

CentriVap®

Centrifugal Vacuum Concentrators
and Cold Traps



Protecting your
laboratory environment

LABCONCO



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An Overview

CentriVap Centrifugal Vacuum Concentrators use a combination of centrifugal force, vacuum and heat to speed evaporation of multiple small samples. The CentriVap's larger chamber and selection of higher capacity rotors offer the maximum throughput required by molecular biology, microbiology, biochemistry, pharmaceutical research and analytical chemistry laboratories. As many as 132 samples may be processed at once. Sample sizes range from a few microliters up to 25 milliliters. In addition, the Microtiter Plate Rotor holds four standard or two deep well plates.

CentriVap Vacuum Concentrators are available as a compact benchtop component or as a "system" combined with the CentriVap Cold Trap. The CentriVap Cold Trap helps protect the accessory vacuum pump from the corrosive effects of vapors and fumes as they evaporate from the samples. The CentriVap Ultra-Low Cold Trap provides protection from low freezing point solvents.

Some CentriVap Concentrators have additional design features to meet specific application needs. The Refrigerated CentriVap Concentrator combines refrigeration with heat to safely evaporate heat-sensitive samples. The Acid-Resistant CentriVap Concentrator is constructed with chemical-resistant components throughout the vapor path for use with samples containing harsh substances.



CentriVap Concentrators, like the Acid-Resistant CentriVap shown above, speed evaporation of multiple biological or analytical samples.



Refrigerated CentriVap Concentrator incorporates a refrigeration system designed 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 Cold Trap collects evaporated liquid, protecting the vacuum pump.



CentriVap Ultra-Low Cold Trap protects the vacuum pump from low freezing point solvents.

Systems simplify ordering

For ease of ordering, Labconco has application-specific CentriVap Systems, each organized under one catalog number. Systems specifically designed for aqueous, acid or solvent-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.

The CentriVap Mobile System and CentriVap DNA Concentrator house all the components necessary to begin concentration inside 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.

Greater convenience means greater productivity

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 heat-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. Unlike competitors' radiant lid heaters with simple on/off settings, the CentriVap's Heat Boost supplies adjustable, controlled heat, in closer proximity to the samples, so the user has greater confidence in the actual heat temperature reaching sensitive samples. In addition, the Heat Boost is supplied within the chamber, safely away from the lid where potential burn injury could occur.

The exclusive optional accessory, the CentriZap™ Strobe Light, simplifies sample monitoring and reduces potential for sample contamination. Instead of breaking the vacuum and stopping centrifugation to open the lid and check sample progress, the user shines the strobe light into the chamber to easily view samples while the rotor is still spinning. The flashing of the strobe light is perfectly timed to the speed of the rotor so that samples appear to be standing still.



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. The CentriVap Concentrator when partnered with the CentriVap Cold Trap creates an Aqueous, Solvent or Acid System. CentriVap Gel Dryer Systems consist of the Labconco Gel Dryer combined with the CentriVap Benchtop Concentrator and Cold Trap.

Large, phenol-free lid seal

Large chamber holds up to 132 samples for maximum throughput

Quick-Start™ One Button Start Up

Microprocessor-controlled 300-watt heater

Optional microprocessor-controlled 300-watt Heat Boost™

Quick-Stop™ System

Vacuum port with quick disconnect fitting



Sleek styling

Easy-to-read LCD display





Features and Benefits

Sleek styling.

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

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 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.

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. If ON is selected instead of a time period, the heat stays on throughout the run.

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. If ON is selected instead of a time period, the CentriVap runs continuously.

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 29.

Optional Glass Lid.

Provides additional protection from solvents and corrosives that attack acrylic. See page 31.



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 is 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.
- 115 volt models have a 115 volt electrical receptacle on the back to connect accessory vacuum pump to the system.
- 230 volt models have an IEC electrical receptacle on the back to connect accessory vacuum pump to the system.
- 115 volt models have a 6.5-foot, 3-wire cord with NEMA 5-15 plug.
- 230 volt models have an 8-foot cord with NEMA 6-15 plug.
- ETL and 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 29.6 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 30.
- **CentriVap Cold Trap** (if using a Rotary Vane Pump). See pages 16-17.
- **Rotor.** See pages 28-29.
- **Sample tubes.** Contact your laboratory supply dealer.

Other Accessories (See pages 29-31)

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

Ordering Information

Catalog Number	Electrical Specifications	Heat Boost	Glass Lid
7810010	115 volts, 50/60 Hz, 3.1 amps**		
7810011*	230 volts, 50/60 Hz, 1.6 amps**		
7810012	115 volts, 50/60 Hz, 5.1 amps**	•	
7810013*	230 volts, 50/60 Hz, 2.6 amps**	•	
7810014	115 volts, 50/60 Hz, 3.1 amps**		•
7810015*	230 volts, 50/60 Hz, 1.6 amps**		•

See pages 26 -27 for ordering information on CentriVap Systems consisting of the individual components bundled under one catalog number.

■ Exclusive feature

*International electrical configuration

**Current rating excluding vacuum pump



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 $+100^{\circ}\text{C}$ to achieve the user's selected set point temperatures.

Optional microprocessor-controlled 300-watt Heat Boost™

Large chamber holds up to 132 samples for maximum throughput

Large, phenol-free lid seal

Quick-Start™ One Button Start Up

Vacuum port with quick disconnect fitting



PREHEAT/COOL button

Easy-to-read LCD display

Microprocessor-controlled cooling and heating

Programming holds two temperatures and times

Sleek styling

Quick-Stop™ System





Features and 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 1/4 hp 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 optional.

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

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.

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, 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. During the run, the LCD shows time remaining for the first temperature. If ON is selected, instead of stopping after the preset time, the CentriVap runs until manually turned off.

TIME AT 2.

LCD shows time selected for the second temperature from 0 to 999 minutes. During the run, the LCD shows time remaining for the second temperature. If ON is selected, instead of stopping after the preset time, the CentriVap runs until manually turned off.

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 29.



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 to heat chamber to +100° C.
- 1/4 hp refrigeration system to cool chamber to -4° C.
- Sensor that reads internal 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 is 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.
 - 115 volt models have a 115 volt electrical receptacle on the back to connect accessory vacuum pump to the system.
 - 230 volt models have a reverse IEC electrical receptacle on the back to connect accessory vacuum pump to the system.
 - 115 volt models have a 10-foot, 3-wire cord with NEMA 5-20 plug.
 - 230 volt models have an 8-foot cord with NEMA 6-20 plug.
 - ETL and ETL-C listing on 115 volt, 60 Hz models.
 - CE mark on 230 volt, 50 Hz models.
 - 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).



Refrigerated CentriVap Vacuum Concentrator 7310020

Required Accessories (not included)

- **Diaphragm or Rotary Vane Vacuum Pump.** See page 30.
- **CentriVap Cold Trap** (if using a Rotary Vane Vacuum Pump). See pages 16-17.
- **Rotor.** See page 28-29.
- **Sample tubes.** Contact your laboratory supply dealer.

Other Accessories (See pages 29-31)

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

Ordering Information



Catalog Number	Electrical Specifications	Glass Lid
7310020	115 volts, 60 Hz, 8 amps**	
7310021	115 volts, 60 Hz, 8 amps**	•
7310030*	230 volts, 50 Hz, 5 amps**	
7310031*	230 volts, 50 Hz, 5 amps**	•
7310040*	230 volts, 60 Hz, 5 amps**	
7310041*	230 volts, 60 Hz, 5 amps**	•

■ Exclusive feature

*International electrical configuration

**Current rating excluding vacuum pump



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 harsh chemicals such as 0.1 to 1% TFA, hydrochloric acid, acetic acid, hydrobromic acid, ammonium hydroxide and sodium hydroxide.

Microprocessor-controlled
300-watt heater

Large Teflon®-coated chamber
holds up to 132 samples for
greater throughput

Large, phenol-free lid seal

Quick-Start™ One Button
Start Up

Durable acid-resistant
components

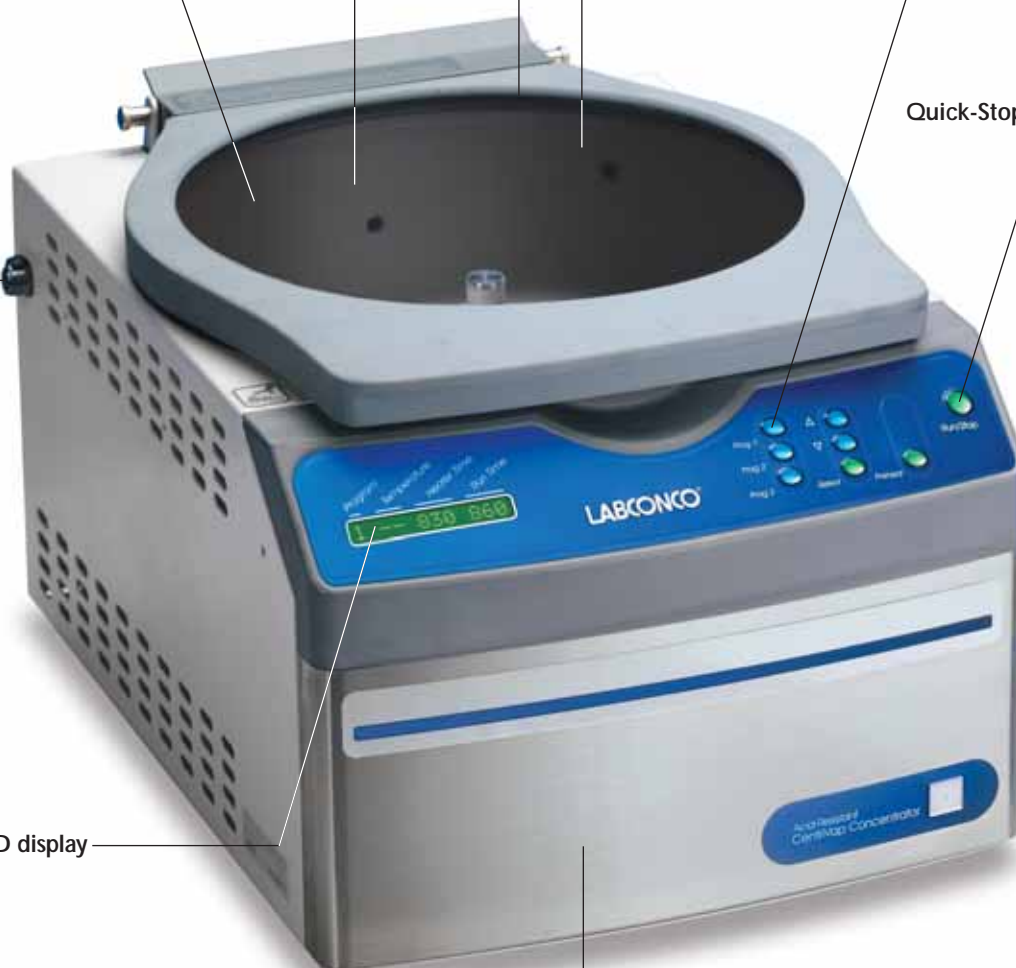
Glass Lid

Quick-Stop™ System

Vacuum
port with quick
disconnect
fitting



Easy-to-read LCD display



Sleek styling



Features and 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 29 for ordering information on Acid-Resistant Aluminum 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.

 Exclusive feature



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 29.

Acid-Resistant Rotors.

Teflon-coated aluminum rotors resist degradation from exposure to harsh chemicals. Six different rotors are offered. See page 29.



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 is 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.
 - 115 volt models have a 115 volt electrical receptacle on the back to connect accessory vacuum pump to the system.
 - 230 volt models have a reverse IEC electrical receptacle on the back to connect accessory vacuum pump to the system.
 - 115 volt models have a 6.5-foot, 3-wire cord with NEMA 5-15 plug.
 - 230 volt models have an 8-foot cord with NEMA 6-15 plug.
 - ETL and 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 30.
- **CentriVap Cold Trap** (if using a Rotary Vane Vacuum Pump). See pages 16-17.
- **Rotor.** See pages 28-29.
- **Sample tubes.** Contact your laboratory supply dealer.

Other Accessories (See pages 29-32)

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

Ordering Information



Catalog Number	Electrical Specifications
7810016	110/115 volts, 50/60 Hz, 3.1 amps**
7810017*	230 volts, 50/60 Hz, 1.6 amps**

See page 26 for ordering information on CentriVap Acid Concentrator System consisting of the individual components bundled under one catalog number.



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. The collector reaches -55° C to

protect the vacuum pump by trapping moisture, vapors and corrosive fumes as they evaporate from the samples. CentriVap Ultra-Low Cold Traps reach -85° C to protect the pump from low freezing point liquids.

Features and Benefits

CFC-free refrigeration system.

Has a high capacity 1/4 hp compressor to lower cold trap temperature to -55° C (-67° F) in less than 20 minutes and accelerate start up procedures. Ultra-Low Cold Traps have two compressors to lower cold trap temperature to -85° C (-121° F) in less than 40 minutes.

Reliability guarantee.

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

Acrylic lid.

Has two Quick-Disconnect fittings for 1/2" ID hose for connecting the Cold Trap and Concentrator.

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.

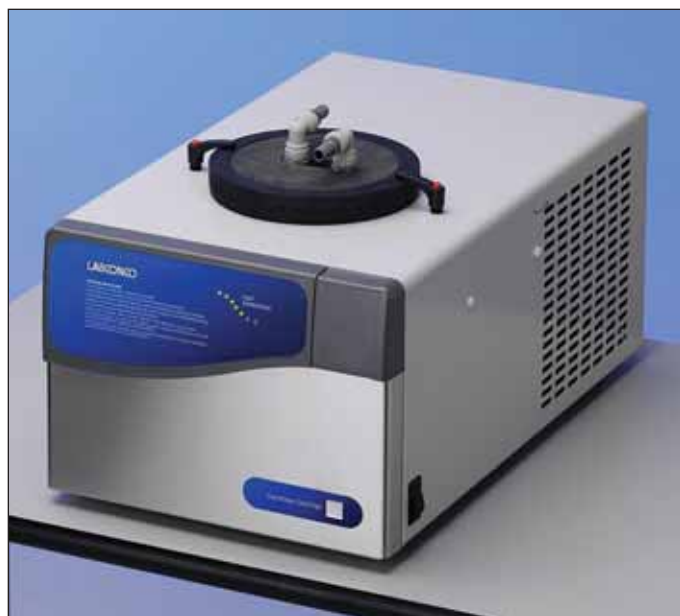
The 115 and 230 volt, 60 Hz CentriVap Cold Traps carry the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying it meets or exceeds all requirements of UL Standard 61010A-1 and CAN/CSA C22.2 No. 1010.1.





Cold Trap Specifications

- Brushed stainless steel and glacier white, epoxy-coated steel exterior with blue accents.
- CFC-free refrigeration system with 1/4 hp compressor lowers cold trap to -55° C (-67° F) in less than 20 minutes.
- 4-liter stainless steel collector.
- Acrylic 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.
- 115 volt model includes a 6.5-foot, 3-wire cord with NEMA 5-15 plug.
- 230 volt model includes an 8-foot cord with NEMA 6-15 plug.
- ETL and ETL-C listings on 115 and 230 volt, 60 Hz 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 Cold Trap 7811020

Ultra-Low Cold Trap Specifications

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

- CFC-free refrigeration system with one 1/4 hp and one 1/3 hp compressor lowers cold trap to -85° C (-121° 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)

Accessories (See pages 30-31.)

- Clear Canisters and Chemical Trap Inserts
- Glass Trap
- Two-Port Manifold

Ordering Information

Catalog Number	Description	Electrical Specifications
7811020	Cold Trap	115 volts, 60 Hz, 5.4 amps
7811030*	Cold Trap	230 volts, 50 Hz, 2.4 amps
7811040*	Cold Trap	230 volts, 60 Hz, 2.4 amps
7460020	Ultra-Low Cold Trap	115 volts, 60 Hz, 12 amps
7460030*	Ultra-Low Cold Trap	230 volts, 50 Hz, 6 amps
7460040*	Ultra-Low Cold Trap	230 volts, 60 Hz, 6 amps

See pages 26-27 for ordering information on CentriVap Systems consisting of the individual components bundled under one catalog number.



CentriVap Ultra-Low Cold Trap 7460020



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 micro-centrifuge tubes. Other accessory rotors are shown on pages 28-29.

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 29.6" Hg and has a pumping capacity of 34 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. If ON is selected instead of a time period, the heat stay on throughout the run.

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. 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.

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 29.

Optional Glass Lid.

Provides additional protection from solvents and corrosives that attack acrylic. See page 31.



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 is 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 29.6" Hg and has displacement capacity of 34 liters per minute. All wetted parts are Teflon or Teflon-coated.
 - 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.
 - 115 volt model has a 6.5-foot, 3-wire cord with NEMA 5-15 plug.
 - 230 volt model has an 8-foot cord with NEMA 6-15 plug.
 - ETL and ETL-C listing on 115 volt, 60 Hz model.
 - CE mark on 230 volt, 50/60 Hz model.
 - Overall dimensions with closed lid: 15.9" wide x 26.1" deep x 11.2" high (40.4 x 66.3 x 28.4 cm).
 - Actual weight 69 lbs. (31 kg). Shipping weight 75 lbs. (34 kg).



CentriVap DNA Centrifugal Concentrator 7970010

Required Accessories (not included)

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

Other Accessories (see pages 28-31)

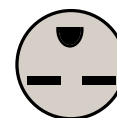
- **CentriZap Strobe Light**
 - Rotors
 - Clear Canisters and Chemical Trap Inserts
 - Vacuum Controller
 - Glass Lid
 - Laboratory Carts

Ordering Information

Catalog Number	Electrical Specifications
7970010	115 volts, 60 Hz, 15 amps
7970011*	230 volts, 50/60 Hz, 8 amps



115 volt
15 amp plug
NEMA 5-15



230 volt
15 amp plug
NEMA 6-15

■ Exclusive feature

*International electrical configuration

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 new 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 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. 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+ 12x75mm or 13x75mm tubes, 64 12x95mm or 13x100mm tubes, 16 12x55mm tubes, and 40 1.5ml or 2.0ml microcentrifuge tubes. Other accessory rotors are shown on pages 28-29.

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.

CFC-free refrigeration system.

The high capacity 1/4 hp compressor lowers cold trap temperatures to -55° C in less than 20 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 and 230 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.

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. If ON is selected instead of a time period, the heat stays on throughout the run.

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.

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.

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 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 29.



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 is 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.
 - CFC-free refrigeration system with 1/4 hp compressor lowers cold trap to -55° C (-67° F) in less than 20 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.
 - 115 volt models have a 115 volt electrical receptacle on the back to connect accessory vacuum pump to the system.



CentriVap Mobile System 7812013

- 230 volt models have an IEC electrical receptacle on the back to connect accessory vacuum pump to the system.
- 115 volt models have a 10-foot, 3-wire cord with NEMA 5-20 plug. **A 20 amp minimum circuit breaker is required.**
- 230 volt models have an 8-foot cord with NEMA 6-15 plug. **A 10 amp circuit breaker is required.**
- ETL and ETL-C listings on 115 and 230 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 30.
- **Sample tubes.** Contact your laboratory supply dealer.

Other Accessories (See pages 28-31)

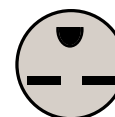
- CentriZap Strobe Light
- Vacuum Controller
- Glass Trap
- Rotors
- Chemical Traps

Ordering Information

Catalog Number	Electrical Specifications	Heat Boost
7812010	115 volts, 60 Hz, 8.5 amps**	
7812011*	230 volts, 50 Hz, 4.0 amps**	
7812012*	230 volts, 60 Hz, 4.0 amps**	
7812013	115 volts, 60 Hz, 10.5 amps**	•
7812014*	230 volts, 50 Hz, 5.0 amps**	•
7812015*	230 volts, 60 Hz, 5.0 amps**	•



115 volt
20 amp plug
NEMA 5-20



230 volt
15 amp plug
NEMA 6-15

■ Exclusive feature

*International electrical configuration

**Current rating excluding vacuum pump



Ordering Information



CentriVap Aqueous, Acid and Solvent 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
7982010	Aqueous	115 V, 60 Hz 8.5 amps*	Benchtop Concentrator Cold Trap Clear Canister Moisture Insert 12-13 mm Rotor Vacuum Tubing and 6 Clamps	Vacuum Pump 20 amp dedicated circuit
7982011**	Aqueous	230 V, 50 Hz 4.0 amps*	Benchtop Concentrator Cold Trap Clear Canister Moisture Insert 12-13 mm Rotor Vacuum Tubing and 6 Clamps	Vacuum Pump 10 amp dedicated circuit
7982012**	Aqueous	230 V, 60 Hz 4.0 amps*	Benchtop Concentrator Cold Trap Clear Canister Moisture Insert 12-13 mm Rotor Vacuum Tubing and 6 Clamps	Vacuum Pump 10 amp dedicated circuit
7983013	Acid	115 V, 60 Hz 8.5 amps*	Benchtop Concentrator Cold Trap Clear Canister Acid Insert Acid-Resistant 12-13 mm Rotor Glass Trap Vacuum Tubing and 6 Clamps	Vacuum Pump 20 amp dedicated circuit
7983014**	Acid	230 V, 50 Hz 4.0 amps*	Benchtop Concentrator Cold Trap Clear Canister Acid Insert 12-13 mm Rotor Glass Trap Vacuum Tubing and 6 Clamps	Vacuum Pump 10 amp dedicated circuit
7983015**	Acid	230 V, 60 Hz 4.0 amps*	Benchtop Concentrator Cold Trap Clear Canister Acid Insert 12-13 mm Rotor Glass Trap Vacuum Tubing and 6 Clamps	Vacuum Pump 10 amp dedicated circuit



Ordering Information



CentriVap Gel Dryer Systems include the CentriVap Benchtop Concentrator, Cold Trap, Gel Dryer and connecting tubing. The diaphragm pump shown above is sold separately. Along with being a component of the CentriVap Gel Dryer Systems, the Labconco Gel Dryer is also sold separately, as described on the inside back cover.

Catalog Number	System Type	Electrical Requirements*	Components Included		Accessories Required
7984010	Solvent	115 V, 60 Hz 8.5 amps*	Benchtop Concentrator with Glass Lid Cold Trap Clear Canister Solvent Insert 12-13 mm Rotor Vacuum Tubing and 6 Clamps	7810014 7811020 7460900 7815200 7455100	Vacuum Pump 20 amp dedicated circuit
7984011**	Solvent	230 V, 50 Hz 4.0 amps*	Benchtop Concentrator with Glass Lid Cold Trap Clear Canister Solvent Insert 12-13 mm Rotor Vacuum Tubing and 6 Clamps	7810015 7811030 7460900 7815200 7455100	Vacuum Pump 10 amp dedicated circuit
7984012**	Solvent	230 V, 60 Hz 4.0 amps*	Benchtop Concentrator with Glass Lid Cold Trap Clear Canister Solvent Insert 12-13 mm Rotor Vacuum Tubing and 6 Clamps	7810015 7811040 7460900 7815200 7455100	Vacuum Pump 10 amp dedicated circuit
7475010	Gel Dryer	115 V, 60 Hz 15.5 amps*	Benchtop Concentrator Cold Trap Gel Dryer 12-13 mm Rotor 3-Way Valve Vacuum Tubing and Clamps	7810010 7811020 4330100 7455100	Vacuum Pump 20 amp dedicated circuit
7475011**	Gel Dryer	230 V, 50 Hz 7.5 amps*	Benchtop Concentrator Cold Trap Gel Dryer 12-13 mm Rotor 3-Way Valve Vacuum Tubing and Clamps	7810011 7811030 4330150 7455100	Vacuum Pump 10 amp dedicated circuit
7475012**	Gel Dryer	230 V, 60 Hz 7.5 amps*	Benchtop Concentrator Cold Trap Gel Dryer 12-13 mm Rotor 3-Way Valve Vacuum Tubing and Clamps	7810011 7811040 4330150 7455100	Vacuum Pump 10 amp dedicated circuit

**Electrical requirements excluding vacuum pump

**International electrical configuration



Accessories



Hexagonal Rotor 7450700



12-17 mm Rotor 7455000



12-13 mm Rotor 7455100



28 mm Rotor 7455200



DNA Rotor 7462900



Microtiter Plate Rotor 7461900

Aluminum Rotors

Anodized aluminum rotors hold tubes at an angle to maximize surface area. Easily interchangeable. The 12-13 mm Rotor 7455100 is included with each CentriVap Aqueous, Solvent, Gel Dryer and Mobile 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 5 lbs. (2.3 kg)

Catalog Number	Description	Number of Holes	Number of Tubes*	Tube Volume**	Tube Description			
7450700	Hexagonal	132	132	1.5 ml	1.5 ml microcentrifuge tubes			
			132	2.0 ml	2.0 ml microcentrifuge tubes			
7455000	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	12-13 mm	40	40	1.5 ml	1.5 ml microcentrifuge tubes
						40	2.0 ml	2.0 ml microcentrifuge tubes
16	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						
64	10 ml	13 x 100 mm						
7455200	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	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			

*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 centrifugation.

†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.

7461900

Microtiter Plate Rotor

Holds 4 each standard or 2 each deep well plates. Shipping weight 5 lbs. (2.3 kg)



Accessories

Acid-Resistant Aluminum Rotors

Teflon-coated aluminum rotors with Teflon hubs hold tubes at an angle to maximize surface area. Easily interchangeable. The 12-13 mm Rotor 7455101 is included with each Acid System. **Sample containers are not included.** Shipping weight 5 lbs. (2.3 kg)



12-13 mm Rotor 7455101

Catalog Number	Description	Number of Holes	Number of Tubes*	Tube Volume**	Tube Description	
7450701	Hexagonal	132	132	1.5 ml	1.5 ml microcentrifuge tubes	
			132	2.0 ml	2.0 ml microcentrifuge tubes	
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	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	14 ml	17 x 100 mm
				18	12-15 ml	17 x 120 mm
			7455101	12-13 mm	40	40
40	2.0 ml	2.0 ml microcentrifuge tubes				
108	16	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
	64	10 ml				13 x 100 mm
	7455201	28 mm				32
32			2.0 ml	2.0 ml microcentrifuge tubes		
12			12	40-50 ml	28 x 115 mm	
			12	40-50 ml	28 x 135 mm	
7462901	DNA	72	72	0.5 ml	0.5 ml microcentrifuge tubes	
			60	60	1.5 ml	1.5 ml microcentrifuge tubes
				60	2.0 ml	2.0 ml microcentrifuge tubes
			7461901	Microtiter Plate	N/A	N/A

*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 centrifugation.

†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.



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)



Accessories



Diaphragm Vacuum Pump
7398000

Diaphragm Vacuum Pumps

The wetted parts of these pumps are Teflon-coated for corrosion resistance. Vacuum outlet is 1/2" OD. Select pump with an explosion-proof motor if using flammable solvents.

Catalog Number	Electrical Specifications	Vacuum (mBar/in. Hg)	Displacement Capacity (liters/minute)	Explosion-Proof	Shipping Description (lbs./kg)	Solvents Used
7914100	115V, 60 Hz, 3.3 amps	206/23.8	42	No	12/5.4	▲
7914101*	220V, 50 Hz, 1.5 amps	206/23.8	35	No	12/5.4	▲
7398000	115V, 60 Hz, 2.65 amps	35/28.9	68	No	24/10.9	■▲●
7398001*	220/240V, 50 Hz, 1.4/1.6 amps	35/28.9	57	No	24/10.9	■▲●
7924800	115V, 60 Hz, 5.8 amps	206/23.8	42	Yes	60/26.2	▲
7924801*	220V, 50 Hz, 3.1 amps	206/23.8	35	Yes	60/26.2	▲

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

* International electrical configuration



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 adapter(s) 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	1.3×10^{-4}	117	62/28.1	■
7739402*	230V, 50/60 Hz, 2.4 amps	1.3×10^{-4}	117	65/29.5	■
7769600	110/120V, 50/60 Hz, 5.8 amps	1.3×10^{-4}	173	75/34	■▲●
7769800*	230V, 50/60 Hz, 2.9 amps	1.3×10^{-4}	173	75/34	■▲●

■ 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.

Catalog Number	Description
7460900	Clear Polypropylene Canister with mounting bracket 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	Clear Polypropylene Canister with stand. Recommended when more than one chemical trap is required. Accommodates any trap insert listed below. Shipping Weight 5 lbs. (2.3 kg)
7814800	Acid Trap Insert. Contains acid neutralizing desiccant which changes from off-white to purple when exhausted. Shipping weight 4 lbs. (2 kg)
7814900	Moisture Trap Insert. Contains desiccant which changes from blue to pink when exhausted. Shipping weight 4 lbs. (2 kg)
7815000	Radioisotope Trap Insert. Contains activated carbon. Shipping weight 4 lbs. (2 kg)
7815200	Solvent Trap Insert. Contains molecular sieve. Shipping weight 4 lbs. (2 kg)
7995600	Ammonia Trap Insert. Contains impregnated carbon. Shipping weight 4 lbs. (2 kg)



Clear Polypropylene Canister with
stand 7815300 with Solvent Trap
Insert 7815200



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)

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)



Glass Trap 7397605

7456600 Glass Lid

Install 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)

7814300 Bleed Valve

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



Three-Way Valve 7474000

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. 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. 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. 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)
Methylene Chloride boiling point 40° C	50	12	25	45	Off	Diaphragm	80	No	3.75
	50	12	25	45	On	Diaphragm	78	No	3.85
	15	18	10	45	Off	Diaphragm	45	No	4.00
	15	18	10	45	On	Diaphragm	45	No	4.00
Toluene boiling point 111° C	50	12	25	45	Off	Diaphragm	204	No	1.47
	50	12	25	45	On	Diaphragm	187	No	1.60
	50	12	25	100	Off	Diaphragm	96	No	3.13
	50	12	25	100	On	Diaphragm	66	No	4.55
	15	18	10	45	Off	Diaphragm	119	No	1.51
	15	18	10	45	On	Diaphragm	99	No	1.82
	15	18	10	100	Off	Diaphragm	42	No	4.29
	15	18	10	100	On	Diaphragm	34	No	5.29
Acetonitrile boiling point 82° C	50	12	25	45	Off	Diaphragm	184	No	1.63
	50	12	25	45	On	Diaphragm	181	No	1.66
	50	12	25	100	Off	Diaphragm	81	No	3.70
	50	12	25	100	On	Diaphragm	77	No	3.90
	15	18	10	45	Off	Diaphragm	106	No	1.70
	15	18	10	100	Off	Diaphragm	52	No	3.46
	15	18	10	100	On	Diaphragm	45	No	4.00
	1.5	132	1	45	Off	Diaphragm	55	No	2.40
	1.5	90	1	45	Off	Diaphragm	47	No	1.92
	1.5	132	1	60	Off	Diaphragm	37	No	3.57
	1.5	132	1	75	Off	Diaphragm	33	No	5.74
	1.5	132	1	100	Off	Diaphragm	21	No	6.29
	1.5	132	1	100	On	Diaphragm	17	No	7.76
Methanol boiling point 65° C	50	12	25	45	Off	Diaphragm	233	No	1.29
	15	18	10	45	Off	Diaphragm	141	No	1.28
	1.5	132	1	35	Off	Diaphragm	88	No	1.50
	1.5	132	1	45	Off	Diaphragm	64	No	2.06
	1.5	132	1	60	Off	Diaphragm	50	No	2.64
	1.5	90	1	75	Off	Diaphragm	38	No	2.37
	1.5	132	1	75	Off	Diaphragm	39	No	3.38
	1.5	132	1	100	Off	Diaphragm	25	No	5.28
	1.5	132	1	100	On	Diaphragm	22	No	6.00
	Water boiling point 100° C	50	12	25	45	Off	Diaphragm	1397	No
50		12	25	100	Off	Diaphragm	445	No	0.67
50		12	25	100	On	Diaphragm	430	No	0.70
15		18	10	45	Off	Diaphragm	841	No	0.19
1.5		132	1	45	Off	Diaphragm	427	No	0.30
1.5		132	1	60	Off	Diaphragm	303	No	0.44
1.5		132	1	75	Off	Diaphragm	196	No	0.67
1.5		132	1	100	Off	Diaphragm	117	No	1.13
1.5		132	1	100	On	Diaphragm	108	No	1.22
50		12	25	45	Off	Rotary Vane	1002	Yes	0.30
50		12	25	100	Off	Rotary Vane	424	Yes	0.70
50		12	25	100	On	Rotary Vane	373	Yes	0.80
15		18	10	45	Off	Rotary Vane	565	Yes	0.32
15		18	10	60	Off	Rotary Vane	456	Yes	0.39
1.5		132	1	45	Off	Rotary Vane	299	Yes	0.44
1.5		132	1	75	Off	Rotary Vane	207	Yes	0.64
1.5		132	1	100	Off	Rotary Vane	131	Yes	1.01
1.5		132	1	100	On	Rotary Vane	122	Yes	1.08

Diaphragm Pump is rated at 12 mBar ultimate vacuum and 34 liter/minute displacement. Rotary Vane Pump is rated at 2.0×10^{-3} mBar ultimate vacuum and 195 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)
Water 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
Ethanol 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 2.0×10^{-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)	Overall Rate (ml/min)
Acetonitrile boiling point 82° C	1.5	132	1	45	55	2.40
	1.5	90	1	45	47	1.92
	1.5	132	1	60	37	3.57
	1.5	132	1	75	33	5.74
	1.5	132	1	100	21	6.29
Methanol boiling point 65° C	1.5	132	1	35	88	1.50
	1.5	132	1	45	64	2.06
	1.5	132	1	60	50	2.64
	1.5	90	1	75	38	2.37
	1.5	132	1	75	39	3.38
	1.5	132	1	100	25	5.28
Water boiling point 100° C	1.5	132	1	45	427	0.30
	1.5	132	1	60	303	0.44
	1.5	132	1	75	196	0.67
	1.5	132	1	100	117	1.13



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 1/2" w x 19 1/2" d x 3 1/2" high. Shipping weight 24 lbs. (11 kg). The Gel Dryer is also offered as a component of a CentriVap System. See page 27 for ordering information.



Vacuum Desiccator 5530000

Catalog Number	Description
4330100	Gel Dryer for operation on 115 volts, 50/60 Hz, 10 amps.
4330150*	Gel Dryer for operation on 230 volts, 50 Hz, 5 amps.

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.

Contact Labconco at 1-800-821-5525 or 1-816-333-8811 for additional information about these quality products for your laboratory.



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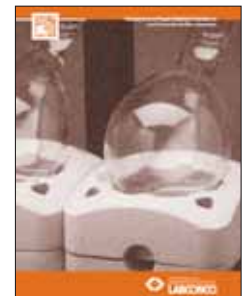
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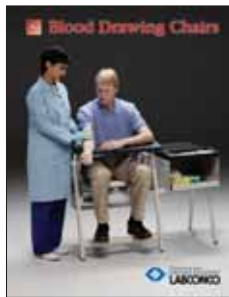
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