

FreeZone® Stopping Tray Dryers

Features & Benefits

Stopping knob controls shelf stopping mechanism.

1/8" OD backfill port introduces inert gas from an outside source to the chamber, protecting samples from atmospheric moisture and contaminants.

Three sensor probes monitor sample temperature.

Pre-freeze samples on the shelves at a controlled rate (annealing). Improves sample quality and eliminates need for a separate freezer and product transfer.



Vacuum release valve control vents the chamber allowing the door to be opened.

Separate HCFC/CFC-free refrigeration system and 1000 watt heater ensure efficient cooling and heating of the shelves.

Optional built-in 6-Port Tray Dryer Manifold increases flexibility and capacity of the tray dryer. Samples may be simultaneously freeze dried in flasks or other glassware attached to the valves and on the tray dryer's shelves. Also available as a field-installable accessory. See page 35 for ordering information.

Optional built-in isolation valve separates the Stopping Tray Dryer from the Freeze Dryer to shorten time necessary to reestablish working vacuum levels and to provide a means for checking end point. Also available as a field-installable accessory. See page 35 for ordering information.

Three large adjustable shelves accommodate bulk trays or batches of serum bottles or ampules. Samples may be lyophilized and then stoppered on the shelves.

FreeZone Stopping Tray Dryers are ideal drying accessories for pharmaceutical research labs requiring stoppered bottles or vials of samples. Precise temperature control of the shelves lets you confidently pre-freeze and lyophilize samples. Order with your FreeZone Console Freezer Dryer as one catalog number on pages 29-30 or as a separate drying accessory component on page 31.



ETL listed
All 115/230V, 60 Hz models carry the ETL mark signifying they are certified to UL and CAN/CSA standards for laboratory equipment.



CE marking
All 230V, 50 Hz models conform to the CE (European Community) directives.

FreeZone® Stoppering Tray Dryers

Monitor & Control from Lyo-Works™ OS Display

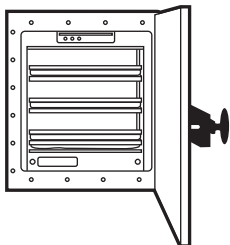


FreeZone Stoppering Tray Dryer connects to any FreeZone Console Freeze Dryer with Lyo-Works OS. From your freeze dryer's large display, you have touch screen access to set and control your program's ramp rate, temperature, hold time and vacuum levels. Lyo-Works permits up to 30 different programs, each using as many as 16 different steps, to be stored and repeated for consistency and convenience.

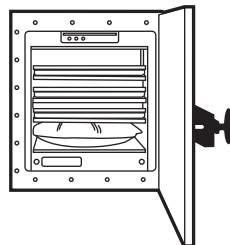
Serum Bottle Capacity of the Stoppering Tray Dryer

Size	Catalog Number	Shelf Capacity	Number of Shelves	Total Capacity
2 ml	7575010	430	3	1290
3 ml	7575210	483	3	1449
5 ml	7573010	228	3	684
10 ml	7573210	195	3	585
20 ml	7573410	132	3	396
30 ml	7573610	86	3	258
50 ml	7573810	72	2	144
100 ml	7574010	42	2	84
125 ml	7574210	36	1	36

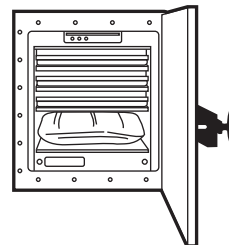
Built-in pneumatic mechanism stoppers containers on all three shelves.



Load one to all three shelves with serum bottles or vials with stoppers in the raised position.



Turning the stoppering control knob causes the diaphragm to expand. The expanding diaphragm applies pressure to the bottom shelf causing it to rise until the shelf and its contents make contact with the shelf above it.



Diaphragm continues to expand until all three shelves have made contact with each other allowing all serum bottles to be stoppered under vacuum.

FreeZone® Stoppering Tray Dryers

Specifications



Application suitability:

- Moderate to large sample loads or numerous sample batches
- Stoppering vials or serum bottles under vacuum

All models feature:

- Three adjustable shelves, each 16.5" w x 12" d (41.9 x 30.5 cm) with 196 square inches of area. Spacing between the shelves accommodates containers with stoppers up to a maximum height of 75 mm and minimum height of 38 mm when three shelves are used, a maximum height of 107 mm and minimum height of 56 mm when two shelves are used, and a maximum height of 196 mm and minimum height of 114 mm when one shelf is used
- 1 hp HCFC/CFC-free refrigeration system and 1000-watt electric heater for cooling and heating fluid medium circulating through channels in the shelves from -40° C to +40° C (-40° to +104° F). Controls circulating fluid temperature to $\pm 1^\circ$ C of set point
- Three probes for monitoring sample or shelf temperature
- Pirani vacuum sensor
- Temperature ramp and hold programming from -40° C to +40° C (-40° to +104° F) and memory to store 30 programs with 16 segments each, including number of steps, ramp rate, shelf temperature, hold time and vacuum level

* Labconco exclusive feature

- * System programming that is displayed on the FreeZone 6, 12 or 18 Liter Freeze Dryer (freeze dryer sold separately or as one catalog number): Manual or Program mode; probe temperatures in ° C or ° F, vacuum in mBar, Torr or Pa; segment of the program that is in progress; time remaining in present segment; alarms for power failure; supply line voltage outside of limits; system temperature variation $> \pm 2^\circ$ C, vacuum variation > 0.500 mBar; failure to reach system set point temperature; and program completed
- * Data logging that displays and stores data in table or graph on the FreeZone 6, 12 or 18 Liter Freeze Dryer (freeze dryer sold separately or as one catalog number). Export data via USB or Ethernet
- Stoppering mechanism that inflates a diaphragm via atmospheric pressure. **No compressed gas is required**
- Stoppering Raise/Lower control knob, vacuum release Open/Close control knob and 1/8" OD backfill port for user-supplied air or gas
- Stainless steel and powder-coated steel exterior
- Acrylic door, 1" thick, with silicone gasket and latch
- 3" dia. outlet, located on the bottom of the tray dryer cabinet, for connection to a FreeZone 6, 12 or 18 Liter Console Freeze Dryer (freeze dryer is required and not included)
- Integral support stand
- Overall dimensions (tray dryer only): 32.4" w x 24.6" d x 27.1" h (82.3 x 62.4 x 68.8 cm)

Standards conformance & regulations:

- UL Standard 61010-1 (115/230V, 60 Hz models)
- CAN/CSA C22.2 No. 61010-1 (115/230V, 60 Hz models)
- CE Conformity marking (230V, 50 Hz models)

Options include:

- 6-Port Tray Dryer Manifold, 30.0" w x 16.5" d x 7.0" h (76.2 x 41.9 x 17.8 cm). Available only when ordering the FreeZone Stoppering Tray Dryer as a separate component. See page 31
- Isolation Valve. Available only when ordering the FreeZone Stoppering Tray Dryer as a separate component. See page 31
- Region-specific electrical plug configurations

All models require (not included):

- FreeZone 6, 12 or 18 Liter Console Freeze Dryer with Lyo-Works OS. FreeZone Stoppering Tray Dryer and Freeze Dryer may be ordered as separate components or together as one catalog number on selected models of FreeZone 6, 12 or 18 Liter Console Freeze Dryers. See pages 18-20, 29-30
- Vacuum pump with a displacement of at least 163 L/min, 0.007 mBar ultimate pressure and fitting for 3/4" ID vacuum hose. See pages 41-44
- Freeze dry glassware if not bulk freeze drying. See pages 46, 50



FreeZone® 6 & 12 Liter Console Freeze Dryers with Stoppering Tray Dryer

Ordering Information

Catalog Number Configurator:

Use this key to configure the nine digit catalog number to order your FreeZone 6 or 12 Liter Console Freeze Dryer with Stoppering Tray Dryer.



Select the **REFRIGERATION TEMPERATURE** of your freeze dryer's collector. This is the second digit of your catalog number.

0 = -50° C (-58° F). For samples containing water. Not for use with samples containing acetonitrile, methanol or ethanol. FreeZone 6 Liter collector is capable of removing 4 liters of water and FreeZone 12 Liter collector is capable of removing 8 liters of water in 24 hours.*

1 = -84° C (-119° F). For low eutectic point samples containing water or acetonitrile. Not for use with samples containing methanol or ethanol. FreeZone 6 Liter or 12 Liter collector is capable of removing 4 liters of water in 24 hours.*

Select the **CAPACITY** of your freeze dryer's collector. These are the third and fourth digits of your catalog number.

06 = 6 L

12 = 12 L

Select the **COLLECTOR COIL** and **CHAMBER MATERIAL** of your freeze dryer. This is the sixth digit of your catalog number.

1 = Stainless steel

2 = PTFE-coated stainless steel

Select the **BUILT-IN OPTION** of your freeze dryer. This is the seventh digit of your catalog number.

0 = None

1 = Purge Valve

Select the **ELECTRICAL CONFIGURATION** and **PLUG TYPE** of your freeze dryer. These are the eighth and ninth digits of your catalog number. **The 115V configuration is available only on FreeZone 6 Liter Freeze Dryers.**

00 = 115V, 60 Hz, with 20A plug for North America

10 = 230V, 60 Hz, with plug for North America

15 = 230V, 60 Hz, with plug for Saudi Arabia

30 = 230V, 50 Hz, with Schuko plug

40 = 230V, 50 Hz, with plug for China/Australia

50 = 230V, 50 Hz, with plug for Great Britain (UK)

70 = 230V, 50 Hz, with plug for India

Electrical Requirements

Collector Capacity	Refrigeration Temperature	Volts	Console Amps	Tray Dryer Amps
6 L	-50° C & -84° C	115	16**	16
6 L	-50° C	230	8†	9
6 L	-84° C	230	10†	9
12 L	-50° C & -84° C	230	9†	9

Plug Configurations



115V, 60 Hz, 20A
for North America



230V, 60 Hz
for North America



230V, 60 Hz
for Saudi Arabia



230V, 50 Hz
Schuko



230V, 50 Hz
for China/Australia



230V, 50 Hz
for Great Britain (UK)



230V, 50 Hz
for India

Actual Dimensions (Tray Dryer mounted on Console) & Shipping Weights (Two Cartons)

Refrigeration Temperature	Overall Dimensions (w x d x h)	Shipping Weight (6 L)	Shipping Weight (12 L)
-50° C (-58° F)	32.4" x 29.6" x 63.7" (82.3 x 75.2 x 161.8 cm)	678 lbs. (308 kg)	698 lbs. (317 kg)
-84° C (-119° F)	32.4" x 29.6" x 63.7" (82.3 x 75.2 x 161.8 cm)	693 lbs. (314 kg)	743 lbs. (337 kg)

*Freeze drying rate will be lower for samples other than shell-frozen plain water. For optimum performance, room temperature should be 21° C (70° F) or colder.

**System amperage shown includes 8 amp maximum vacuum pump rating.

†System amperage shown includes 4.5 amp maximum vacuum pump rating.

FreeZone® 18 Liter -50° C Console Freeze Dryers with Stoppering Tray Dryer

Ordering Information



Catalog Number Configurator:

Use this key to configure the nine digit catalog number to order your FreeZone 18 Liter Console Freeze Dryer with Stoppering Tray Dryer capable of removing 10 liters of water in 24 hours**

7 0 1 8 2

Select the **COLLECTOR COIL** and **CHAMBER MATERIAL** of your freeze dryer. This is the sixth digit of your catalog number.

- 1 = Stainless steel
- 2 = PTFE-coated stainless steel

Select the **BUILT-IN OPTION** of your freeze dryer. This is the seventh digit of your catalog number.

- 0 = None
- 1 = Purge Valve

Select the **ELECTRICAL CONFIGURATION** and **PLUG TYPE** of your freeze dryer. These are the eighth and ninth digits of your catalog number.

- 10 = 230V, 60 Hz, with plug for North America
- 15 = 230V, 60 Hz, with plug for Saudi Arabia
- 30 = 230V, 50 Hz, with Schuko plug
- 40 = 230V, 50 Hz, with plug for China/Australia
- 50 = 230V, 50 Hz, with plug for Great Britain (UK)
- 70 = 230V, 50 Hz, with plug for India

Electrical Requirements

Collector Capacity	Refrigeration Temperature	Volts	Console Amps	Tray Dryer Amps
18 L	-50° C	230	9*	9

Plug Configurations



230V, 60 Hz
for North America



230V, 60 Hz
for Saudi Arabia



230V, 50 Hz
Schuko



230V, 50 Hz
for China/Australia



230V, 50 Hz
for Great Britain (UK)



230V, 50 Hz
for India

Actual Dimensions (Tray Dryer mounted on Console) & Shipping Weights (Two Cartons)

Refrigeration Temperature	Overall Dimensions (w x d x h)	Shipping Weight
-50° C (-58° F)	32.4" x 29.6" x 63.7" (82.3 x 75.2 x 161.8 cm)	713 lbs. (323 kg)

*System amperage shown includes 4.5 amp maximum vacuum pump rating.

**Freeze drying rate will be lower for samples other than shell-frozen plain water. For optimum performance, room temperature should be 21° C (70° F) or colder.

FreeZone® Stoppering Tray Dryers

Ordering Information



Catalog Number Configurator:

Use this key to configure the nine digit catalog number to order your FreeZone Stoppering Tray Dryer. To order your FreeZone Stoppering Tray Dryer and Freeze Dryer together as one catalog number, see pages 29 and 30.








Electrical Requirements

Volts	Amps
115	16
230	9

Shipping Weights

Built-In Options Included	Shipping Weight
None	423 lbs. (192 kg)
6-Port Tray Dryer Manifold	438 lbs. (199 kg)
Isolation Valve	431 lbs. (196 kg)
6-Port Tray Dryer Manifold and Isolation Valve	458 lbs. (208 kg)

Plug Configurations

						
115V, 60 Hz, 20A for North America	230V, 60 Hz for North America	230V, 60 Hz for Saudi Arabia	230V, 50 Hz Schuko	230V, 50 Hz for China/Australia	230V, 50 Hz for Great Britain (UK)	230V, 50 Hz for India

7 9 4 8 0 1

Select **BUILT-IN OPTIONS** for your tray dryer. This is the seventh digit of your catalog number.

- 0 = None
- 1 = 6-Port Tray Dryer Manifold
- 2 = Isolation Valve
- 3 = 6-Port Tray Dryer Manifold and Isolation Valve

Select the **ELECTRICAL CONFIGURATION** and **PLUG TYPE** of your freeze dryer. These are the eighth and ninth digits of your catalog number.

- 00 = 115V, 60 Hz, with 20A plug for North America
- 10 = 230V, 60 Hz, with plug for North America
- 15 = 230V, 60 Hz, with plug for Saudi Arabia
- 30 = 230V, 50 Hz, with Schuko plug
- 40 = 230V, 50 Hz, with plug for China/Australia
- 50 = 230V, 50 Hz, with plug for Great Britain (UK)
- 70 = 230V, 50 Hz, with plug for India

Authorised distributor

In Australia:

For customer service, call 1300-735-292

To fax an order, use 1800-067-639

To email an order, ordersau@thermofisher.com

In New Zealand:

For customer service, call 0800-933-966

To fax an order, use 0800-329-246

To email an order, ordersnz@thermofisher.com

ThermoFisher
S C I E N T I F I C