



## Overview

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FreeZone 4.5 Liter Benchtop Freeze Dryers are designed for lyophilizing light to moderate sample loads. The compact design is ideal for labs with limited floor space.

The upright stainless steel collector coil holds 4.5 liters of ice before defrosting. Two 1/3 hp HCFC/CFC-free refrigeration systems cool the collector to -84° C (-119° F), suitable for low eutectic point samples including acetonitrile.

**Lyo-Works™ OS** provides a real time display of collector temperature, vacuum level and optional End-Zone™ end point detection system, shown on a 5" full color, capacitive touch screen. Models with PTFE-coated collectors that can withstand corrosive compounds are available.

**Catalog Number:** 710401000

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*Vacuum pump, drying accessory and freeze dry glassware (if not bulk freeze drying) are required (not included).*

## Specifications

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- **Weight:** 197.0 lbs
- **Weight metric:** 89.4 kg
- **Dimensions:** 22.5" w x 26.5" d x 18.5" h
- **Dimensions metric:** 57.1 w x 67.3 d x 46.9 h cm
- **Electrical:** 115V, 60 Hz, 16A
- **Region:** U.S. and Canada
- **Collector Temperature:** -84° C, -119° F
- **Conformance:** CAN/CSA C22.2, UL
- **Ice Holding Capacity:** 4.5L
- **Plug Type:** North America, 115V
- **Style:** Benchtop
- **Vacuum Pump Displacement Required:** 98 L/min or larger displacement

# Description

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## Features (All Models)

- Upright stainless steel collector coil capable of holding 4.5L of ice before defrosting. Stainless steel collector lid, 3/4" thick, has neoprene gasket and 3" diameter port for connection of drying accessories (sold separately).
- Compact benchtop design with a small footprint.
- Brushed stainless steel and glacier white, powder-coated steel exterior with blue accents.
- Full color, 5" capacitive touch screen with Lyo-Works™ OS:
  - Real time display of collector temperature, vacuum level, and optional End-Zone™ end point detection system.
  - Start-up mode for collector cool-down and vacuum pull-down (automatic or manual).
  - Operating mode (standby or run).
  - Vacuum set point, alerts, diagnostic tests, user manual, defrost control, and optional drying accessory parameters.
  - Data logging stores and displays data in table or chart format, and may be exported via USB or Ethernet.
  - Settings include language (English, Spanish, French, German, or Italian), time, time zone, temperature (° C or ° F), and vacuum (mBar, Torr, or Pa).
  - Alerts are programmable to send via Ethernet connection to user-entered email addresses.
  - Display settings include brightness, touch sounds (on/off), and screen time out in minutes (on/off).
  - Maintenance alert settings include vacuum pump oil change, refrigeration cleaning, total operating hours and line voltage offset.
  - Level-specific security lock-out prevents changes to programs and other system parameters.
- Hot gas defrost with auto shut off at +60° C (+140° F).
- On/standby switch.
- Moisture sensor that prevents refrigeration or vacuum start-up when moisture is detected in the drain line.
- Vacuum control valve that maintains vacuum level set point.
- Vacuum break valve that bleeds air into the system when power to the freeze dryer or vacuum pump is shut off. If a power outage less than approximately 5 minutes occurs, the freeze dryer will restart and the refrigeration and vacuum system will resume operation once power is restored. If the power failure is more than approximately 5 minutes and the collector warms above safe limits, the freeze dryer will not automatically restart.
- Side-mounted USB port and rear-mounted Ethernet connection.
- Side-mounted, quick-disconnect drain hose fitting and lanyard with hose connector. 18", 1/4" ID silicone tubing and clamp included.
- Rear-mounted electrical receptacle for vacuum pump connection.
- 3-wire electrical cord with plug.
- 3/4" OD vacuum connection, 50" of 3/4" ID vacuum hose and two clamps.

## Options Include

- PTFE-coated collector coil and chamber for processing involving corrosive compounds.
- Region-specific electrical plug configurations.

## Required Accessories (Not Included)

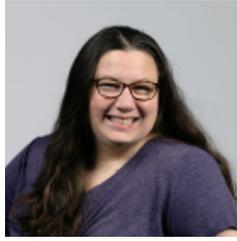
- Vacuum pump with a displacement of at least 98 L/min, 0.002 mBar ultimate pressure and fitting suitable for 3/4" ID vacuum hose.
- Small Tray Dryer or other drying accessory.
- Freeze dry glassware if not bulk freeze drying.

## For Product Assistance

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