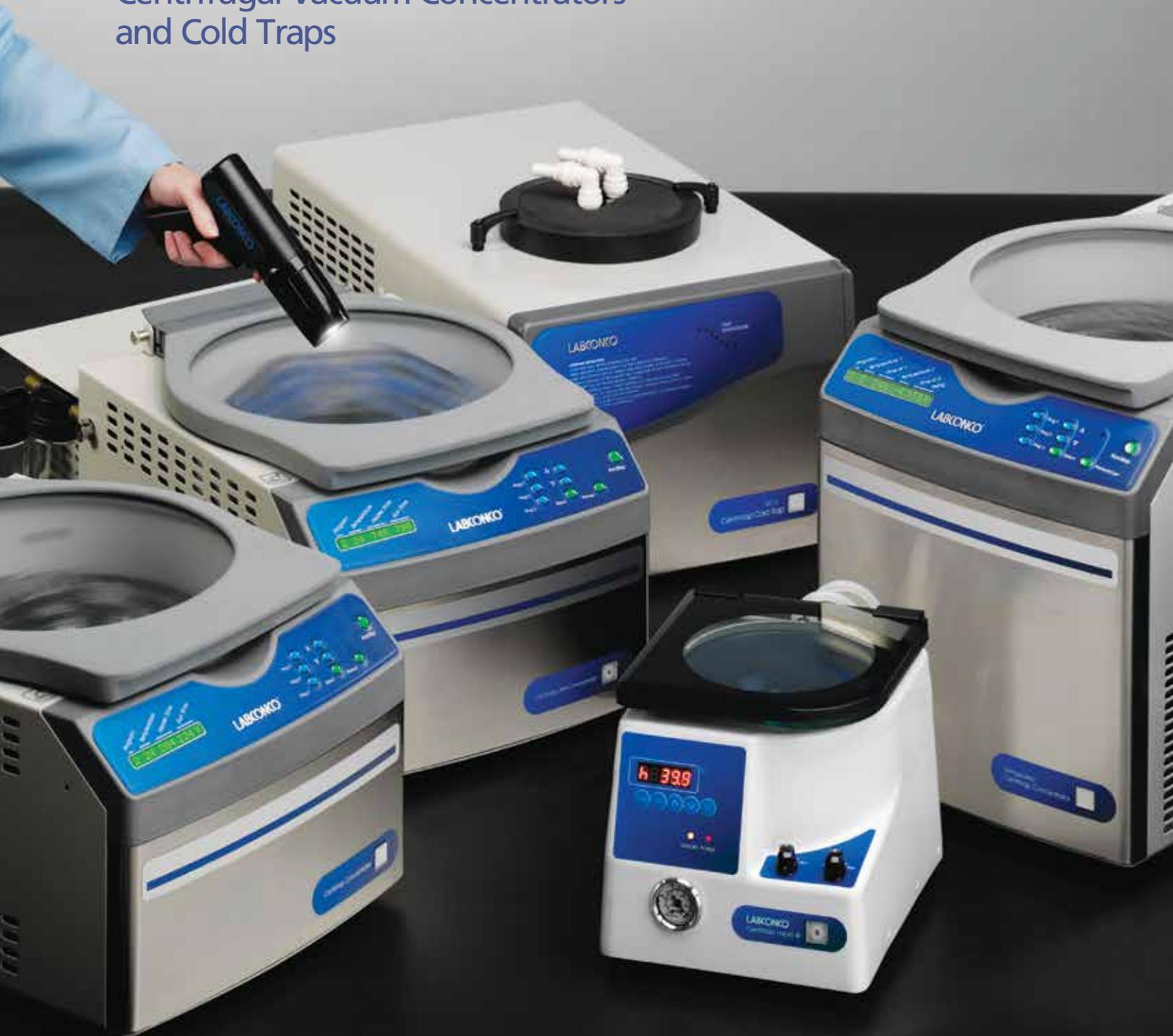




# CentriVap<sup>®</sup>

Centrifugal Vacuum Concentrators  
and Cold Traps



*Protecting your  
laboratory environment*

**LABCONCO**<sup>®</sup>



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## An Overview

CentriVap Vacuum Concentrators use a combination of centrifugal force, vacuum and heat to speed evaporation of multiple small samples in applications such as molecular biology, proteomics, genomics, cell biology, microbiology, biochemistry, drug discovery and analytical chemistry. Labconco offers concentrators in two chamber sizes to meet your throughput needs: CentriVap micro IR Vacuum Concentrators and CentriVap Vacuum Concentrators.

### CentriVap micro IR Vacuum Concentrators — small, yet complete

For small throughput, small samples such as DNA, and personal use, the CentriVap micro IR Vacuum Concentrator has an infrared-emitting lid to add heat to the chamber and reduce condensation. It has a small footprint yet is packed with features. A rotor that holds 24 each 0.5 ml microcentrifuge tubes is included. A built-in diaphragm vacuum pump aids evaporation. A built-in glass trap collects moisture to protect the pump. A CentriZap™ micro IR strobe light allows the user to view samples while spinning. Everything needed to begin evaporation is provided.

### CentriVap Vacuum Concentrators — greater throughput, many choices

CentriVap Vacuum Concentrators with 12" diameter chambers come in a variety of configurations and styles to suit a variety of needs. The larger chamber allows as many as 132 samples to be processed at once. Sample sizes range from a few microliters up to 125 milliliters. In addition, Microtiter Plate Rotors hold up to six standard or three deep-well plates.



*Ideal for DNA samples, the CentriVap micro IR Vacuum Concentrator has a small footprint to fit in tight spaces. Weighing only 20 pounds, it is easily transportable from lab to lab.*



*CentriVap Vacuum Concentrators, such as the Acid-Resistant CentriVap shown above, process up to 132 samples at once.*



*Refrigerated CentriVap Vacuum Concentrator incorporates a refrigeration system to protect heat-sensitive samples.*



*CentriVap DNA Vacuum Concentrator includes a built-in diaphragm pump and DNA Rotor.*



*CentriVap Mobile System combines the concentrator and cold trap into a portable console.*



*CentriVap -50 Cold Trap, which reaches -50° C (-58° F), collects moisture during evaporation to protect the vacuum pump.*



*CentriVap -84 Cold Trap, which reaches -84° C (-119° F), protects the vacuum pump from lower freezing point solvents.*



*CentriVap -105 Cold Trap, which reaches -105° C (-157° F), protects the vacuum pump from ultra low freezing point solvents.*

Some CentriVap Concentrators have additional design features to meet specific application needs. The Refrigerated CentriVap Vacuum Concentrator combines refrigeration with heat to safely evaporate heat-sensitive samples. The Acid-Resistant CentriVap Concentrator, available as a standard benchtop or refrigerated benchtop, is constructed with chemical-resistant components throughout the vapor path for use with samples containing a variety of chemicals.

The CentriVap Mobile System and CentriVap DNA Concentrator house all the components necessary to begin concentration in one convenient cabinet. The CentriVap Mobile System consists of a portable console cabinet with the concentrator, cold trap and space inside for an accessory vacuum pump. The CentriVap DNA Concentrator is a compact benchtop model with a built-in diaphragm pump.

For ease of ordering, Labconco has application-specific CentriVap Systems, each organized under one catalog number. Systems specifically designed for aqueous, acid, solvent or proteomic-based applications are offered. In addition, the CentriVap Gel Dryer System includes a Labconco Gel Dryer so that the CentriVap Cold Trap and accessory vacuum pump may be shared by the electrophoresis and concentration equipment.

Programmability and other microprocessor-controlled features make the CentriVap Concentrators easy to use and allow unattended operation. Up to nine different protocols consisting of temperature, heat time and run time may be entered and stored into memory. Programs 1, 2 and 3 as designated by the user may be quickly accessed by pressing one of three Quick-Start™ buttons. To protect sensitive samples from excessive heat exposure after samples have evaporated, the heat time may be programmed to shut off sooner than the run time. An audible alarm alerts the user when the run time has expired.

The microprocessor-controlled heater directs heat from OFF to 100° C upward through the bottom of the chamber. To further speed evaporation, the optional Heat Boost™ feature surrounds the chamber wall with additional heat, at the same user-programmed temperature.

### CentriVap Cold Traps — vacuum pump protection

CentriVap -50 Cold Traps help protect the accessory vacuum pump from the corrosive effects of vapors and fumes as they evaporate from the samples. The CentriVap -84 and -105 Cold Traps provide protection from low freezing point solvents. Besides use with concentrators, these cold traps may be coupled with vacuum pumps for use with other applications such as freeze drying or desiccation.



With the smallest footprint available, the CentriVap® micro IR Vacuum Concentrator fits in tight spaces and is ideal for small samples such as DNA and small throughput in molecular biology, proteomics, genomics, genetics, cell biology and drug discovery labs. Weighing only 20 pounds, this personal-sized concentrator may be easily transported from lab to lab.

Everything about the CentriVap micro IR is small except its many features. Its transparent infrared (IR) glass lid directs heat to the samples

to speed evaporation and reduces cross contamination from condensation. The CentriVap micro IR includes a rotor for twenty-four small samples, a CentriZap™ micro IR strobe light to view samples while the rotor is spinning, a built-in diaphragm pump and glass trap—everything you need to start concentrating. Simply plug it in and it's ready to use.





## Features & Benefits

### Ideal for small throughput and sample sizes.

The chamber holds one of five different rotors with capacities from 24 x 0.5 ml microcentrifuge tubes to 8 x 30 ml vials.

### Smallest footprint available.

The shaded area on these pages shows the CentriVap micro IR's actual footprint. Its compact footprint, only 8.8" wide x 10.4" deep x 8.9" high (22.4 x 26.4 x 22.6 cm), requires little bench space or storage space.

### Teflon\*-coated chamber.

Resists corrosion, adds durability.

### IR-emitting glass lid.

Adds heat to the chamber to speed evaporation while helping to prevent condensation that can contribute to sample cross contamination. Glass resists etching from certain chemicals.

### CentriZap micro IR strobe light included.

Enables the user to shine a strobe light into the chamber to easily view samples while the rotor is spinning. Samples appear to be standing still. Saves time necessary to stop the rotor and lift the lid to check sample dryness.

**Teflon\*-coated aluminum rotor is included.** Accommodates 24 each 1.5 ml microcentrifuge tubes. Other accessory rotors are available.

### Built-in Teflon\*-coated diaphragm pump.

Corrosion-resistant diaphragm pump achieves ultimate vacuum of 160 mBar and pumping capacity of 5.5 liters per minute. Oil-free pump is low maintenance.

### Microprocessor-controlled 300-watt heater.

Speeds evaporation by supplying a controlled amount of heat from 35° C to 65° C in 0.1 degree increments. "Standby" setting allows chamber to preheat before sample processing.

### Centrifugal motion of 1700 rpm.

Eliminates bumping and foaming common when applying vacuum during evaporation and maximizes recovery of trace solutes.

### Quiet operation.

The magnetic induction drive and pump run quietly with low vibration.

### Fast evaporation.

Using Rotor 7548500, 24 each 1 ml samples in 1.5 ml microcentrifuge tubes, and the IR lid heat function, fast evaporation times were achieved.

Solvent	Temperature	Dry Time
Acetonitrile	45° C	61 minutes
Methanol	65° C	32 minutes
Water	60° C	145 minutes
Isopropanol	60° C	30 minutes
Ethanol	60° C	39 minutes

### Vacuum gauge.

Built-in front-mounted analog vacuum gauge indicates pump function.

### Easy-to-read LCD display.

Prompts the user to set heat and time, displays actual temperature during "Standby" and "Run."

### 75 ml Glass trap.

Protects the pump and the environment. For greater trapping ability, the rear-mounted trap may be placed in an ice bath.

### ETL listed.

Model 7701020 carries the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying it meets or exceeds all requirements of UL Standard 61010A-1 and CAN/CSA C22.2 No. 1010.1.

### CE Mark.

All 230 volt models conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

### Reliability guarantee.

Full one year warranty is provided against defects in materials and workmanship.

Shaded area represents actual footprint of the CentriVap® micro IR.



CentriZap™ micro IR strobe light





## Controls

### LCD display.

Shows set point temperature and time while in set up mode and actual temperature and time while in run mode.

**START/STOP button.** Press to start or stop a run and to reset the timer.

**Heat Selector.** Use to select IR only, IR/Heat or Heat only.

### TIME button.

Press to display time remaining.

### SET button.

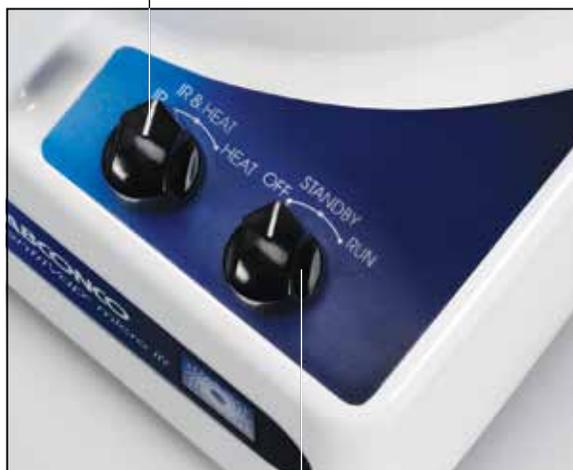
Press to program temperature and time.



**Increase/Decrease buttons.** Press to increase or decrease the last selected set point parameter.

**STANDBY light.** Illuminates during preheating.

**POWER light.** Illuminates when in Standby or Run mode.



**Run Mode Selector.** Use to select Off, Standby (preheat) or Run mode.

## Optional Accessories



7548500



7548600



7548700



7548800

### Teflon\*-Coated Aluminum Rotors

Hold tubes at an angle to maximize surface area. Easily interchangeable. **Rotor 7548500 is included with each CentriVap micro IR.** Sample containers are not included. Shipping weight 1 lb. (0.5 kg)

Catalog Number	Tube Capacity	Tube Volume**	Tube Description
7548400	24	0.5 ml	0.5 ml microcentrifuge tubes
7548500	24	1.5 ml	1.5 ml microcentrifuge tubes
7548600	16	10 ml	vials, 18 mm dia. x 65 mm tall
7548700	12	15 ml	vials, 20 mm dia. x 70 mm tall
7548800	8	25 ml	vials, 28 mm dia. x 70 mm tall

\*Teflon® is a registered trademark of E.I. du Pont de Nemours.

\*\*Tubes should be filled no more than 1/3 to 1/2 of tube volume to prevent loss of sample during rotation.

### 7549000 CentriZap micro IR Strobe Light, Replacement

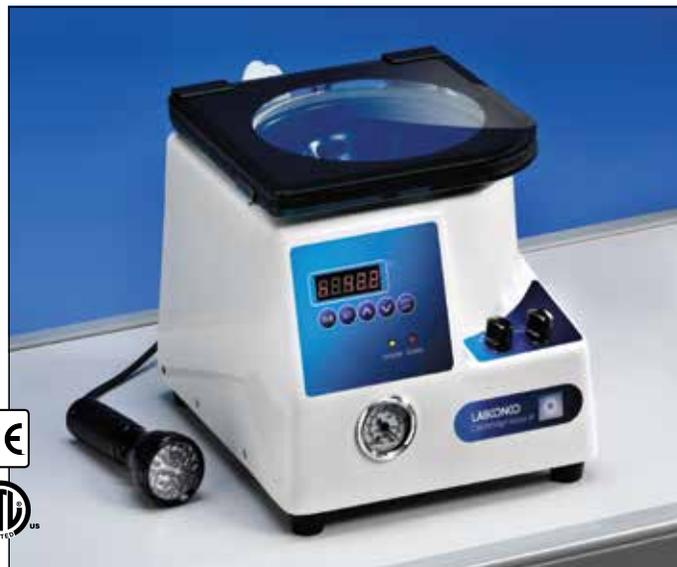
Enables user to shine a strobe light into the CentriVap micro IR's chamber to easily view samples while the rotor is spinning. Included with each CentriVap micro IR. Shipping weight 1 lb. (0.5 kg)





## Specifications

- Compact dimensions. Footprint: 8.8" w x 10.4" d x 8.9" high (22.4 x 26.4 x 22.6 cm). Overall depth, including glass trap: 12.9" (32.8 cm).
- IR-emitting transparent glass lid.
- Teflon\*-coated aluminum chamber.
- Teflon\*-coated aluminum rotor included for 24 each, 1.5 ml microcentrifuge tubes.
- Built-in Teflon\*-coated diaphragm pump with ultimate vacuum of 160 mBar and displacement capacity of 5.5 liters/minute.
- CentriZap micro IR strobe light included.
- 300-watt heater.
- Microprocessor-controlled programming for run time either continually or in hours and minutes from 0 to 99 hours and 0 to 59 minutes, and heat setting of 35° C to 65° C in 0.1 degree increments.
- Centrifugal motion of 1700 rpm achieved by magnetic induction drive.
- Analog vacuum gauge.
- LCD for programming and actual temperature/time display.
- 75 ml Glass trap.
- One year warranty on materials and workmanship.
- ETL & ETL-C listing on model 7701020.
- CE mark on models 7701030, 7701035 and 7701037.
- Actual weight 20 lbs. (9.1 kg)
- Shipping weight 25 lbs. (11.3 kg)



CentriVap micro IR Vacuum Concentrator 7701020

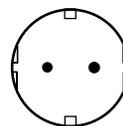
## Ordering Information

Catalog Number	Electrical Specifications	Plug Type
7701020	115 volts, 60 Hz, 2 amps	115 volts, 15 amps
7701030	230 volts, 50/60 Hz, 1 amp	Schuko
7701035	230 volts, 50/60 Hz, 1 amp	British (UK)
7701037	230 volts, 50/60 Hz, 1 amp	China/Australia

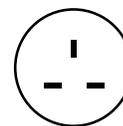
## Plug Types



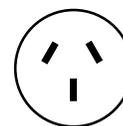
115 volts,  
15 amps



Schuko



British (UK)



China/  
Australia

## Required Accessories (not included)

- Sample tubes. Contact your laboratory supply dealer.

## Optional Accessories

- Rotors. See page 6.



CentriVap Benchtop Vacuum Concentrators are designed to rapidly concentrate multiple small samples using centrifugal force, vacuum and heat. You may purchase the individual components separately—concentrator, cold trap, rotor and pump—to suit your individual needs. Or, purchase an application-specific CentriVap System, which includes the concentrator, cold trap, chemical trap

and rotor organized under one catalog number for easy ordering. Aqueous, Solvent or Acid Systems are available. CentriVap Gel Dryer Systems consist of the Labconco Gel Dryer combined with the CentriVap Benchtop Concentrator and Cold Trap. See pages 30 and 31 for System ordering information.

Optional microprocessor-controlled 300-watt Heat Boost™

Large chamber holds up to 132 samples for maximum throughput

Memory stores 9 user-set programs

Microprocessor-controlled 300-watt heater

Large, phenol-free lid seal

Quick-Start™ One Button Start Up

Vacuum port with quick disconnect fitting

Quick-Stop™ System

Easy-to-read LCD display

Sleek styling





## Features & Benefits

### ■ Sleek styling.

Brushed stainless steel front panel and blue accents enhance appearance. Compact design has a small footprint.

### Microprocessor-controlled centrifugal motion.

Centrifugal force eliminates bumping and foaming common when applying vacuum during evaporation and maximizes recovery of trace solutes. Centrifugal motion is provided by a brushless motor capable of achieving up to 1725 rpm.

### Quick-Stop™ System.

Once run time has expired or the RUN/STOP button is pressed, within seconds the vacuum pump stops, the valve opens to bleed air into the chamber, and the rotor stops.

### Automatic vacuum release valve.

Prevents loss of sample by releasing the vacuum before the rotor stops and during power failures. The larger valve takes less time to release the vacuum.

### Lid latch with safety sensor.

Locks the lid in place when the rotor is turning and prevents start up when the lid is open.

### Larger chamber holds more samples for greater throughput.

The 12" diameter chamber accommodates a variety of rotors that hold up to 132 samples. The 6-Place Microtiter Plate Rotor holds six standard 96-well plates or three deep well plates. Thick-wall aluminum chamber is epoxy-coated for chemical resistance.

### Large, phenol-free lid seal.

Ensures good vacuum without potential for phenol contamination.

### Acrylic lid is standard; glass lid is optional.

When applications involve solvents which attack acrylic, order CentriVap Concentrator with glass lid.

### Built-in vacuum delay.

Prevents bumping by allowing the rotor to achieve speed before applying vacuum.

### ■ Microprocessor-controlled 300-watt heater.

Speeds evaporation by supplying a controlled amount of heat from OFF up to a maximum of 100° C in one degree increments.

### ■ Optional microprocessor-controlled 300-watt Heat Boost.™

Surrounds chamber wall to provide additional heat from OFF up to a maximum of 100° C in one degree increments. Unlike radiant lid heaters, heat is supplied within the chamber, decreasing the risk of burn injury.

### ■ Quick-Start™ One Button Start Up saves time.

Pressing just one button starts the rotor, the heater, the timers and the vacuum pump. Three separate Quick-Start Buttons store one user-set program each.

### Easy-to-read LCD display.

Prompts the user to set program parameters and displays program number, actual and set point temperatures, heat time remaining, run time remaining, and if optional Heat Boost is activated.

### Heat and run times are set separately.

Each from 1 to 999 minutes, so that heat may be programmed to shut down sooner than the run to protect heat-sensitive samples from excessive heat exposure after the solvent has evaporated. Once user-set run time has expired, all functions cease.

### PREHEAT button.

Pressing the button activates the heater to begin elevating to set point temperature. When in the preheat mode, the operator can monitor actual heat. Once set point temperature has been reached, samples can be added and program started.

### ■ Memory stores 9 user-set programs.

Parameters of temperature, heat time and run time can be easily set with the touch of a few buttons. In addition, the user may alter temperature and times while the program is in progress.

### Audible alarm signals completion of set point run time.

If it is desired to have the CentriVap run continuously without a set point time, the user may use the increase button until ON is displayed under RUN TIME.

### Electrical receptacle.

Allows connection of accessory vacuum pump so that pump may be activated from control panel and vacuum delay utilized.

### Vacuum port with quick disconnect fitting.

Allows connection of a gauge to the CentriVap for monitoring vacuum level. Vacuum gauge and 1/4" ID tubing are required (not included). Contact Labconco for vacuum gauge recommendations.

### ETL listed.

The CentriVap Concentrators carry the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying they meet or exceed all requirements of UL Standard 61010A-1 and CAN/CSA C22.2 No. 1010.1.

### International electrical configurations available.

All 230 volt models conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

### Reliability guarantee.

Full one year warranty is provided against defects in materials and workmanship.



## Control Panel

### PROGRAM.

LCD shows program from 1 to 9, R for run or S for stop.

### HEAT BOOST option.

LCD shows Y when Heat Boost has been selected; N when not selected.

### Quick-Start™ buttons.

Initiate user-set Program 1, 2 or 3 with a single push of a button.

### Increase/Decrease buttons.

Press to increase or decrease the last selected set point parameter.

### HEATER TIME.

LCD shows time selected for heat (and Heat Boost, if activated) from 1 to 999 minutes. During the run, the LCD shows time remaining.

### HEAT BOOST button.

Press to turn on optional Heat Boost.

### TEMPERATURE.

LCD shows heat (and Heat Boost, if activated) from OFF to 99 (° C) or HI (100° C).

### Set Point SELECT button.

To select a parameter to change, press until the arrows on the LCD point to the parameter desired.

### RUN TIME.

LCD shows time selected from 1 to 999 minutes. During the run, the LCD shows time remaining.

### PREHEAT button.

Press to turn on the heater to preheat the chamber prior to loading samples.

### RUN/STOP button.

Press to start or stop a run.



## Optional Accessories

### Optional CentriZap™ Strobe Light.

Enables the user to shine a strobe light into the chamber to easily view samples while the rotor is spinning. Samples appear to be standing still. The gun plugs into an outlet on the back of the CentriVap. A holster bracket is supplied and attaches to the right side of the CentriVap. See page 33.

### Optional Glass Lid.

Provides additional protection from solvents and corrosives that attack acrylic. See page 35.



*CentriZap Strobe Light allows the user to check sample status without stopping the rotor and opening the lid.*



## Specifications

- Brushed stainless steel and glacier white, epoxy-coated steel exterior with blue accents.
  - Acrylic lid or glass lid, depending on model.
  - Lid latch with safety sensor.
  - Phenol-free lid gasket.
  - Epoxy-coated aluminum chamber.
- 300-watt heater.
- Microprocessor-controlled programming for run time from 1 to 999 minutes, heat from OFF to HI (100° C) in one degree increments, heat time from 1 to 999 minutes, and optional Heat Boost on/off. Memory stores 1 to 9 programs.
  - LCD for display of program number, actual and set point temperature, heater time remaining, run time remaining, and optional Heat Boost activation.
- Control panel with RUN/STOP button, PREHEAT button, optional HEAT BOOST button, set point SELECT button, increase/decrease buttons, and 3 Quick-Start buttons.
  - Centrifugal motion provided by a brushless motor capable of achieving up to 1725 rpm.
  - Quick-Stop System to stop vacuum pump, open valve to bleed air into the chamber and stop the rotor within seconds after time expires or RUN/STOP button is pressed.
  - Automatic vacuum release valve.
  - Built-in vacuum delay allows rotor to achieve speed before applying vacuum.
  - Audible alarm to signal completion of set point run time.
  - 1/2" OD aluminum hose fitting for connection to vacuum tubing. **Vacuum pump is not included.**
  - Vacuum port with quick disconnect fitting for 1/4" ID tubing.
  - An electrical receptacle on the back for connection to an accessory vacuum pump.
  - ETL & ETL-C listing on 115 volt, 60 Hz models.
  - CE mark on 230 volt, 50/60 Hz models.
  - Overall dimensions with closed lid: 14.7" wide x 19.3" deep x 11.7" high (37.3 x 49.0 x 29.6 cm).
  - Actual weight 42 lbs. (19 kg). Shipping weight 48 lbs. (22 kg).



CentriVap Benchtop Vacuum Concentrator 7810010



### Built-in Option

- 300-watt Heat Boost from OFF to HI (100° C) in one degree increments, for 1 to 999 minutes, depending on set points programmed for heater.

### Required Accessories (not included)

- **Diaphragm or Rotary Vane Vacuum Pump.** See page 34.
- **CentriVap Cold Trap** (if using a Rotary Vane Pump). See pages 20-21.
- **Rotor.** See pages 32-33.
- **Sample tubes.** Contact your laboratory supply dealer.

### Other Accessories (See pages 33-34)

- **CentriZap Strobe Light**
- **Vacuum Controller**
- **Glass Lid**
- **Laboratory Carts**

## Ordering Information

Catalog Number	Electrical Requirements	Receptacle & Plug Type	Heat Boost	Glass Lid
7810010	115 volts, 50/60 Hz, 12 amps**	115 volts, 15 amps		
7810011	230 volts, 50/60 Hz, 6 amps†	North America, 230 volts		
7810012	115 volts, 50/60 Hz, 12 amps**	115 volts, 15 amps	•	
7810013	230 volts, 50/60 Hz, 6 amps†	North America, 230 volts	•	
7810014	115 volts, 50/60 Hz, 12 amps**	115 volts, 15 amps		•
7810015	230 volts, 50/60 Hz, 6 amps†	North America, 230 volts		•
7810030*	230 volts, 50/60 Hz, 6 amps†	Schuko		
7810031*	230 volts, 50/60 Hz, 6 amps†	Schuko	•	
7810032*	230 volts, 50/60 Hz, 6 amps†	Schuko		•
7810034*	230 volts, 50/60 Hz, 6 amps†	British (UK)		
7810035*	230 volts, 50/60 Hz, 6 amps†	British (UK)	•	
7810036*	230 volts, 50/60 Hz, 6 amps†	British (UK)		•
7810038*	230 volts, 50/60 Hz, 6 amps†	China/Australia		
7810039*	230 volts, 50/60 Hz, 6 amps†	China/Australia	•	
7810040*	230 volts, 50/60 Hz, 6 amps†	China/Australia		•

See pages 30-31 for ordering information on CentriVap Systems consisting of the individual components bundled under one catalog number.



**115 volts, 15 amps –** For Catalog Numbers ending in 10, 12 & 14



**North America, 230 volts –** For Catalog Numbers ending in 11, 13 & 15



**Schuko –** For Catalog Numbers ending in 30, 31 & 32



**British (UK) –** For Catalog Numbers ending in 34, 35 & 36



**China/Australia –** For Catalog Numbers ending in 38, 39 & 40

\*International electrical configuration \*\*System amperage shown includes 8 amp maximum vacuum pump rating †System amperage shown includes 4.5 amp maximum vacuum pump rating

■ Exclusive feature



The Refrigerated CentriVap Vacuum Concentrator is designed to rapidly concentrate multiple small heat-sensitive samples, such as RNA and proteins, using centrifugal force, vacuum and controlled temperature. This CentriVap is the only **commercially available concentrator that combines a refrigeration system that cools to -4° C with a heater that warms to +100° C to achieve the user's selected set point temperatures.** The Refrigerated CentriVap is also part of the CentriVap Proteomic System, which includes the con-

centrator, cold trap and DNA rotor organized under one catalog number. See page 31 for System ordering information.

For heat-sensitive samples that contain chemicals such as 0.1 to 1% TFA, hydrochloric acid, acetic acid, hydrobromic acid, ammonium hydroxide and sodium hydroxide, Acid-Resistant Refrigerated CentriVap Concentrators are available, which include a Teflon®-coated chamber and other acid-resistant components.





## Features & Benefits

### ■ PREHEAT/COOL button.

Pressing the button activates the refrigeration system and heater to reach set point temperature. When in the preheat/cool mode, the operator can monitor actual temperature. Once set point temperature has been reached, samples can be added and program started.

### ■ Programming holds two temperatures and times.

Set points for the first and second temperatures and run times are selected separately. A lower temperature may be programmed for the second run time to protect heat-sensitive samples from excessive heat exposure after the solvent has evaporated. Once the user-set second run time has expired, all functions cease.

### ■ Microprocessor-controlled cooling and heating.

Speeds evaporation while protecting heat-sensitive samples by supplying a controlled amount of cooling or heat from **-4° C up to a maximum of +100° C in one degree increments**. A temperature sensor monitors the chamber to regulate the activation of the HCFC/CFC-free refrigeration system and/or the 300-watt heater.

### ■ Microprocessor-controlled centrifugal motion.

Centrifugal force eliminates bumping and foaming common when applying vacuum during evaporation and maximizes recovery of trace solutes.

### ■ Memory stores 9 user-set programs.

Parameters of temperature and run time can be easily set with the touch of a few buttons. In addition, the user may alter temperature and times while the program is in progress.

### Quick-Start™ One Button Start Up saves time.

Pressing just one button starts the rotor, the refrigeration and/or heater, the timers and the vacuum pump. Three separate Quick-Start Buttons store one user-set program each.

### Quick-Stop™ System.

Once run time has expired or the RUN/STOP button is pressed, within seconds the vacuum pump stops, the valve opens to bleed air into the chamber, and the rotor stops.

### Automatic vacuum release valve.

Prevents loss of sample by releasing the vacuum before the rotor stops and during power failures. The larger valve takes less time to release the vacuum.

### Built-in vacuum delay.

Prevents bumping by allowing the rotor to achieve speed before applying vacuum.

### Audible alarm signals completion of set point run time.

If it is desired to have the CentriVap run continuously without a set point time, the user may use the increase button until ON is displayed under RUN TIME.

### ■ Vacuum port with quick disconnect fitting.

Allows connection of a gauge to the CentriVap for monitoring vacuum level. Vacuum gauge and 1/4" ID tubing are required (not included). Contact Labconco for vacuum gauge recommendations.

### ■ Sleek styling.

Brushed stainless steel front panel and blue accents enhance appearance. Compact design has a small foot print.

### Acrylic lid is standard; glass lid is provided on Acid-Resistant models and also available as an option.

The glass lid option is recommended when applications involve solvents that attack acrylic.

### Lid latch with safety sensor.

Locks the lid in place when the rotor is turning and prevents start up when the lid is open.

### Large chamber holds multiple samples for maximum throughput.

The 12" diameter chamber accommodates a variety of rotors that hold up to 132 samples. The accessory Microtiter Plate Rotor holds four standard 96-well plates or two deep well plates. Thick-wall aluminum chamber is epoxy-coated for chemical resistance. Acid-Resistant models includes a Teflon-coated aluminum chamber for resistance to more corrosive chemicals such as dilute TFA.

### Large, phenol-free lid seal.

Ensures good vacuum without potential for phenol contamination.

### Easy-to-read LCD display.

Prompts the user to set program parameters and displays program number, actual and set point temperatures, heat time remaining, and run time remaining.

### Electrical receptacle.

Allows connection of accessory vacuum pump so that pump may be activated from control panel and vacuum delay utilized.

### ETL listed.

The CentriVap Concentrators carry the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying they meet or exceed all requirements of UL Standard 61010A-1 and CAN/CSA C22.2 No. 1010.1.

### International electrical configurations available.

All 230 volt models conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

### Reliability guarantee.

Full one year warranty is provided against defects in materials and workmanship.



## Control Panel

### PROGRAM.

LCD shows program from 1 to 9, R for run and S for stop.

### TIME AT 1.

LCD shows time selected for the first temperature from 1 to 999 minutes.

### TIME AT 2.

LCD shows time selected for the second temperature from 0 to 999 minutes.

### RUN/STOP button.

Press to start or stop a run.

### Increase/Decrease buttons.

Press to increase or decrease the last selected set point parameter.

### Quick-Start™ buttons.

Initiate user-set Program 1, 2 or 3 with a single push of a button.

### TEMPERATURE 1.

LCD shows the first temperature selected from -4 to +99 (° C) or HI (100° C). During the run, the LCD shows the actual temperature of the chamber.

### TEMPERATURE 2.

LCD shows the second temperature selected from -4 to +99 (° C) or HI (100° C). During the run, the LCD shows the actual temperature of the chamber.

### REFRIGERATION.

LCD displays Y when refrigeration is on and N when it is off.

### PREHEAT/COOL button.

Press to turn on the heater or refrigeration system to heat or cool the chamber prior to loading samples.

### Set Point SELECT button.

To select a parameter to change, press until the arrows on the LCD point to the parameter desired.



## Optional Accessory

### Optional CentriZap™ Strobe Light.

Enables the user to shine a strobe light into the chamber to easily view samples while the rotor is spinning. Samples appear to be standing still. The gun plugs into an outlet on the back of the CentriVap. A holster bracket is supplied and attaches to the right side of the CentriVap. See page 33.



*CentriZap Strobe Light allows the user to check sample status without stopping the rotor and opening the lid.*



## Specifications

- Brushed stainless steel and glacier white, epoxy-coated steel exterior with blue accents.
  - Acrylic lid or glass lid, depending on model.
  - Lid latch with safety sensor.
  - Phenol-free lid gasket.
  - Epoxy-coated aluminum chamber or Teflon\*-coated aluminum chamber with Hastelloy\* shaft, depending on the model.
  - 300-watt heater to heat chamber to +100° C.
- HCFC/CFC-free refrigeration system to cool chamber to -4° C.
- Sensor that reads chamber temperature.
- Microprocessor-controlled programming for "Temperature 1" from -4° C to +100° C, "Temperature 1" time from 1 to 999 minutes or indefinite, "Temperature 2" from -4° C to +100° C, and "Temperature 2" time from 0 to 999 minutes or indefinite. Memory stores 1 to 9 programs.
  - LCD for display of program number, set point and actual "Temperature 1 and 2," set point and time remaining for "Temperature 1 and 2," and refrigeration activation ("Y" or "N").
- Control panel with RUN/STOP button, PREHEAT/ COOL button, set point SELECT button, increase/ decrease buttons, and 3 Quick-Start buttons.
  - Centrifugal motion provided by a brushless motor capable of achieving up to 1725 rpm.
  - Quick-Stop System to stop vacuum pump, open valve to bleed air into the chamber and stop the rotor within seconds after time expires or RUN/STOP button is pressed.
  - Automatic vacuum release valve.
  - Built-in vacuum delay allows rotor to achieve speed before applying vacuum.
  - Audible alarm to signal completion of set point run time.
  - 1/2" OD aluminum hose fitting for connection to vacuum tubing. **Vacuum pump is not included.**
- Vacuum port with quick disconnect fitting for 1/4" ID tubing.
  - Electrical receptacle on the back to connect accessory vacuum pump to the system.
  - ETL & ETL-C listing on 115 volt & 230 volt, 60 Hz models.
  - CE mark on 230 volt, 50 Hz models.



Refrigerated CentriVap Vacuum Concentrator 7310020

- Overall dimensions with closed lid: 14.3" wide x 21.7" deep x 16.6" high (36.4 x 55.1 x 42.2 cm).
- Actual weight 95 lbs. (43 kg). Shipping weight 108 lbs. (49 kg).

### Required Accessories (not included)

- **Diaphragm or Rotary Vane Vacuum Pump.** See page 34.
- **CentriVap Cold Trap** (if using a Rotary Vane Vacuum Pump). See pages 20-21.
- **Rotor.** See page 32-33.
- **Sample tubes.** Contact your laboratory supply dealer.

### Other Accessories (See pages 32-35)

- **CentriZap™ Strobe Light**
  - **Vacuum Controller**
  - **Laboratory Carts**

## Ordering Information

Catalog Number	Electrical Requirements	Receptacle & Plug Type	Glass Lid	Acid-Resistant
7310020	115 volts, 60 Hz, 16 amps <sup>†</sup>	115 volts, 20 amps		
7310021	115 volts, 60 Hz, 16 amps <sup>†</sup>	115 volts, 20 amps	•	
7310022	115 volts, 60 Hz, 16 amps <sup>†</sup>	115 volts, 20 amps	•	•
7310030**	230 volts, 50 Hz, 8 amps <sup>††</sup>	Schuko		
7310031**	230 volts, 50 Hz, 8 amps <sup>††</sup>	Schuko	•	
7310032**	230 volts, 50 Hz, 8 amps <sup>††</sup>	Schuko	•	•
7310035**	230 volts, 50 Hz, 8 amps <sup>††</sup>	British (UK)		
7310036**	230 volts, 50 Hz, 8 amps <sup>††</sup>	British (UK)	•	
7310034**	230 volts, 50 Hz, 8 amps <sup>††</sup>	British (UK)	•	•
7310037**	230 volts, 50 Hz, 8 amps <sup>††</sup>	China/Australia		
7310038**	230 volts, 50 Hz, 8 amps <sup>††</sup>	China/Australia	•	
7310039**	230 volts, 50 Hz, 8 amps <sup>††</sup>	China/Australia	•	•
7310040	230 volts, 60 Hz, 8 amps <sup>††</sup>	North America, 230 volts		
7310041	230 volts, 60 Hz, 8 amps <sup>††</sup>	North America, 230 volts	•	
7310042	230 volts, 60 Hz, 8 amps <sup>††</sup>	North America, 230 volts	•	•

115 volts, 20 amps – For 7310020, 7310021 & 7310022

North America, 230 volts – For 7310040, 7310041 & 7310042

Schuko – For 7310030, 7310031 & 7310032

British (UK) – For 7310034, 7310035 & 7310036

China/Australia – For 7310037, 7310038 & 7310039

\*Hastelloy® is a registered trademark of Haynes International. Teflon® is a registered trademark of E.I. du Pont de Nemours.

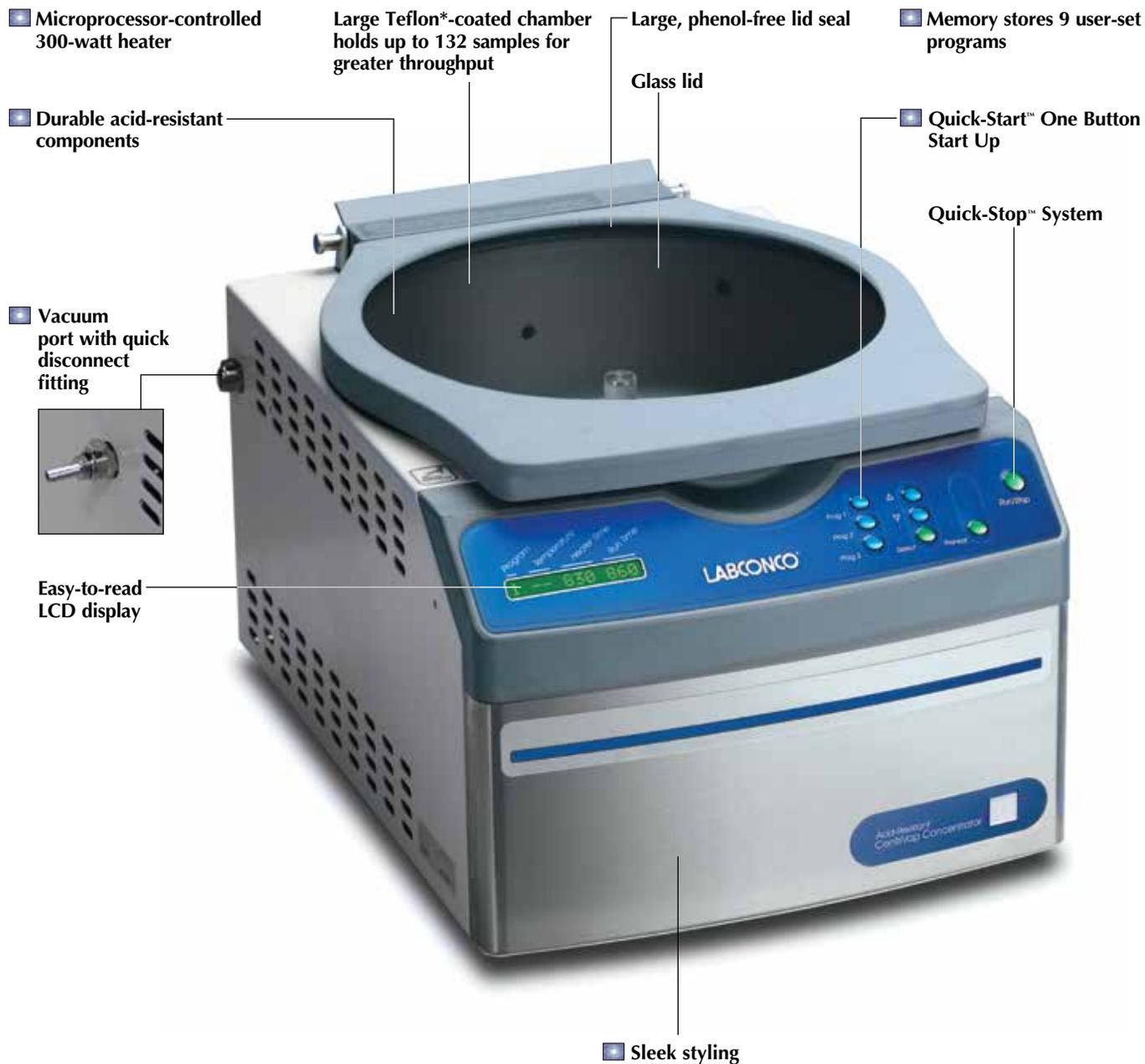
\*\*International electrical configuration †System amperage shown includes 8 amp maximum vacuum pump rating

■ Exclusive feature



Using centrifugal force, vacuum and controlled heat, the Acid-Resistant CentriVap Vacuum Concentrator, with chemical-resistant components throughout the vapor path,

rapidly concentrates multiple small samples containing chemicals such as 0.1 to 1% TFA, hydrochloric acid, acetic acid, hydrobromic acid, ammonium hydroxide and sodium hydroxide.





## Features & Benefits

### ■ Durable acid-resistant components.

The aluminum chamber is Teflon®-coated, the lid is glass and other components in the vapor path are constructed of acid-resistant materials for long life. See page 33 for ordering information on Acid-Resistant Rotors.

### Microprocessor-controlled centrifugal motion.

Centrifugal force eliminates bumping and foaming common when applying vacuum during evaporation and maximizes recovery of trace solutes.

### ■ Memory stores 9 user-set programs.

Parameters of temperature, heat time and run time can be easily set with the touch of a few buttons. In addition, the user may alter temperature and times while the program is in progress.

### ■ Quick-Start™ One Button Start Up saves time.

Pressing just one button starts the rotor, the heater, the timers and the vacuum pump. Three separate Quick-Start Buttons store one user-set program each.

### Quick-Stop™ System.

Once run time has expired or the RUN/STOP button is pressed, within seconds the vacuum pump stops, the valve opens to bleed air into the chamber, and the rotor stops.

### Automatic vacuum release valve.

Prevents loss of sample by releasing the vacuum before the rotor stops and during power failures. The larger valve takes less time to release the vacuum.

### Built-in vacuum delay.

Prevents bumping by allowing the rotor to achieve speed before applying vacuum.

### ■ Microprocessor-controlled 300-watt heater.

Speeds evaporation by supplying a controlled amount of heat from ambient (OFF) up to a maximum of 100° C in one degree increments.

### Heat and run times are set separately.

Each from 1 to 999 minutes or indefinite, so that heat may be programmed to shut down sooner than the run to protect heat-sensitive samples from excessive heat exposure after the solvent has evaporated. Once user-set run time has expired, all functions cease.

### PREHEAT button.

Pressing the button activates the heater to begin elevating to set point temperature. When in the preheat mode, the operator can monitor actual heat. Once set point temperature has been reached, samples can be added and program started.

### Audible alarm signals completion of set point run time.

If it is desired to have the CentriVap run continuously without a set point time, the user may use the increase button until ON is displayed under RUN TIME.

### ■ Vacuum port with quick disconnect fitting.

Allows connection of a gauge to the CentriVap for monitoring vacuum level. Vacuum gauge and 1/4" ID tubing are required (not included). Contact Labconco for vacuum gauge recommendations.

### ■ Sleek styling.

Brushed stainless steel front panel and blue accents enhance appearance. Compact design has a small foot print.

### Lid latch with safety sensor.

Locks the lid in place when the rotor is turning and prevents start up when the lid is open.

### Large, phenol-free lid seal.

Ensures good vacuum without potential for phenol contamination.

### Large chamber holds multiple samples for maximum throughput.

The 12" diameter chamber accommodates a variety of rotors, which hold up to 132 samples. The accessory Microtiter Plate Rotor holds four standard 96-well plates or two deep well plates.

### Easy-to-read LCD display.

Prompts the user to set program parameters and displays program number, actual and set point temperatures, heat time remaining, run time remaining, and if optional Heat Boost is activated.

### PREHEAT button.

Pressing the button activates the heater to begin elevating to set point temperature. When in the preheat mode, the operator can monitor actual heat. Once set point temperature has been reached, samples can be added and program started.

### Electrical receptacle.

Allows connection of accessory vacuum pump so that pump may be activated from control panel and vacuum delay utilized.

### ETL listed.

The CentriVap Concentrators carry the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying they meet or exceed all requirements of UL Standard 61010A-1 and CAN/CSA C22.2 No. 1010.1.

### International electrical configurations available.

All 230 volt models conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

### Reliability guarantee.

Full one year warranty is provided against defects in materials and workmanship.



## Control Panel

### PROGRAM.

LCD shows program from 1 to 9, R for run and S for stop.

### HEATER TIME.

LCD shows time selected for the first temperature from 1 to 999 minutes. During the run, the LCD shows time remaining.

### Quick-Start™ buttons.

Initiate user-set Program 1, 2 or 3 with a single push of a button.

### RUN/STOP button.

Press to start or stop a run.

### Increase/Decrease buttons.

Press to increase or decrease the last selected set point parameter.

### TEMPERATURE.

LCD shows heat from OFF to 99 (° C) or HI (100° C).

### RUN TIME.

LCD shows time selected from 1 to 999 minutes. During the run, the LCD shows time remaining. If ON is selected instead of a time period, the CentriVap runs continuously.

### Set Point SELECT button.

To select a parameter to change, press until the arrows on the LCD point to the parameter desired.

### PREHEAT button.

Press to turn on the heater to preheat the chamber prior to loading samples.



## Optional Accessories

### Optional CentriZap™ Strobe Light.

Enables the user to shine a strobe light into the chamber to easily view samples while the rotor is spinning. Samples appear to be standing still. The gun plugs into an outlet on the back of the CentriVap. A holster bracket is supplied and attaches to the right side of the CentriVap. See page 33.

### Acid-Resistant Rotors.

Teflon®-coated aluminum rotors resist degradation from exposure to harsh chemicals. Six different rotors are offered. See page 33.



*CentriZap Strobe Light allows the user to check sample status without stopping the rotor and opening the lid.*



## Specifications

- Brushed stainless steel and glacier white, epoxy-coated steel exterior with blue accents.
  - Glass lid.
  - Lid latch with safety sensor.
  - Phenol-free lid gasket.
  - Teflon\*-coated aluminum chamber with Hastelloy\* shaft.
- 300-watt heater.
- Microprocessor-controlled programming for run time from 1 to 999 minutes, heat from OFF to HI (100° C) in one degree increments, and heat time from 1 to 999 minutes. Memory stores 1 to 9 programs.
  - LCD for display of program number, actual and set point temperature, heater time remaining, and run time remaining.
- Control panel with RUN/STOP button, PREHEAT button, set point SELECT button, increase/decrease buttons, and 3 Quick-Start buttons.
  - Centrifugal motion provided by a brushless motor capable of achieving up to 1725 rpm.
  - Quick-Stop System to stop vacuum pump, open valve to bleed air into the chamber and stop the rotor within seconds after time expires or RUN/STOP button is pressed.
  - Automatic vacuum release valve.
  - Built-in vacuum delay allows rotor to achieve speed before applying vacuum.
  - Audible alarm to signal completion of set point run time.
  - 1/2" OD aluminum hose fitting for connection to vacuum tubing. **Vacuum pump is not included.**
- Vacuum port with quick disconnect fitting for 1/4" ID tubing.
  - Electrical receptacle on the back to connect accessory vacuum pump to the system.
  - ETL & ETL-C listing on 115 volt, 60 Hz models.
  - CE mark on 230 volt, 50 Hz models.
  - Overall dimensions with closed lid: 14.7" wide x 19.3" deep x 11.7" high (37.3 x 49.0 x 29.7 cm).
  - Actual weight 45 lbs. (20 kg). Shipping weight 65 lbs. (29 kg).



Acid-Resistant CentriVap Vacuum Concentrator 7810016



### Required Accessories

- **Diaphragm or Rotary Vane Vacuum Pump.** See page 34.
- **CentriVap Cold Trap** (if using a Rotary Vane Vacuum Pump). See pages 20-21.
- **Rotor.** See pages 32-33.
- **Sample tubes.** Contact your laboratory supply dealer.

### Other Accessories (See pages 33-36)

- **CentriZap Strobe Light**
- **Vacuum Controller**
- **Laboratory Carts**

## Ordering Information

Catalog Number	Electrical Requirements	Receptacle & Plug Type	Glass Lid
7810016	110/115 volts, 50/60 Hz, 12 amps†	115 volts, 15 amps	•
7810017	230 volts, 50/60 Hz, 6 amps†	North America, 230 volts	•
7810033*	230 volts, 50/60 Hz, 6 amps††	Schuko	•
7810037*	230 volts, 50/60 Hz, 6 amps††	British (UK)	•
7810041*	230 volts, 50/60 Hz, 6 amps††	China/Australia	•

See page 30 for ordering information on CentriVap Acid Concentrator System consisting of the individual components bundled under one catalog number.



**115 volts, 15 amps –**  
For 7810016



**North America,  
230 volts –**  
For 7810017



**Schuko –**  
For 7810033



**British (UK) –**  
For 7810037

\*International electrical configuration †System amperage shown includes 8 amp maximum vacuum pump rating  
††System amperage shown includes 4.5 amp maximum vacuum pump rating

■ Exclusive feature

\*Teflon® is a registered trademark of E.I. du Pont de Nemours. Hastelloy® is a registered trademark of Haynes International, Inc.



CentriVap Cold Traps are an integral part of every CentriVap Aqueous, Acid, Solvent or Gel Dryer System. The Traps may also be used as a separate component in other laboratory applications such as freeze drying and desiccation. These cold traps protect the

vacuum pump by trapping moisture, vapors and corrosive fumes as they evaporate from the samples. Three collector temperatures are offered:  $-50^{\circ}\text{C}$ ,  $-84^{\circ}\text{C}$  and  $-105^{\circ}\text{C}$  and selection should be based on the freezing point of the solvents being trapped.

## Features and Benefits

### HCFC/CFC-free refrigeration system.

Has a high capacity 1/3 hp compressor to lower cold trap temperature to  $-50^{\circ}\text{C}$  ( $-58^{\circ}\text{F}$ ) in less than 30 minutes and accelerate start up procedures. The  $-84^{\circ}\text{C}$  Cold Traps have two compressors to lower cold trap temperature to  $-84^{\circ}\text{C}$  ( $-119^{\circ}\text{F}$ ) in less than 40 minutes. The  $-105^{\circ}\text{C}$  Cold Traps have two compressors to lower cold trap temperature to  $-105^{\circ}\text{C}$  ( $-157^{\circ}\text{F}$ ) in less than 40 minutes.

### Reliability guarantee.

Full one year warranty is provided against defects in materials and workmanship.

### Acrylic or stainless steel lid.

Has two Quick-Disconnect fittings for 1/2" ID hose for connecting the Cold Trap and Concentrator. Lid is acrylic on  $-50^{\circ}\text{C}$  Cold Traps and stainless steel on  $-84^{\circ}\text{C}$  and  $-105^{\circ}\text{C}$  Cold Traps.

### Four liter stainless steel collector.

Holds up to four liters of liquid and accommodates an optional Glass Insert 7397605 for use with corrosives.

### Temperature graph.

Displays relative collector coil temperature. Green LED lights indicate conditions are right for beginning a process.

### Sleek styling.

Brushed stainless steel front panel and blue accents enhance appearance.

### International electrical configuration available.

The 230 volt, 50 Hz models conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

### Collector drain.

Corrosion-resistant nylon valve and stainless steel plumbing speed clean up and eliminate need for glass insert with non-corrosives.

### Optional Secondary Chemical Traps.

Trap Inserts for removing acids, moisture, radiochemicals and solvents minimize release of contaminants into the atmosphere.

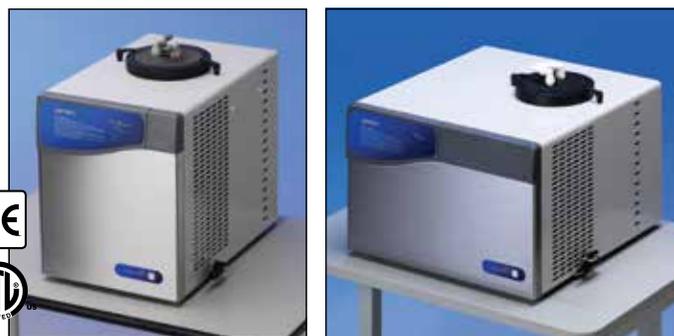
### ETL listed.

The 115 and 230 volt, 60 Hz CentriVap Cold Traps carry the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying it meets or exceeds all requirements of UL Standard 61010A-1 and CAN/CSA C22.2 No. 1010.1.



## -50 Cold Trap Specifications

- Brushed stainless steel and glacier white, epoxy-coated steel exterior with blue accents.
- HCFC/CFC-free refrigeration system with 1/3 hp compressor lowers cold trap to -50° C (-58° F) in less than 30 minutes.
- 4-liter stainless steel collector.
- Lid with two Quick-Disconnect fittings for 1/2" ID hose, rubber gasket and insulating cover.
- Stainless steel drain port with nylon valve.
- Grounding clip.
- Temperature graph that illuminates green when the collector coil reaches operating temperature of -40° C (-40° F).
- ON/OFF power switch.
- ETL & ETL-C listings on 115 volt models.
- CE mark on 230 volt, 50 Hz models.
- Overall dimensions: 14.5" wide x 24.2" deep x 13.8" high (36.8 x 61.4 x 35.0 cm).
- Actual weight 70 lbs. (32 kg). Shipping weight 80 lbs. (36 kg)



CentriVap -84 Cold Trap 7460020 CentriVap -105 Cold Trap 7385020

## -84 Cold Trap Specifications

Specifications are the same as for the -50 Cold Trap listed above except for the following differences.

- HCFC/CFC-free refrigeration system with two 1/3 hp compressors lowers cold trap to -84° C (-119° F) in less than 40 minutes.
- Temperature graph that illuminates green when the collector coil reaches operating temperature of -65° C (-85° F).
- Overall dimensions: 14.5" wide x 22.0" deep x 20.9" high (36.8 x 55.9 x 53.1 cm).
- Actual weight 135 lbs. (61 kg). Shipping weight 142 lbs. (64 kg)

## -105 Cold Trap Specifications

Specifications are the same as for the -50 Cold Trap listed above except for the following differences.

- HCFC/CFC-free refrigeration system with two 1/3 hp compressors lowers cold trap to -105° C (-157° F) in less than 40 minutes.
- Temperature graph that illuminates green when the collector coil reaches operating temperature of -65° C (-85° F).
- Overall dimensions: 24.1" wide x 23.9" deep x 17.6" high (61 x 60 x 45 cm).
- Actual weight 150 lbs. (68 kg). Shipping weight 170 lbs. (77 kg)

## Accessories (See pages 32-35.)

- Clear Canisters and Chemical Trap Inserts
- Glass Trap
- Two-Port Manifold
- Stainless Steel Lid

## Ordering Information

Catalog Number	Description	Temperature	Lid	Electrical Requirements	Receptacle & Plug Type
7811020	-50 Cold Trap	-50° C (-58° F)	Acrylic	115 volts, 60 Hz, 5.4 amps	115 volts, 60 Hz
7811030*	-50 Cold Trap	-50° C (-58° F)	Acrylic	230 volts, 50 Hz, 2.4 amps	Schuko
7811040	-50 Cold Trap	-50° C (-58° F)	Acrylic	230 volts, 60 Hz, 2.4 amps	North America, 230 volts
7811035*	-50 Cold Trap	-50° C (-58° F)	Acrylic	230 volts, 50 Hz, 2.4 amps	British (UK)
7811037*	-50 Cold Trap	-50° C (-58° F)	Acrylic	230 volts, 50 Hz, 2.4 amps	China/Australia
7460020	-84 Cold Trap	-84° C (-119° F)	Stainless Steel	115 volts, 60 Hz, 12 amps	115 volts, 60 Hz
7460030*	-84 Cold Trap	-84° C (-119° F)	Stainless Steel	230 volts, 50 Hz, 6 amps	Schuko
7460040	-84 Cold Trap	-84° C (-119° F)	Stainless Steel	230 volts, 60 Hz, 6 amps	North America, 230 volts
7460035*	-84 Cold Trap	-84° C (-119° F)	Stainless Steel	230 volts, 50 Hz, 6 amps	British (UK)
7460037*	-84 Cold Trap	-84° C (-119° F)	Stainless Steel	230 volts, 50 Hz, 6 amps	China/Australia
7385020†	-105 Cold Trap	-105° C (-157° F)	Stainless Steel	115 volts, 60 Hz, 12 amps	115 volts, 60 Hz
7385030**	-105 Cold Trap	-105° C (-157° F)	Stainless Steel	230 volts, 50 Hz, 6 amps	Schuko
7385040†	-105 Cold Trap	-105° C (-157° F)	Stainless Steel	230 volts, 60 Hz, 6 amps	North America, 230 volts
7385035**	-105 Cold Trap	-105° C (-157° F)	Stainless Steel	230 volts, 50 Hz, 6 amps	British (UK)
7385037**	-105 Cold Trap	-105° C (-157° F)	Stainless Steel	230 volts, 50 Hz, 6 amps	China/Australia

See pages 30-31 for ordering information on CentriVap Systems consisting of the individual components bundled under one catalog number.

115 volts, 15 amps – For Catalog Numbers ending in 20

North America, 230 volts – For Catalog Numbers ending in 40

Schuko – For Catalog Numbers ending in 30

British (UK) – For Catalog Numbers ending in 35

China/Australia – For Catalog Numbers ending in 37

Exclusive feature



CentriVap DNA Vacuum Concentrators are expressly designed to speed evaporation of solvents from DNA samples and other very small samples. More compact than ever, the benchtop cabinet

houses the concentrator, DNA Rotor, diaphragm vacuum pump, two glass traps and all connecting tubing. No additional components are required to begin processing.

## Features and Benefits





## Features and Benefits

### ■ Sleek styling.

Brushed stainless steel front panel and blue labeling enhance appearance. Compact design incorporates a built-in diaphragm vacuum pump.

### Microprocessor-controlled centrifugal motion.

Centrifugal force eliminates bumping and foaming common when applying vacuum during evaporation and maximizes recovery of trace solutes.

### Quick-Stop™ System.

Once run time has expired or the RUN/STOP button is pressed, within seconds the vacuum pump stops, the valve opens to bleed air into the chamber, and the rotor stops.

### Automatic vacuum release valve.

Prevents loss of sample by releasing the vacuum before the rotor stops and during power failures. The larger valve takes less time to release the vacuum.

### Lid latch with safety sensor.

Locks the lid in place when the rotor is turning and prevents start up when the lid is open.

### Large chamber holds multiple samples for maximum throughput.

The 12" diameter chamber accommodates a variety of rotors which hold up to 132 samples. The accessory Microtiter Plate Rotor holds four standard 96-well plates or two deep well plates. Thick-wall aluminum chamber is epoxy-coated for chemical resistance.

### Versatile DNA Rotor included.

Accommodates up to 60 each 1.5 ml and 72 each 0.5 ml microcentrifuge tubes. Other accessory rotors are shown on pages 32-33.

### Large phenol-free lid seal.

Ensures good vacuum without potential for phenol contamination.

### ■ Two 177 milliliter glass traps.

Protect the vacuum pump and the environment. One is located between the chamber and the vacuum pump. The other is located at the pump's exhaust outlet.

### Integrated diaphragm pump.

Corrosion-resistant. Achieves vacuum of 7 mBar and has a pumping capacity of 38 liters per minute. The built-in pump is easily removed for service.

### ■ Vacuum port with quick disconnect fitting.

Allows connection of a gauge to the CentriVap for monitoring vacuum level. Vacuum gauge and 1/4" ID tubing are required (not included). Contact Labconco for vacuum gauge recommendations.

### ■ Built-in vacuum delay.

Prevents bumping by allowing the rotor to achieve speed before applying vacuum.

### ■ Microprocessor-controlled 300-watt heater.

Speeds evaporation by supplying a controlled amount of heat from OFF up to a maximum of 100° C in one degree increments.

### Quick-Start™ One Button Start Up saves time.

Pressing just one button starts the rotor, the heater, the timers and the vacuum pump. Three separate Quick-Start buttons store one user-set program each.

### Easy-to-read LCD display.

Prompts the user to set program parameters and displays program number, actual and set point temperatures, heat time remaining and run time remaining.

### Heat and run times are set separately.

Each from 1 to 999 minutes so that heat may be programmed to shut down sooner than the run to protect heat-sensitive samples from excessive heat exposure after the solvent has evaporated. Once user-set time has expired, all functions cease.

### PREHEAT button.

Pressing the button activates the heater to begin elevating to set point temperature. When in the preheat mode, the operator can monitor actual heat. Once set point temperature has been reached, samples may be added and program started.

### ■ Memory stores 9 user-set programs.

Parameters of temperature, heat time and run time can be easily set with the touch of a few buttons. In addition, the user may alter temperature and times while the program is in progress.

### Audible alarm signals completion of set point run time.

If it is desired to have the CentriVap run continuously without a set point time, the user may use the increase button until ON is displayed under RUN TIME.

### ETL listed.

The 115 volt CentriVap DNA Concentrator carries the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying it meets or exceeds all requirements of UL Standard 61010A-1 and CAN/CSA C22.2 No. 1010.1.

### International electrical configurations available.

The 230 volt model conforms to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

### Reliability guarantee.

Full one year warranty is provided against defects in materials and workmanship.



## Control Panel

### PROGRAM.

LCD shows program from 1 to 9, R for run or S for stop.

### HEATER TIME.

LCD shows time selected from 1 to 999 minutes. During the run, the LCD shows time remaining.

### Quick-Start™ buttons.

Initiate user-set Program 1, 2 or 3 with a single push of a button.

### Increase/Decrease buttons.

Press to increase or decrease the last selected set point parameter.

### TEMPERATURE.

LCD shows heat from OFF to 99 (° C) or HI (100° C).

### RUN TIME.

LCD shows time selected from 1 to 999 minutes. During the run, the LCD shows time remaining.

### Set Point SELECT button.

To select a parameter to change, press until the arrows on the LCD point to the parameter desired.

### PREHEAT button.

Press to turn on the heater to preheat the chamber prior to loading samples.

### RUN/STOP Button.

Press to start or stop a run.



## Optional Accessories

### Optional CentriZap™ Strobe Light.

Enables the user to shine a strobe light into the chamber to easily view samples while the rotor is spinning. Samples appear to be standing still. The gun plugs into an outlet on the back of the CentriVap. A holster bracket is supplied and attaches to the right side of the CentriVap. See page 33.

### Optional Glass Lid.

Provides additional protection from solvents and corrosives that attack acrylic. See page 35.

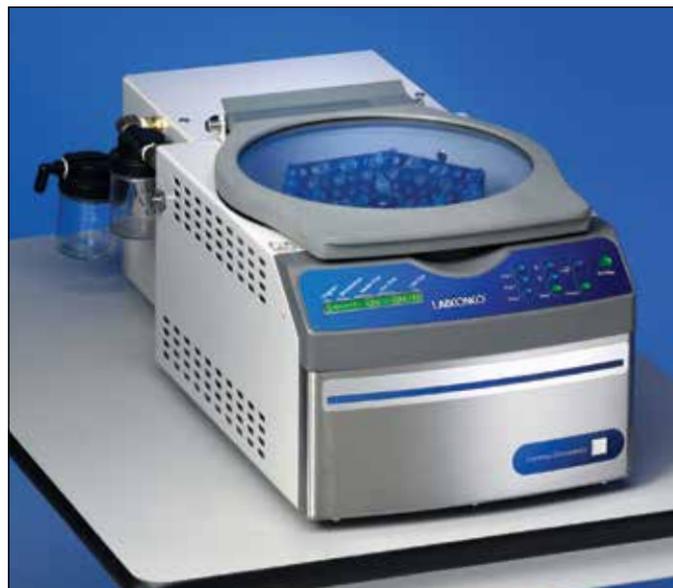


*CentriZap Strobe Light allows the user to check sample status without stopping the rotor and opening the lid.*



## Specifications

- Brushed stainless steel and glacier white, epoxy-coated steel exterior with blue accents.
  - Acrylic lid.
  - Lid latch with safety sensor.
  - Phenol-free lid gasket.
  - Epoxy-coated aluminum chamber.
- 300-watt heater.
- Microprocessor-controlled programming for run time from 1 to 999 minutes, heat from OFF to HI (100° C) in one degree increments and heat time from 1 to 999 minutes. Memory stores 1 to 9 programs.
  - LCD for display of program number, actual and set point temperature, heater time remaining and run time remaining.
- Control panel with RUN/STOP button, PREHEAT button, set point SELECT button, increase/decrease buttons, and 3 Quick-Start buttons.
  - Centrifugal motion provided by a brushless motor capable of achieving up to 1725 rpm.
  - Quick-Stop System to stop vacuum pump, open valve to bleed air into the chamber and stop the rotor within seconds after time expires or RUN/STOP button is pressed.
  - Built-in diaphragm pump achieves vacuum of 7 mBar and has displacement capacity of 38 liters per minute. All wetted parts are PTFE or other chemical-resistant fluoropolymers.
  - Automatic vacuum release valve.
  - Built-in vacuum delay allows rotor to achieve speed before applying vacuum.
  - Audible alarm to signal completion of set point run time.
- Two 177 milliliter glass traps.
  - Vacuum port with quick disconnect fitting for 1/4" ID tubing.
  - Includes DNA Rotor 7462900.
  - ETL & ETL-C listing on 115 volt, 60 Hz model.
  - CE mark on 230 volt, 50/60 Hz model.
  - Overall dimensions with closed lid: 15.1" wide x 28.5" deep x 11.2" high (38.3 x 72.4 x 28.4 cm).
  - Actual weight 80 lbs. (36 kg). Shipping weight 100 lbs. (45 kg).



CentriVap DNA Centrifugal Concentrator 7970010

### Required Accessories (not included)

- **Sample tubes.** Contact your laboratory supply dealer.

### Other Accessories (see pages 32-35)

- **CentriZap Strobe Light**
  - Rotors
  - Clear Canisters and Chemical Trap Inserts
  - Vacuum Controller
  - Glass Lid
  - Laboratory Carts

## Ordering Information

Catalog Number	Electrical Requirements	Receptacle & Plug Type
7970010	115 volts, 60 Hz, 12 amps	115 volts, 15 amps
7970011	230 volts, 50/60 Hz, 6 amps	North America, 230 volts
7970030*	230 volts, 50/60 Hz, 6 amps	Schuko
7970035*	230 volts, 50/60 Hz, 6 amps	British (UK)
7970037*	230 volts, 50/60 Hz, 6 amps	China/Australia



115 volts, 15 amps –  
For 7970010



North America,  
230 volts –  
For 7970011



Schuko –  
For 7970030



British (UK) –  
For 7970035



China/Australia –  
For 7970037

■ Exclusive feature

CentriVap Mobile Systems combine the separate concentrator and cold trap components into one space-saving console and include casters for portability from laboratory to laboratory. A rotor and

solvent trap are also included with the CentriVap Mobile Systems. The interior can accommodate a vacuum pump—the only additional component necessary to begin concentrating.

### Features and Benefits





## Features and Benefits

### ■ Sleek compact, mobile cabinet.

Brushed stainless steel front panel and blue accents enhance appearance. Mounted on 2-inch diameter hard rubber casters, the 13.75" wide cabinet may be moved easily from one work location to another. Uses less space than most carts yet houses the accessory vacuum pump.

### Microprocessor-controlled centrifugal motion.

Centrifugal force eliminates bumping and foaming common when applying vacuum during evaporation and maximizes recovery of trace solutes.

### ■ Quick-Stop™ System.

Once run time has expired or the RUN/STOP button is pressed, within seconds the vacuum pump stops, the valve opens to bleed air into the chamber, and the rotor stops.

### Automatic vacuum release valve.

Prevents loss of sample by releasing the vacuum before the rotor stops and during power failures. The larger valve takes less time to release the vacuum.

### Lid latch with safety sensor.

Locks the lid in place when the rotor is turning and prevents start up when the lid is open.

### Larger chamber holds more samples for greater throughput.

The 12" diameter chamber accommodates a variety of rotors that hold up to 132 samples. The accessory Microtiter Plate Rotor holds four standard 96-well plates or two deep well plates. Thick-wall aluminum chamber is epoxy-coated for chemical resistance. Teflon\*-coated chambers provide added corrosion resistance. Contact Labconco for ordering information.

### Glass lid with large, phenol-free lid seal.

Glass resists solvents that attack acrylic. Lid seal ensures good vacuum without potential for phenol contamination.

### ■ Versatile 12-13 mm Rotor included.

Holds 92+ 12 x 75 mm or 13 x 75 mm tubes, 64 12 x 95 mm or 13 x 100 mm tubes, 16 12 x 55 mm tubes, and 40 1.5 ml or 2.0 ml microcentrifuge tubes. Other accessory rotors are shown on pages 32-33.

### Built-in vacuum delay.

Prevents bumping by allowing the rotor to achieve speed before applying vacuum.

### ■ Microprocessor-controlled 300-watt heater.

Speeds evaporation by supplying a controlled amount of heat from OFF up to a maximum of 100° C in one degree increments.

### Optional microprocessor-controlled 300-watt Heat Boost™.

Allows additional controlled heat from OFF up to a maximum of 100° C in one degree increments.

### ■ Quick-Start™ One Button Start Up saves time.

Pressing just one button starts the rotor, the heater, the timers and the vacuum pump. Three separate Quick-Start Buttons store one user-set program each.

### Easy-to-read LCD display.

Prompts the user to set program parameters and displays program number, actual and set point temperatures, heat time remaining, run time remaining, and if optional Heat Boost is activated.

### Heat and run times are set separately.

Each from 1 to 999 minutes, so that heat may be programmed to shut down sooner than the run to protect heat-sensitive samples from excessive heat exposure after the solvent has evaporated. The RUN TIME turns off all functions after the user-set period of time has expired.

### PREHEAT button.

Pressing the button activates the heater to begin elevating to set point temperature. When in the preheat mode, the operator can monitor actual heat. Once set point temperature has been reached, samples may be added and program started.

### ■ Memory stores 9 user-set programs.

Parameters of temperature, heat time and run time can be easily set with the touch of a few buttons. In addition, the user may alter temperature and times while the program is in progress.

### Audible alarm signals completion of set point run time.

If it is desired to have the CentriVap run continuously without a set point time, the user may use the increase button until ON is displayed under RUN TIME.

### Four liter stainless steel collector.

Holds up to four liters of liquid and accommodates an optional Glass Insert 7397605 for use with corrosives (sold separately).

### Collector drain.

Corrosion-resistant nylon valve and stainless steel plumbing speed clean up and eliminate need for glass insert with non-corrosives.

### ■ Built-in chemical trap canister.

Cutout in front panel provides at-a-glance trap monitoring. System includes one Solvent Trap Insert 7815200. Other inserts are available.

### Electrical receptacle.

Allows connection of accessory vacuum pump so that the pump may be activated from the control panel and the vacuum delay utilized.

### ■ Vacuum port with quick disconnect fitting.

Allows connection of a gauge to the CentriVap for monitoring vacuum level. Vacuum gauge and 1/4" ID tubing are required (not included). Contact Labconco for vacuum gauge recommendations.

### HCFC/CFC-free refrigeration system.

The high capacity 1/3 hp compressor lowers cold trap temperatures to -50° C in less than 30 minutes and accelerates start up procedures. The system uses a CFC-free refrigerant that is environmentally friendly and does not harm the ozone layer.

### ETL listed.

The 115 volt, 60 Hz CentriVap Mobile Systems carry the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying they meet or exceed all requirements of UL Standard 61010A-1 and CAN/CSA C22.2 No. 1010.1.

### International electrical configurations available.

All 230 volt, 50 Hz models conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

### Reliability guarantee.

Full one year warranty is provided against defects in materials and workmanship.

## Control Panel

### PROGRAM.

LCD shows program from 1 to 9, R for run or S for stop.

### HEATER TIME.

LCD shows time selected for heat (and Heat Boost, if activated) from 1 to 999 minutes. During the run, the LCD shows time remaining.

### HEAT BOOST option.

LCD shows Y when Heat Boost has been selected; N when not selected.

### Quick-Start™ buttons.

Initiate user-set Program 1, 2 or 3 with a single push of a button.

### Increase/Decrease buttons.

Press to increase or decrease the last selected set point parameter.

### COLD TRAP button.

Press to turn on the cold trap.

### HEAT BOOST button.

Press to turn on optional Heat Boost.

### TEMPERATURE.

LCD shows heat (and Heat Boost, if activated) from OFF to 99 (° C) or HI (100° C).

### COLD TRAP.

LCD shows Y when cold trap has been selected; N when not selected.

### Set Point SELECT button.

To select a parameter to change, press the set point select button until the arrows on the LCD point to the parameter desired.

### PREHEAT button.

Press to turn on the heater to preheat the chamber prior to loading samples.

### RUN/STOP button.

Press to start or stop a run.

### RUN TIME.

LCD shows time selected from 1 to 999 minutes. During the run, the LCD shows time remaining.



## Optional Accessory

### Optional CentriZap™ Strobe Light.

Enables the user to shine a strobe light into the chamber to easily view samples while the rotor is spinning. Samples appear to be standing still. The gun plugs into an outlet on the back of the CentriVap. A holster bracket is supplied and attaches to the right side of the CentriVap. See page 33.



CentriZap Strobe Light allows the user to check sample status without stopping the rotor and opening the lid.

## Specifications

- Brushed stainless steel and glacier white, epoxy-coated steel exterior with blue accents and four 2" diameter hard rubber casters. Removable front panel provides access to interior space for vacuum pump (sold separately).
  - Glass lid.
  - Lid latch with safety sensor.
  - Phenol-free lid gasket.
  - Epoxy-coated aluminum chamber.
- 300-watt heater.
- Microprocessor-controlled programming for run time from 1 to 999 minutes, heat from OFF to HI (100° C) in one degree increments, heat time from 1 to 999 minutes, cold trap on/off, and optional Heat Boost on/off. Memory stores 1 to 9 programs.
  - LCD for display of program number, actual and set point temperature, heater time remaining, run time remaining, cold trap activation and optional Heat Boost activation. When the cold trap is activated the LCD flashes Y until the collector coil reaches operating temperature of -40° C (-40° F) at which time the Y glows continuously.
- Control panel with RUN/STOP button, PREHEAT button, COLD TRAP button, optional HEAT BOOST button, set point SELECT button, increase/decrease buttons, and 3 Quick-Start buttons.
  - Centrifugal motion provided by a brushless motor capable of achieving up to 1725 rpm.
  - Quick-Stop System to stop vacuum pump, open valve to bleed air into the chamber and stop the rotor within seconds after time expires or RUN/STOP button is pressed.
  - Automatic vacuum release valve.
  - Built-in vacuum delay allows rotor to achieve speed before applying vacuum.
  - Audible alarm to signal completion of set point run time.
  - 1/2" OD aluminum hose fitting for connection to vacuum tubing. **Vacuum pump is not included.**
- Vacuum port with quick disconnect fitting for 1/4" ID tubing.
  - HCFC/CFC-free refrigeration system with 1/3 hp compressor lowers cold trap to -50° C (-58° F) in less than 30 minutes.
  - 4-liter stainless steel collector with acrylic lid with two Quick-Disconnect fittings for 1/2" ID hose, rubber gasket and insulating cover.
  - Front-mounted stainless steel collector drain port with nylon valve and grounding clip.
  - Built-in clear canister to accommodate chemical trap insert. Cutout in front panel provides at-a-glance trap monitoring.
  - Includes one Solvent Trap Insert 7815200 and 12-13 mm Rotor 7455100.
  - Electrical receptacle on the back to connect accessory vacuum pump to the system.



CentriVap Mobile System 7812013



- ETL & ETL-C listings on 115 volt, 60 Hz models.
  - CE mark on 230 volt, 50 Hz models.
  - Overall dimensions with closed lid: 14.1" wide x 27.9" deep x 38.2" high (35.8 x 70.9 x 97.0 cm).
  - Actual weight 155 lbs. (70 kg). Shipping weight 210 lbs. (95 kg).

### Built-in Option

- 300-watt Heat Boost from OFF to HI (100° C) in one degree increments, for 1 to 999 minutes, depending on set points programmed for heater.

### Required Accessories (not included)

- **Diaphragm or Rotary Vane Vacuum Pump.** See page 34.
- **Sample tubes.** Contact your laboratory supply dealer.

### Other Accessories (See pages 32-35)

- CentriZap Strobe Light
- Rotors
- Vacuum Controller
- Chemical Traps
- Glass Trap

 **115 volts, 20 amps**  
For 7812010 & 7812013

 **North America, 230 volts**  
For 7812012 & 7812015

 **China/Australia**  
For 7812037 & 7812038

 **Schuko**  
For 7812011 & 7812014

 **British (UK)**  
For 7812035 & 7812036

## Ordering Information

Catalog Number	Electrical Requirements	Receptacle & Plug Type	Heat Boost
<b>7812010</b>	115 volts, 60 Hz, 16 amps**	115 volts, 20 amps	
<b>7812011*</b>	230 volts, 50 Hz, 8 amps <sup>†</sup>	Schuko	
<b>7812012</b>	230 volts, 60 Hz, 8 amps <sup>†</sup>	North America, 230 volts	
<b>7812013</b>	115 volts, 60 Hz, 16 amps**	115 volts, 20 amps	•
<b>7812014*</b>	230 volts, 50 Hz, 8 amps <sup>†</sup>	Schuko	•
<b>7812015</b>	230 volts, 60 Hz, 8 amps <sup>†</sup>	North America, 230 volts	•
<b>7812035*</b>	230 volts, 50 Hz, 8 amps <sup>†</sup>	British (UK)	
<b>7812036*</b>	230 volts, 50 Hz, 8 amps <sup>†</sup>	British (UK)	•
<b>7812037*</b>	230 volts, 50 Hz, 8 amps <sup>†</sup>	China/Australia	
<b>7812038*</b>	230 volts, 50 Hz, 8 amps <sup>†</sup>	China/Australia	•

\*International electrical configuration \*\*System amperage shown includes 8 amp maximum vacuum pump rating †System amperage shown includes 4.5 amp maximum vacuum pump rating

■ Exclusive feature



## Ordering Information



The CentriVap Aqueous System is shown above with a rotary vane vacuum pump. CentriVap Aqueous, Acid, Solvent and Proteomic Systems include all of the components necessary to begin operation except for the vacuum pump, which is sold separately.

Catalog Number	System Type	Electrical Requirements*	Components Included	Accessories Required
<b>Aqueous</b>				
7982010		115 V, 60 Hz, 12 amps* 115 V, 60 Hz, 5.4 amps <sup>††</sup> 115 V, 15 amp plugs	Clear Canister	7460900
			Moisture Insert	7814900
			12-13 mm Rotor	7455100
			Vacuum Tubing and 6 Clamps <i>plus the following:</i>	
7982010			Benchtop Concentrator	7810010
			-50 Cold Trap	7811020
7982011 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> Schuko plugs	Benchtop Concentrator	7810030
			-50 Cold Trap	7811030
7982012		230 V, 60 Hz, 6 amps** 230 V, 60 Hz, 2.4 amps <sup>††</sup> North America, 230 V plugs	Benchtop Concentrator	7810011
			-50 Cold Trap	7811040
7982035 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> British (UK) plugs	Benchtop Concentrator	7810034
			-50 Cold Trap	7811035
7982037 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> China/Australia plugs	Benchtop Concentrator	7810038
			-50 Cold Trap	7811037
<b>Acid</b>				
7983013		115 V, 60 Hz, 12 amps* 115 V, 60 Hz, 5.4 amps <sup>††</sup> 115 V, 15 amp plugs	Clear Canister	7460900
			Acid Insert	7814800
			Acid-Resistant 12-13 mm Rotor	7455101
			Glass Trap	7397605
			Vacuum Tubing and 6 Clamps <i>plus the following:</i>	
7983013			Acid-Resistant Concentrator	7810016
			-50 Cold Trap	7811020
7983014 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> Schuko plug	Acid-Resistant Concentrator	7810033
			-50 Cold Trap	7811030
7983015		230 V, 60 Hz, 6 amps** 230 V, 60 Hz, 2.4 amps <sup>††</sup> North America, 230 V plugs	Acid-Resistant Concentrator	7810017
			-50 Cold Trap	7811040
7983035 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> British (UK) plugs	Acid-Resistant Concentrator	7810037
			-50 Cold Trap	7811035
7983037 <sup>†</sup>		230 V, 50 Hz, 6 amps** 239 V, 50 Hz, 2.4 amps <sup>††</sup> China/Australia plugs	Acid-Resistant Concentrator	7810041
			-50 Cold Trap	7811037

\*System amperage shown includes 8 amp maximum vacuum pump rating  
<sup>†</sup>International electrical configuration      <sup>††</sup>Electrical requirements for Cold Trap

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

800.821.5525

## Ordering Information

Catalog Number	System Type	Electrical Requirements*	Components Included	Accessories Required
<b>Solvent</b>				
			Clear Canister Solvent Insert 12-13 mm Rotor Vacuum Tubing and 6 Clamps <i>plus the following:</i>	7460900 7815200 7455100
7984010		115 V, 60 Hz, 12 amps* 115 V, 60 Hz, 5.4 amps <sup>††</sup> 115 V, 15 amp plugs	Benchtop Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7810014 7811021 Vacuum Pump 20 amp dedicated circuit
7984011 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> Schuko plugs	Benchtop Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7810032 7811031 Vacuum Pump 10 amp dedicated circuit
7984012		230 V, 60 Hz, 6 amps** 230 V, 60 Hz, 2.4 amps <sup>††</sup> North America, 230 V plugs	Benchtop Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7810015 7811041 Vacuum Pump 10 amp dedicated circuit
7984035 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> British (UK) plugs	Benchtop Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7810036 7811036 Vacuum Pump 10 amp dedicated circuit
7984037 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> China/Australia plugs	Benchtop Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7810040 7811038 Vacuum Pump 10 amp dedicated circuit
<b>Proteomic</b>				
			DNA Rotor Vacuum Tubing and 6 Clamps <i>plus the following:</i>	7462900
7989600		115 V, 60 Hz, 16 amps* 115 volts, 60 Hz, 5.4 amps <sup>††</sup> 115 volts, 20 & 10 amp plugs	Refrigerated Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7310021 7811021 Vacuum Pump 20 amp dedicated circuit plus 10 amp dedicated circuit
7989601 <sup>†</sup>		230 V, 50 Hz, 8 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> Schuko plugs	Refrigerated Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7310031 7811031 Vacuum Pump 15 amp dedicated circuit
7989602		230 V, 60 Hz, 8 amps** 230 V, 60 Hz, 2.4 amps <sup>††</sup> North America, 230 V plugs	Refrigerated Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7310041 7811041 Vacuum Pump 15 amp dedicated circuit
7989635 <sup>†</sup>		230 V, 50 Hz, 8 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> British (UK) plugs	Refrigerated Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7310036 7811036 Vacuum Pump 15 amp dedicated circuit
7989637 <sup>†</sup>		230 V, 50 Hz, 8 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> China/Australia plugs	Refrigerated Concentrator with Glass Lid -50 Cold Trap with Stainless Steel Lid	7310038 7811038 Vacuum Pump 15 amp dedicated circuit
<b>Gel Dryer</b>				
			12-13 mm Rotor 3-Way Valve Vacuum Tubing and Clamps <i>plus the following:</i>	7455100
7475010		115 V, 60 Hz, 12 amps* 115 V, 60 Hz, 5.4 amps <sup>††</sup> 115 V, 60 Hz, 10 amps <sup>†††</sup> 115 V, 20 amp plugs	Benchtop Concentrator -50 Cold Trap Gel Dryer	7810010 7811020 4330100 Vacuum Pump Two 20 amp dedicated circuits
7475011 <sup>†</sup>		230 V, 50 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> 230 V, 50 Hz, 5 amps <sup>†††</sup> Schuko plugs	Benchtop Concentrator -50 Cold Trap Gel Dryer	7810030 7811030 4330150 Vacuum Pump Two 10 amp dedicated circuits
7475012		230 V, 60 Hz, 6 amps** 230 V, 50 Hz, 2.4 amps <sup>††</sup> 230 V, 50 Hz, 5 amps <sup>†††</sup> North America, 230 V plugs	Benchtop Concentrator -50 Cold Trap Gel Dryer	7810011 7811040 4330150 Vacuum Pump Two 10 amp dedicated circuits



CentriVap Gel Dryer Systems include the CentriVap Benchtop Concentrator, Cold Trap, Gel Dryer and connecting tubing. The diaphragm pump shown is sold separately. The Labconco Gel Dryer is also available as a separate item. See page 38 for ordering information.

\*System amperage shown includes 8 amp maximum vacuum pump rating  
 \*\*System amperage shown includes 4.5 amp maximum vacuum pump rating  
 †International electrical configuration ††Electrical requirements for Cold Trap  
 †††Electrical requirements for Gel Dryer

Accessories



Hexagonal Rotor 7450700



12-17 mm Rotor 7455000



12-13 mm Rotor 7455100



28 mm Rotor 7455200



DNA Rotor 7462900



12-13 mm Rotor 7455101

**Metal Rotors for Tubes**

Rotors hold tubes at an angle to maximize surface area. Depending on the rotor, made of anodized aluminum or Teflon\*-coated metal with polypropylene hub. Easily interchangeable. The 12-13 mm Rotor 7455100 is included with each CentriVap Aqueous, Solvent, Gel Dryer and Mobile System. The 12-13 mm Rotor 7455101 is included with each Acid System. The DNA Rotor 7462900 is included with each CentriVap DNA Concentrator. **Sample containers are not included.** Contact Labconco for ordering information on custom rotors. Shipping weight 2.5 lbs. (1.1 kg)

Aluminum Rotor Cat. #	Teflon*-coated Rotor Cat. #	Description	Number of Holes	Number of Tubes**	Tube Volume†	Tube Description
7450700	7450701	Hexagonal	132	132	1.5 ml	1.5 ml microcentrifuge tubes
				132	2.0 ml	2.0 ml microcentrifuge tubes
7455000	7455001	12-17 mm	52	52	2 ml	12.2 x 46.5 mm
				52	5 ml	13 x 51 mm
				44	3 ml	12 x 55 mm
				36	5-6 ml	12 x 75 mm
				36	5-6 ml	12 x 95 mm
				36	6 ml	13 x 75 mm
				36	10 ml	13 x 100 mm
				24	11-15 ml	16 x 100 mm
				18	15-19 ml	16 x 125 mm
				18	14 ml	17 x 95 mm
				18	14 ml	17 x 100 mm
18	12-15 ml	17 x 120 mm				
7455100	7455101	12-13 mm	40	40	1.5 ml	1.5 ml microcentrifuge tubes
				40	2.0 ml	2.0 ml microcentrifuge tubes
				108	3 ml	12 x 55 mm
				100††	5 ml	12 x 75 mm
				64	5 ml	12 x 95 mm
				100††	6 ml	13 x 75 mm
7455200	7455201	28 mm	32	32	1.5 ml	1.5 ml microcentrifuge tubes
				32	2.0 ml	2.0 ml microcentrifuge tubes
				12	40-50 ml	28 x 115 mm
				12	40-50 ml	28 x 135 mm
				12	50 ml	28 x 140 mm
7462900	7462901	DNA	72	72	0.5 ml	0.5 ml microcentrifuge tubes
				60	1.5 ml	1.5 ml microcentrifuge tubes
				60	2.0 ml	2.0 ml microcentrifuge tubes

\*Teflon® is a registered trademark of E.I. du Pont de Nemours.

\*\*Rotors do not necessarily hold all the tubes described simultaneously.

†Tubes should be filled no more than 1/3 to 1/2 of tube volume to prevent loss of sample during rotation.

††Rotor holds a maximum of 92 each 12 or 13 x 75 mm tubes when 16 each 12 x 55 mm tubes are also loaded.

## Accessories



Pear-shaped Flask Rotor 7551100 shown with Pear-shaped Flasks 7551800



Pear-shaped Flask Rotor 7553100



4-Place Microtiter Plate Rotor 7461900



6-Place Microtiter Plate Rotor 7553000



12 x 45 mm Rotor 7824702



Pear-shaped Flask 7551700

### Metal Rotors for Pear-Shaped Flasks

Depending on the rotor, made of anodized aluminum or Teflon\*-coated metal with polypropylene hub. Easily interchangeable. **Flasks are not included.** See **Pear-shaped Flasks below.** Shipping weight 2.5 lbs. (1.1 kg)

Aluminum Rotor Cat. #	Teflon*-coated Rotor Cat. #	Description	Number of Holes/Flasks
7551100	7551101	Rotor for use with 250 ml** Pear-shaped Flasks	4
7553100	7553101	Rotor for use with 100 ml** Pear-shaped Flasks	8

### Microtiter Plate Rotors

Depending on the rotor, made of anodized aluminum or Teflon\*-coated metal with polypropylene hub. Easily interchangeable. **Microtiter Plates are not included.** Shipping weight 2.5 lbs. (1.1 kg)

Aluminum Rotor Cat. #	Teflon*-coated Rotor Cat. #	Description	Capacity	Plate Description
7461900	7461901	4-Place Microtiter Plate	4 2	standard microtiter plates deep well microtiter plates
7553000	7553001	6-Place Microtiter Plate	6 3	standard microtiter plates deep well microtiter plates

### Acid-Resistant Thermoplastic Rotors

Thermoplastic rotors hold tubes at an angle to maximize surface area. Easily interchangeable. **Sample containers are not included.** Shipping weight 3 lbs. (1.4 kg)

Catalog Number	Description	Number of Holes	Number of Tubes	Container Volume**	Tube Description
7824700	12 x 32 mm	66	66	2 ml	auto sample vials, 12 x 32 mm
7824702	15 x 45 mm	56	56	4 ml	auto sample vials, 15 x 45 mm

### Pear-shaped Flasks

Borosilicate glass flask has 24/40 taper joint. 250 ml capacity. 149 mm high x 83 mm diameter.

Catalog Number	Description	Shipping Weight
7551700	250 ml Pear-shaped Flask, 1 each	1 lb. (0.5 kg)
7551800	250 ml Pear-shaped Flasks, package of 4	2.5 lb. (1 kg)

\*Teflon® is a registered trademark of E.I. du Pont de Nemours.

\*\*Containers should be filled no more than 1/3 to 1/2 of total volume to prevent loss of sample during rotation.

## Accessories



CentriZap Strobe Light 7464300

### 7464300 CentriZap Strobe Light

Enables user to shine a strobe light into the CentriVap's chamber to easily view samples while the rotor is spinning. Includes mounting holster and hardware for attachment to the right side of the CentriVap. Shipping weight 2 lbs. (0.9 kg)



Diaphragm Vacuum Pump 7393000

### Diaphragm Vacuum Pumps

The wetted parts of these pumps are PTFE or other fluoropolymers for corrosion resistance. Vacuum outlet is 1/2" OD.

Catalog Number	Electrical Specifications	Vacuum (mBar) (liters/minute)	Displacement Capacity	Shipping Weight (lbs./kg)	Solvents Used
7393000	115V, 60 Hz, 3.5 amps	1.5	63	40/18	■ ▲ ●
7393001*	230V, 50/60 Hz, 2.0 amps	1.5	57/63**	40/18	■ ▲ ●

■ Aqueous and high boiling point ▲ Volatile and low boiling point ● Combination of solvents

\* International electrical configuration \*\* Displacement at 50/60 Hz



Rotary Vane Direct Drive Vacuum Pump 1472100

### Rotary Vane Direct Drive Vacuum Pumps

These pumps are two-stage and oil-sealed with gas ballast control. Isolation valve seals the inlet to prevent oil and air contamination of the system in the event of power failure. Oil mist exhaust filter, vacuum pump oil and inlet adapters suitable for 1/2" OD and 3/4" OD are provided.

Catalog Number	Electrical Specifications	Ultimate Vacuum (Partial Pressure) (mBar)	Displacement Capacity at 60 Hz (liters/minute)	Shipping Weight (lbs./kg)	Solvents Used
1472100	115V, 50/60 Hz, 4.6 amps	$2 \times 10^{-3}$	117	62/28.1	■
7739402*	230V, 50/60 Hz, 2.4 amps	$2 \times 10^{-3}$	117	65/29.5	■

■ Aqueous and high boiling point ▲ Volatile and low boiling point ● Combination of solvents

\* International electrical configuration



Clear Polypropylene Canister with mounting bracket 7460900 with Solvent Trap Insert 7815200

### Chemical Traps

Traps are connected between the cold trap and the accessory vacuum pump to provide additional protection to the vacuum pump.



Clear Polypropylene Canister with stand 7815300 with Solvent Trap Insert 7815200

Catalog Number	Description
7460900	<b>Clear Polypropylene Canister with mounting bracket</b> to attach the canister to the side of the CentriVap Cold Trap. Includes 17" PVC tubing and two clamps. Accommodates any trap insert listed below. Shipping weight 5 lbs. (2.3 kg)
7815300	<b>Clear Polypropylene Canister with stand.</b> Recommended when more than one chemical trap is required. Accommodates any trap insert listed below. Shipping Weight 5 lbs. (2.3 kg)
7814800	<b>Acid Trap Insert.</b> Contains acid neutralizing desiccant which changes from off-white to purple when exhausted. Shipping weight 4 lbs. (2 kg)
7814900	<b>Moisture Trap Insert.</b> Contains desiccant which changes from blue to pink when exhausted. Shipping weight 4 lbs. (2 kg)
7815000	<b>Radioisotope Trap Insert.</b> Contains activated carbon. Shipping weight 4 lbs. (2 kg)
7815200	<b>Solvent Trap Insert.</b> Contains molecular sieve. Shipping weight 4 lbs. (2 kg)
7995600	<b>Ammonia Trap Insert.</b> Contains impregnated carbon. Shipping weight 4 lbs. (2 kg)

## Accessories



Vacuum Controller 7991000

### 7991000 Vacuum Controller

Provides manual control and monitoring of vacuum levels. Analog gauge shows vacuum from 0-30" Hg. At the end of concentration, the control valve may be opened to break the vacuum. For use with Diaphragm Vacuum Pumps only. Shipping weight 3 lbs. (1.4 kg)



Glass Trap 7397605

### 7397605 Glass Trap

Protects CentriVap Cold Trap reservoir and lid from corrosives. Included with CentriVap Acid Systems. Not compatible with pre-2005 Cold Traps or Mobile Systems. Shipping weight 4 lbs. (2 kg)

### 7456600 Glass Lid

May be installed in place of the acrylic lid on the CentriVap Concentrator when applications involve solvents which attack acrylic. Included on CentriVap Solvent System and selected models of CentriVap Benchtop Concentrators. Shipping weight 8 lbs. (3.6 kg)

### 7386700 Stainless Steel Lid

May be installed in place of the acrylic lid on -50 CentriVap Cold Trap when applications involve solvents which attack acrylic. Included on CentriVap Solvent and Proteomic Systems and -84 and -105 CentriVap Cold Traps. Shipping weight 8 lbs. (3.6 kg)



Three-Way Valve 7474000

### 7814300 Bleed Valve

Bleeds vacuum manually when using the Cold Trap with other laboratory equipment. Shipping weight 0.5 lb. (0.25 kg)

### 7814500 Vacuum Tubing Kit

Two each 1/2" ID vacuum tubing, 48" length, and 4 tubing clamps. Shipping weight 6 lbs. (3 kg)

### 7474000 Three-Way Valve

Allows connection of other laboratory equipment to CentriVap System. Polypropylene, 0.5" OD. Shipping weight 0.5 lb. (0.25 kg)



Two-Port Manifold 7397700

### 7397700 Two-Port Manifold

Two-port manifold has neoprene rubber valves to allow freeze drying of small volume samples in freeze dry flasks, serum bottles or ampules. Connects to CentriVap Cold Trap, Ultra-Low Cold Trap or Mobile System. Requires use of Rotary Vane Pump. Not compatible with pre-2005 Cold Traps or Mobile Systems. Shipping weight 1.0 lb. (0.5 kg)

### 8025000 Portable Table

Chemical-resistant, two shelf cart accommodates the CentriVap DNA Concentrator. The shelves are high pressure laminate and the frame is epoxy-coated steel with 3-inch diameter casters. Supports loads up to 400 pounds. Lifetime warranty. 19" w x 34.9" d x 36.4" high (48 x 89 x 92 cm). Shipping weight 50 lbs. (23 kg).



Portable Table 8025000



Variable Height Bench 8075000

### 8075000 Variable Height Bench

Chemical-resistant table with 5-inch diameter, toe-locking casters has height adjustment from 29.6 to 37.1". High pressure laminate work surface and frame of epoxy-coated steel. Supports loads up to 540 pounds. Lifetime warranty. 38" w x 28" d (97 x 71 cm). Shipping weight 105 lbs. (48 kg).

### 8060000 Mobile Bench

Chemical-resistant table with 5-inch diameter, toe-locking casters. High pressure laminate work surface and frame of epoxy-coated steel. Supports loads up to 540 pounds. Lifetime warranty. 48" w x 24" d x 37.2" high (122 x 61 x 94 cm). Shipping weight 105 lbs. (48 kg).



The rates below apply to CentriVap Benchtop Concentrators,  
Acid-Resistant CentriVap Concentrators and CentriVap Mobile Systems.

	Tube Size (ml)	Number of Samples	Sample Size (ml)	Heater Temp (° C)	Heat Boost	Vacuum Pump	Time to Dry (min)	Cold Trap	Overall Rate (ml/min)
<b>Methylene Chloride</b> boiling point 40° C	50	12	25	45	No	Diaphragm	88	Yes	3.41
	15	18	10	45	No	Diaphragm	56	Yes	3.21
<b>Toluene</b> boiling point 111° C	50	12	25	45	No	Diaphragm	106	Yes	2.83
	50	12	25	100	No	Diaphragm	53	Yes	5.66
	15	18	10	45	No	Diaphragm	75	Yes	2.40
	15	18	10	100	No	Diaphragm	34	Yes	5.29
<b>Acetonitrile</b> boiling point 82° C	50	12	25	45	No	Diaphragm	157	Yes	1.91
	15	18	10	45	No	Diaphragm	105	Yes	1.71
	15	18	10	100	No	Diaphragm	52	Yes	3.46
	1.5	132	1	45	No	Diaphragm	50	Yes	2.64
	1.5	132	1	100	No	Diaphragm	24	Yes	5.50
<b>Methanol</b> boiling point 65° C	50	12	25	45	No	Diaphragm	210	Yes	1.43
	15	18	10	45	No	Diaphragm	150	Yes	1.20
	1.5	132	1	35	No	Diaphragm	85	Yes	1.55
	1.5	132	1	45	No	Diaphragm	75	Yes	1.76
	1.5	132	1	60	No	Diaphragm	63	Yes	2.10
	1.5	132	1	75	No	Diaphragm	52	Yes	2.54
	1.5	132	1	100	No	Diaphragm	37	Yes	3.56
<b>Water</b> boiling point 100° C	50	12	25	100	No	Diaphragm	409	Yes	0.73
	50	12	25	45	No	Diaphragm	1435	Yes	0.21
	15	18	10	45	No	Diaphragm	849	Yes	0.21
	1.5	132	1	45	No	Diaphragm	402	Yes	0.33
	1.5	132	1	60	No	Diaphragm	288	Yes	0.46
	1.5	132	1	75	No	Diaphragm	170	Yes	0.78
	1.5	132	1	100	No	Diaphragm	123	Yes	1.07
<b>Isopropanol</b> boiling point 100° C	15	18	10	45	No	Diaphragm	117	Yes	1.54
	15	18	10	100	No	Diaphragm	52	Yes	3.46

Diaphragm Pump is rated at 22 mBar ultimate vacuum and 82 liter/minute displacement. Chamber was preheated to set temperature prior to each run.



The rates below apply to the Refrigerated CentriVap Concentrators.

	Tube Size (ml)	Number of Samples	Sample Size (ml)	Chamber Temp (° C)	Vacuum Pump	Time to Dry (min)	Time to Dry (hr)	Cold Trap	Overall Rate (ml/min)
<b>Water</b> boiling point 100° C	1.5	132	1	100	Rotary Vane	131	2.18	Yes	1.01
	1.5	132	1	75	Rotary Vane	207	3.45	Yes	0.64
	1.5	132	1	45	Rotary Vane	299	4.98	Yes	0.44
	1.5	132	1	25	Rotary Vane	627	10.45	Yes	0.21
	1.5	132	1	15	Rotary Vane	794	13.23	Yes	0.17
	1.5	132	1	5	Rotary Vane	1160	19.33	Yes	0.11
	1.5	132	1	-4	Rotary Vane	1485	24.75	Yes	0.09
<b>Ethanol</b> boiling point 40° C	1.5	132	1	100	Rotary Vane	34	0.57	Yes	3.88
	1.5	132	1	75	Rotary Vane	45	0.75	Yes	2.93
	1.5	132	1	60	Rotary Vane	55	0.92	Yes	2.40
	1.5	132	1	45	Rotary Vane	70	1.17	Yes	1.89
	1.5	132	1	25	Rotary Vane	95	1.58	Yes	1.39
	1.5	132	1	15	Rotary Vane	120	2.00	Yes	1.10
	1.5	132	1	5	Rotary Vane	160	2.67	Yes	0.83
	1.5	132	1	-4	Rotary Vane	190	3.17	Yes	0.70

Rotary Vane Pump is rated at  $2.0 \times 10^{-3}$  mBar ultimate vacuum and 195 liter/minute displacement. Chamber was preconditioned to set temperature prior to each run.

The rates below apply to the CentriVap DNA Concentrators.

	Tube Size (ml)	Number of Samples	Sample Size (ml)	Heater Temp (° C)	Time to Dry (min)	Ballast	Overall Rate (ml/min)
<b>Acetonitrile</b> boiling point 82° C	1.5	132	1	45	56	Open	2.36
	1.5	132	1	60	41	Open	3.22
	1.5	132	1	75	34	Open	3.88
	1.5	132	1	24	30	Open	5.50
<b>Methanol</b> boiling point 65° C	1.5	132	1	35	82	Open	1.94
	1.5	132	1	45	60	Open	2.03
	1.5	132	1	60	50	Open	2.64
	1.5	132	1	75	37	Open	3.57
	1.5	132	1	100	28	Open	4.71
<b>Water</b> boiling point 100° C	1.5	132	1	45	403	Open	0.33
	1.5	132	1	60	260	Open	0.51
	1.5	132	1	75	188	Open	0.70
	1.5	132	1	100	123	Open	1.07
<b>Methylene Chloride</b> boiling point 40° C	1.5	132	1	45	23	Open	5.74
	1.5	132	1	60	18	Open	7.33
	1.5	132	1	75	14	Open	9.42
	1.5	132	1	100	12	Open	11.00
<b>Ethanol</b> boiling point 78° C	1.5	132	1	45	70	Open	1.89
	1.5	132	1	60	48	Open	2.75
	1.5	132	1	75	36	Open	3.67
	1.5	132	1	100	25	Open	5.28



## Companion Products

Equipment that requires a vacuum pump for operation, such as the Labconco Vacuum Desiccator and Gel Dryer, may share the CentriVap Cold Trap or Mobile System. The CentriVap Cold Trap, which helps to protect the vacuum pump from moisture and other

corrosive solvents, may be placed between the vacuum pump and any of these products. The Three-Way Valve 7474000 allows the cold trap and vacuum pump to service two instruments.



Gel Dryer 4330100

### Gel Dryers

Dry large gels up to 13.2 x 16.7" (33.6 x 42.3 cm) or any combination of smaller gels for preservation or subsequent processing. Includes an 800-watt heating element, aluminum platen, 4-hour heating timer, 4-hour vacuum timer, temperature control knob with adjustment from 40° to 80° C. Includes a Mylar\* sheet, porous polyethylene sheet, flexible mesh and translucent silicone rubber cover. An electrical outlet is provided for vacuum pump connection. 18.5" w x 19.5" d x 3.5" high (47 x 50 x 9 cm). Shipping weight 24 lbs. (11 kg). The Gel Dryer is also offered as a component of a CentriVap System. See page 31 for ordering information.

Catalog Number	Description
<b>4330100</b>	Gel Dryer for operation on 115 volts, 50/60 Hz, 16 amps.
<b>4330150*</b>	Gel Dryer for operation on 230 volts, 50 Hz, 8 amps.



Vacuum Desiccator 5530000

### 5530000 Vacuum Desiccator

Provides a cubic foot of interior space for storage of humidity sensitive materials. Vacuum tested to 29" Hg. Body is constructed of molded fiberglass reinforced polyester. Shipping weight 46 lbs. (21 kg).

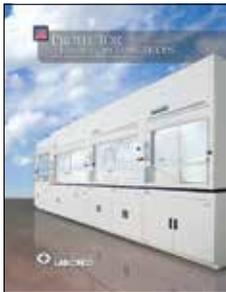


FreeZone 4.5 Liter Benchtop Freeze Dry System 7750020

### FreeZone® Freeze Dry Systems

The CentriVap Benchtop Concentrator may be connected to an existing freeze dry system through a manifold valve and 1/2" freeze dry valve adapter. The freeze dry system's collector then serves as a cold trap for the CentriVap Concentrator. Labconco's FreeZone line of freeze dry systems includes lyophilizers with capacities up to 18 liters. A full line of accessory glassware, drying chambers and manifolds provide a complete freeze dry system. Contact Labconco for more information on these products.

Visit [www.labconco.com](http://www.labconco.com) or call Labconco at 1-800-821-5525 for additional information about these quality products for your laboratory.



Fume Hoods & Ductless Enclosures



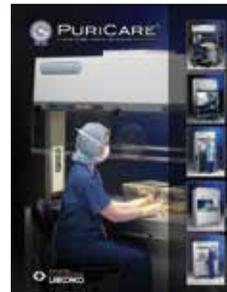
HEPA-Filtered Safety Cabinets, Enclosures & Clean Benches



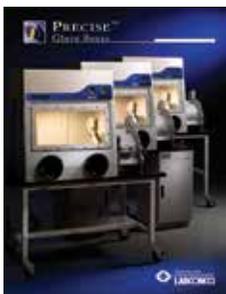
Balance & Bulk Powder Enclosures



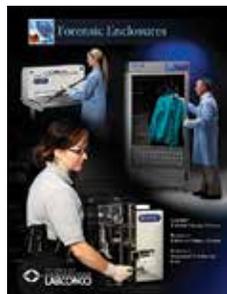
Nanotechnology Enclosures



Laboratory Animal Research Stations



Glove Boxes



Forensic Enclosures



Glassware Washers



Water Purification Systems



Freeze Dry Systems



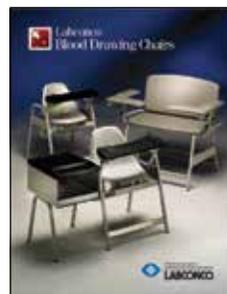
Multiple Sample Evaporation Systems



Agricultural Chemistry Products



Laboratory Carts & Benches



Blood Drawing Chairs



Vacuum Desiccator



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