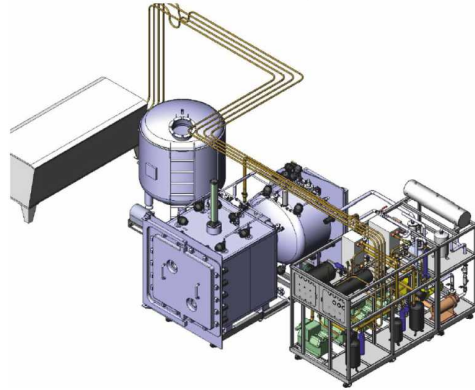
Model	TFD 8503	TFD 5503
Condenser capacity	2L /24 h	2L / 24 h
Volume of the condenser chamber	3 L	3 L
Condenser temperature, °C	<-85 °C	<-55 °C
Compressor (HP)	2X1/3 HP	1/3 HP
Microprocessor control	Yes	Yes
Defrosting by hot steam	Yes	Yes
Displaying temperature on the screen	Yes (°C)	Yes (°C)
Displaying vacuum on the screen	Yes (torr)	Yes (torr)
Power	230W / 50 Hz	230W / 50 Hz
Weight, kg	86	68
External dimensions	800 X 650 X 400 mm	

Model	FD 5508	FD 5512	FD 5512
Condenser capacity	5L /24 h	10L / 24 h	12L / 24 h
Volume of the condenser chamber	8 L	12 L	18 L
Condenser temperature, °C	-50 °C to -55 °C		
Compressor (HP)	1/3 HP	3/4 HP	3/4 HP
Microprocessor control	Yes	Yes	Yes
Defrosting by hot steam	Yes	Yes	Yes
Displaying temperature on the screen	Yes (°C)	Yes (°C)	Yes (°C)
Displaying vacuum on the screen	Yes (torr)	Yes (torr)	Yes (torr)
Power	230W / 50 Hz		
Weight, kg	120	122	130
External dimensions	805 X 750 X 885 mm		



## INDUSTRIAL FREEZE DRYERS

Industrial freeze dryers are engineered for installation in clean rooms for the production of pharmaceuticals and veterinary medicines.



### Options

- Control via touch screen
- Installation in a clean room
- Hydraulic closure
- Butterfly shut-off valve
- Stainless steel construction
- CIP (cleaning-in-place) system
- SIP (sterilization-in-place) system
- IQ/OQ documentation

Standard specification for pilot and industrial freeze dryers

Volume of the condenser chamber	50 L	100 L	200 L	300 L	500 L
Number of shelves	7+1 on top	7+1 on top	9+1 on top	10+1 on top	11+1 on top
Shelves area / vials capacity (10 ml)	2.8 m <sup>2</sup> 6041 pcs.	4.4 m <sup>2</sup> 12775 pcs.	10.8 m <sup>2</sup> 24561 pcs.	18 m <sup>2</sup> 41850 pcs.	25.2 m <sup>2</sup> 59265 pcs.
Temperature range	-45 - +75°C	-45 - +75°C	-45 - +75°C	-45 - +75°C	-45 - +75°C
Condenser temperature, °C	<-75°C	<-75°C	<-75°C	<-75°C	<-75°C
Compressor (HP)	Bitzer 2X7,5 HP	Bitzer 2X10HP	Bitzer 2X25 HP	Bitzer 2X30 HP	Bitzer 2X25 HP
Vacuum pump	Edwards 841 l/min	Edwards 1500 l/min	Edwards 4000 l/min	Edwards 6680 l/min	Edwards 14000 l/min

