



CENTRIVAP[®]

CENTRIFUGAL CONCENTRATORS & COLD TRAPS



*Protecting your
laboratory environment*

LABCONCO[®]

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An Overview

CentriVap Centrifugal Concentrators use a combination of centrifugal force, vacuum and heat to speed evaporation of multiple small samples. The CentriVap's new larger chamber and selection of higher capacity rotors offer the maximum throughput required by biology, microbiology, biochemistry, pharmaceutical research and analytical chemistry laboratories. As many as 148 samples may be processed at once. Sample sizes range from a few microliters up to 25 milliliters. In addition, the Microtiter Plate Rotor now holds four standard or two deep well plates.

CentriVap Centrifugal 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.



CentriVap Benchtop Centrifugal Concentrator speeds evaporation of multiple biological or analytical samples.



CentriVap DNA Centrifugal 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 is a portable console cabinet containing 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

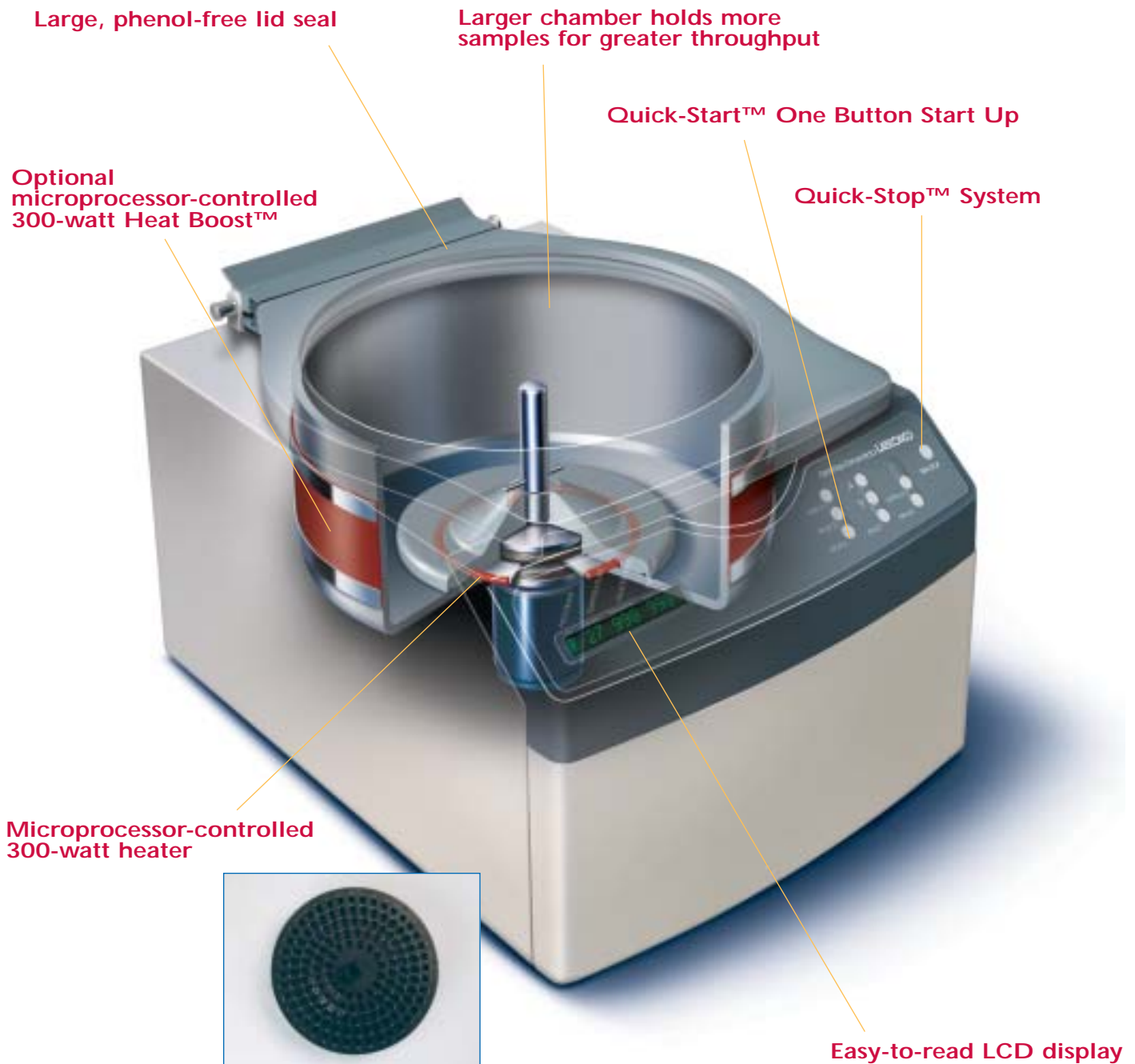
Programmability and other microprocessor-controlled features make the CentriVap Concentrators even easier to use and allow unattended operation. Up to nine different protocols consisting of temperature, heat time and run time may be entered and stored into memory. Programs 1, 2 and 3 as designated by 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 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 Centrifugal 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.*



***Each CentriVap System includes the 12-13 mm Rotor. See pages 10-11 for System Ordering Information.**





Features and Benefits

Sleek new styling.

Is compact with 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 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.

Built-in vacuum delay.

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

Larger chamber holds more samples for greater throughput.

For example, the new accessory Microtiter Plate Rotor now holds four standard 96-well plates or two deep well plates. Thick-wall aluminum chamber is epoxy-coated for corrosion resistance. Teflon*-coated chambers are also available. Contact Labconco for ordering information.

Large, phenol-free lid seal.

Ensures good vacuum without potential for phenol contamination.

☀ 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 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.

Each CentriVap System includes the 12-13 mm Rotor.

It accommodates up to 76 sample tubes in sizes from 12 x 46.5 mm to 17 x 120 mm. Other accessory rotors are shown on page 20. See pages 10-11 for System Ordering Information.

☀ 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.

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 minimum requirements of UL Standard 3101-1/61010-1 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

* Teflon® is a registered trademark of E. I. duPont de Nemours & Company.



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

HEAT BOOST.

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

Increase/Decrease Buttons.

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

HEAT BOOST Button.

Press to turn on Heat Boost.

Quick-Start™ Buttons.

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



TEMPERATURE.

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

LCD displays set point parameters and actual measured conditions.

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

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.

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.

Optional Tempered Glass Lid.

Provides additional protection from solvents and corrosives that attack acrylic.



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

Exclusive feature



Specifications

- Epoxy-coated steel housing with injection-molded thermoplastic control panel.
- 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, 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.**
- 115 volt models include a 115 volt electrical receptacle located on the back to connect accessory vacuum pump to the system. A 6.5-foot, 3-wire cord and plug are provided.
- 230 volt models include an IEC electrical receptacle located on the back to connect accessory vacuum pump to the system. A 9.8-foot cord is provided. **An electrical plug is required.**
- ETL and ETL-C listing on all 115 volt, 60 Hz models.
- CE mark on all 230 volt, 50 Hz models.
- Overall dimensions with closed lid: 13.75" wide x 18.3" deep x 11.2" high (34.9 x 46.5 x 28.4 cm).
- Actual weight 42 lbs. (19 kg). Shipping weight 48 lbs. (22 kg).



CentriVap Benchtop Centrifugal Concentrator 78100-02

Built-in Options

- 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.
- Tempered glass lid for protection from solvents that attack acrylic.

Required Accessories (not included)

- **CentriVap Cold Trap.** See page 8.
- **Rotor.** See page 20.
- **Diaphragm or Rotary Vane Vacuum Pump.** See page 21.
- **Sample tubes.** Contact your laboratory supply dealer.

Optional Accessories (not included)

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

See pages 10 -11 for ordering information on CentriVap Systems consisting of the individual components bundled under one catalog number.

Ordering Information

Catalog Number	Electrical Specifications	Heat Boost	Glass Lid
7810000	115 volts, 50/60 Hz, 3.1 amps**		
7810001*	230 volts, 50/60 Hz, 1.6 amps**		
7810002	115 volts, 50/60 Hz, 5.1 amps**	x	
7810003*	230 volts, 50/60 Hz, 2.6 amps**	x	
7810004	115 volts, 50/60 Hz, 3.1 amps**		x
7810005*	230 volts, 50/60 Hz, 1.6 amps**		x

* International electrical configuration

** Current rating excluding vacuum pump

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 -84° C to protect the pump from low freezing point liquids.

Features and Benefits

Sleek new styling.

Is compact and saves space. The CentriVap Benchtop Concentrator may be stacked atop the Cold Trap to save valuable counter space.

Acrylic lid.

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

Reliability guarantee.

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

Ready indicator.

Illuminates when the collector coil reaches operating temperature.

Four liter stainless steel collector.

Holds up to four liters of liquid and accommodates an optional Glass Insert 7873400 for use with corrosives.

International electrical configuration available.

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

CFC-free refrigeration system.

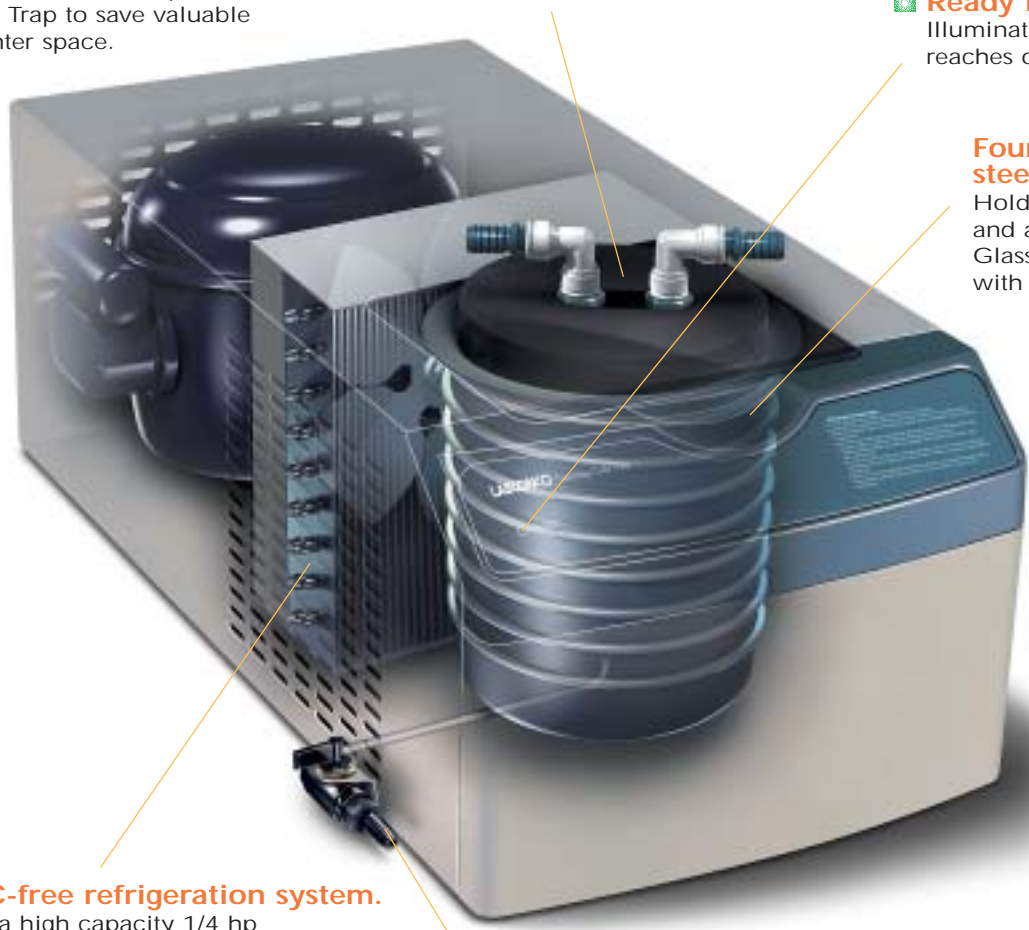
Has a high capacity 1/4 hp compressor to lower cold trap temperature to -55° C in less than 15 minutes and accelerate start up procedures. Ultra-Low Cold Traps have two compressors to lower cold trap temperature to -84° C (-119° F) in less than 30 minutes.

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 CentriVap Cold Trap carries the ETL Testing Laboratories seal in the U.S. and the ETL-C seal in Canada, signifying it meets or exceeds all minimum requirements of UL Standard 3101-1/61010-1 and CAN/CSA C22.2 No. 1010.1.

Exclusive feature





Cold Trap Specifications

- Epoxy-coated steel housing with injection-molded thermoplastic control panel.
 - CFC-free refrigeration system with 1/4 hp compressor lowers cold trap to -55° C (-67° F) in less than 15 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.
 - Ready indicator illuminates 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 and plug.
 - 230 volt model includes a 9.8-foot cord.
- An electrical plug is required.**
- ETL and ETL-C listings on 115 volt, 60 Hz model.
 - CE mark on 230 volt, 50 Hz model.
 - Overall dimensions: 14.9" wide x 28.3" deep x 13.0" high (37.8 x 71.9 x 33.0 cm).
 - Actual weight 70 lbs. (32 kg). Shipping weight 80 lbs. (36 kg)



CentriVap Cold Trap 7811000

Ultra-Low Cold Trap Specifications

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

- Epoxy-coated steel housing and control panel.
- CFC-free refrigeration system with one 1/4 hp and one 1/3 hp compressor lowers cold trap to -84° C (-119° F) in less than 30 minutes.
- Overall dimensions: 23.0" wide x 26.7" deep x 13.3" high (58.4 x 67.8 x 33.9 cm).
- * Actual weight 135 lbs. (61 kg). Shipping weight 142 lbs. (64 kg)



CentriVap Ultra-Low Cold Trap 7460000

Accessories (See pages 21-22.)

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

Ordering Information

Catalog Number	Description	Electrical Specifications
78110-00	Cold Trap	115 volts, 60 Hz, 5.4 amps
78110-01*	Cold Trap	230 volts, 50 Hz, 2.4 amps
74600-00	Ultra-Low Cold Trap	115 volts, 60 Hz, 12 amps
74600-01*	Ultra-Low Cold Trap	230 volts, 50 Hz, 6 amps

See pages 10 -11 for ordering information on CentriVap Systems consisting of the individual components bundled under one catalog number.

* International electrical configuration

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
7982000	Aqueous	115 V, 60 Hz 8.5 amps*	Benchtop Concentrator 7810000 Cold Trap 7811000 Clear Canister 7460900 Moisture Insert 7814900 12-13 mm Rotor 7455100 Vacuum Tubing and 6 Clamps	Vacuum Pump 20 amp dedicated circuit
7982001	Aqueous	230 V, 50 Hz 4.0 amps*	Benchtop Concentrator 7810001 Cold Trap 7811001 Clear Canister 7460900 Moisture Insert 7814900 12-13 mm Rotor 7455100 Vacuum Tubing and 6 Clamps	Vacuum Pump 10 amp dedicated circuit
7983000	Acid	115 V, 60 Hz 8.5 amps*	Benchtop Concentrator 7810000 Cold Trap 7811000 Clear Canister 7460900 Acid Insert 7814800 12-13 mm Rotor 7455100 Glass Trap 7873400 Vacuum Tubing and 6 Clamps	Vacuum Pump 20 amp dedicated circuit
7983001	Acid	230 V, 50 Hz 4.0 amps*	Benchtop Concentrator 7810001 Cold Trap 7811001 Clear Canister 7460900 Acid Insert 7814800 12-13 mm Rotor 7455100 Glass Trap 7873400 Vacuum Tubing and 6 Clamps	Vacuum Pump 10 amp dedicated circuit
7984000	Solvent	115 V, 60 Hz 8.5 amps*	Benchtop Concentrator 7810004 Cold Trap 7811000 Clear Canister 7460900 Solvent Insert 7815200 12-13 mm Rotor 7455100 Vacuum Tubing and 6 Clamps	Vacuum Pump 20 amp dedicated circuit
7984001	Solvent	230 V, 50 Hz 4.0 amps*	Benchtop Concentrator 7810005 Cold Trap 7811001 Clear Canister 7460900 Solvent Insert 7815200 12-13 mm Rotor 7455100 Vacuum Tubing and 6 Clamps	Vacuum Pump 10 amp dedicated circuit

* Electrical requirements excluding vacuum pump



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.



Labconco Gel Dryer is available as a component of the systems described below or sold separately as described on the inside back cover.

Catalog Number	System Type	Electrical Requirements*	Components Included	Accessories Required
7475000	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	Vacuum Pump 20 amp dedicated circuit
7475001	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	Vacuum Pump 10 amp dedicated circuit

* Electrical requirements excluding vacuum pump



CentriVap DNA Centrifugal 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.

Two 177 milliliter glass traps

Larger chamber holds more samples for greater throughput

Integrated diaphragm pump

Versatile DNA Rotor included

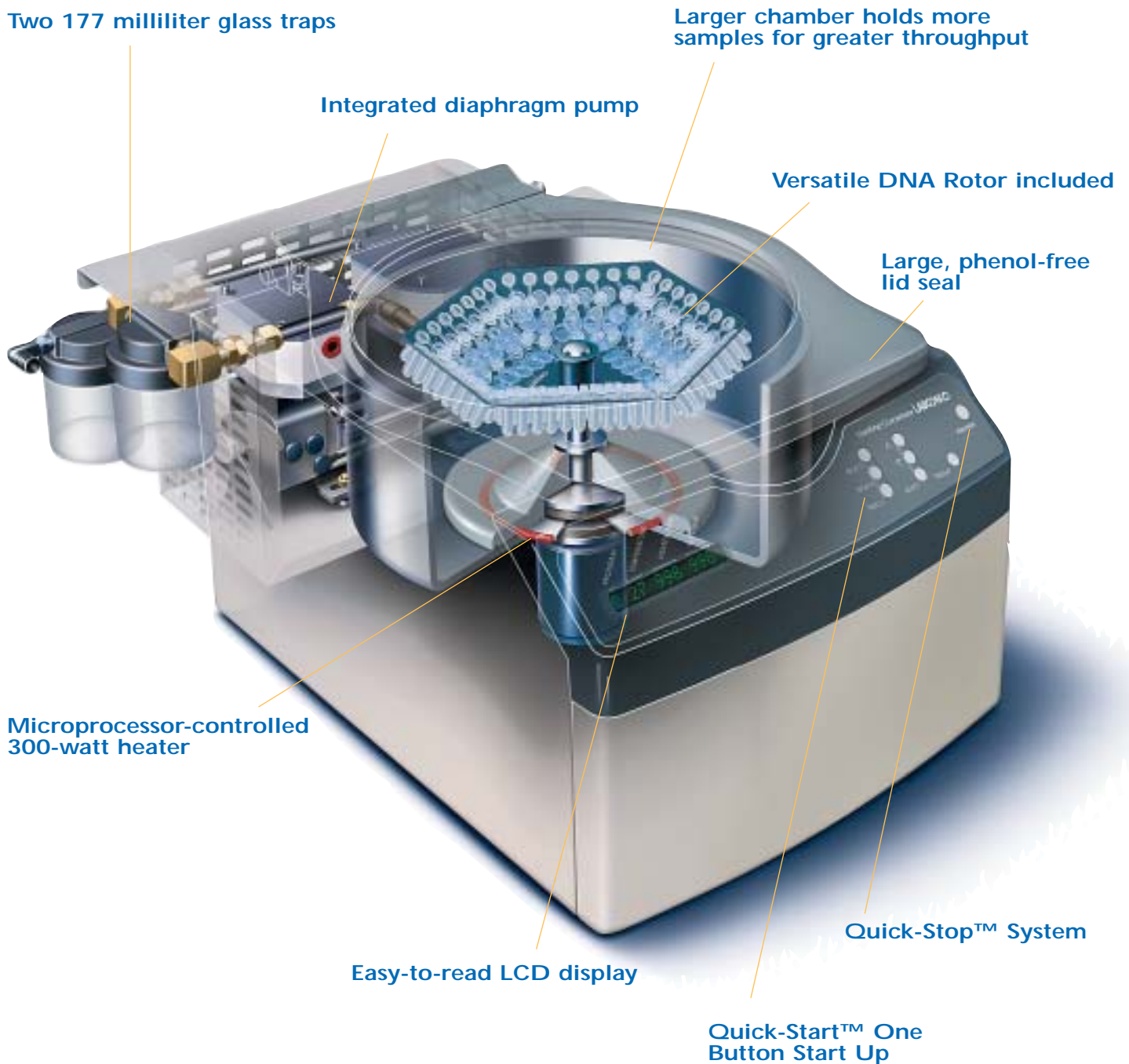
Large, phenol-free lid seal

Microprocessor-controlled 300-watt heater

Quick-Stop™ System

Easy-to-read LCD display

Quick-Start™ One Button Start Up





Features and Benefits

Sleek new styling.

Is compact and 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. 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 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.

For example, the new accessory Microtiter Plate Rotor now holds four standard 96-well plates or two deep well plates. Thick-wall aluminum chamber is epoxy-coated for corrosion resistance. Teflon-coated chambers are also available. Contact Labconco for ordering information.

Large phenol-free lid seal.

Ensures good vacuum without potential for phenol contamination.

Built-in vacuum delay.

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

■ 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.

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 page 20.

■ 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 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 minimum requirements of UL Standard 3101-1/61010-1 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.

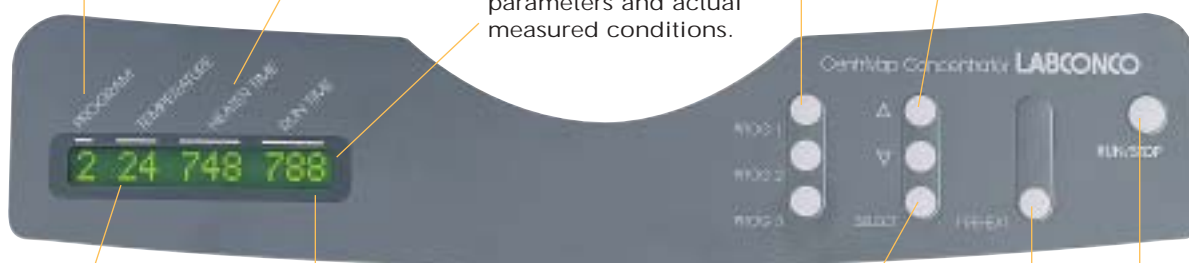
Quick-Start™ Buttons.

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.

LCD displays set point parameters and actual measured conditions.



TEMPERATURE.

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

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/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. 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.

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.

Optional Glass Lid.

Provides additional protection from solvents and corrosives that attack acrylic.



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

Exclusive feature



Specifications

- Epoxy-coated steel housing with injection-molded thermoplastic control panel.
- 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.
- Includes DNA Rotor 7462900.
- A 6.5-foot, 3-wire cord and plug are provided on 115 volt model.
- A 9.8-foot cord is provided on 230 volt model. **An electrical plug is required.**
- 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: 13.75" wide x 26.1" deep x 11.2" high (34.9 x 66.3 x 28.4 cm).
- Actual weight 69 lbs. (31 kg). Shipping weight 75 lbs. (34 kg).



CentriVap DNA Centrifugal Concentrator 7970000

Required Accessories (not included)

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

Other Accessories (see pages 20 - 22)

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

Ordering Information

Catalog Number	Electrical Specifications
7970000	115 volts, 60 Hz, 15 amps
7970001*	230 volts, 50/60 Hz, 8 amps

* 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

Compact, mobile cabinet.

Mounted on 2-inch diameter hard rubber casters, the 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. 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 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.

For example, the new accessory Microtiter Plate Rotor now holds four standard 96-well plates or two deep well plates. Thick-wall aluminum chamber is epoxy-coated for corrosion-resistance. Teflon-coated chambers are also available. Contact Labconco for ordering information.

Large, phenol-free lid seal.

Ensures good vacuum without potential for phenol contamination.

Built-in vacuum delay.

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

Versatile 12-13 mm Rotor included.

Accommodates up to 108 sample tubes in sizes from 12 x 55 mm to 2.0 ml. Other accessory rotors are shown on page 20.

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 7873400 for use with corrosives.

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.

CFC-free refrigeration system.

The high capacity 1/4 hp compressor lowers cold trap temperatures to -55° C in less than 15 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 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 minimum requirements of UL Standard 3101-1/61010-1 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

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.

PROGRAM.

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

HEAT BOOST.

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.

COLD TRAP.

LCD shows Y when Cold Trap has been selected; N when not selected.

TEMPERATURE.

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

LCD displays set point parameters and actual measured conditions.

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 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.

HEAT BOOST Button.

Press to turn on Heat Boost.

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.



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

 Exclusive feature



Specifications

- Epoxy-coated steel cabinet with injection-molded thermoplastic control panel and four 2" diameter hard rubber casters. Removable front panel provides access to interior space for vacuum pump (sold separately).
- Tempered glass lid.
- Lid latch with safety sensor.
- Phenol-free lid gasket.
- Epoxy-coated cast 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.



CentriVap Mobile System 7812002

- **Vacuum pump is not included.**
- CFC-free refrigeration system with 1/4 hp compressor lowers cold trap to -55° C (-67° F) in less than 15 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 include a 115 volt electrical receptacle located on the back to connect accessory vacuum pump to the system. A 6.5-foot, 3-wire cord and 20 amp plug are provided. **A 20 amp minimum circuit breaker is required.**
- 230 volt models include an IEC electrical receptacle located on the back to connect accessory vacuum pump to the system. A 9.8-foot cord and 15 amp plug are provided. **A 10 amp circuit breaker is required.**
- CE mark on all 230 volt, 50 Hz models.
- Overall dimensions with closed lid: 13.75" wide x 27.2" deep x 37.9" high (34.9 x 69.1 x 96.3 cm).
- Actual weight 153 lbs. (69 kg). Shipping weight 165 lbs. (75 kg).

Built-in Option

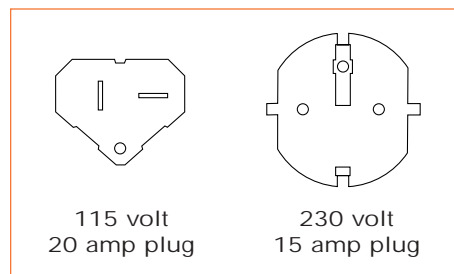
- 300-watt Heat Boost from OFF to HI (100° C) in one degree increments, for 1 to 999 minutes, depending on set points programmed for heater.

Required Accessories (not included)

- **Diaphragm or Rotary Vane Vacuum Pump.** See page 21.
- **Sample tubes.** Contact your laboratory supply dealer.

Other Accessories (See pages 20 - 22)

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



Ordering Information

Catalog Number	Electrical Specifications	Heat Boost
7812000	115 volts, 60 Hz, 8.5 amps**	
7812001*	230 volts, 50 Hz, 4.0 amps**	
7812002	115 volts, 60 Hz, 10.5 amps**	x
7812003*	230 volts, 50 Hz, 5.0 amps**	x

* International electrical configuration
 ** Current rating excluding vacuum pump

Accessories



Hexagonal Rotor 7450700



12-17 mm Rotor 7455000



12-13 mm Rotor 7455100



28 mm Rotor 7455200



DNA Rotor 7462900



CentriZap Strobe Light
7464300

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, Acid, Solvent, Gel Dryer and Mobile System. The DNA Rotor 7462900 is included with each CentriVap DNA Concentrator. **Glassware is 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
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
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
			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)



Microtiter Plate Rotor
7461900

7464300 CentriZap Strobe Light

Enables the 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
7917100Rotary Vane Direct Drive
Vacuum Pump 1472100Clear Polypropylene
Canister 7460900 with
Solvent Trap Insert
7815200Clear Polypropylene
Canister 7815300 with
Solvent Trap Insert
7815200

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	Displacement Capacity (liters/minute)	Explosion-Proof	Shipping Weight (lbs./kg)	Solvents Used
7914100	115V, 60 Hz, 3.3 amps	206	42	No	12/5.4	▲
7914101*	220V, 50 Hz, 1.5 amps	206	35	No	12/5.4	▲
7917100	115V, 60 Hz, 10.8 amps	31	88	No	27/12.2	▲
7917101*	230V, 50/60 Hz, 4.5 amps	31	73 @ 50 Hz	No	27/12.2	▲ ●
7924800	115V, 60 Hz, 5.8 amps	206	42	Yes	60/26.2	▲
7924801*	220V, 50 Hz, 3.1 amps	206	35	Yes	60/26.2	▲
7924900	115V, 60 Hz, 6.6 amps	31	88	Yes	71/32.2	▲ ●
7924901*	220V, 50 Hz, 3.1 amps	31	73	Yes	71/32.2	▲ ●

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

* International electrical configuration

Rotary Vane Direct Drive Vacuum Pumps

These pumps are two-stage, oil-sealed and sliding-vane. The casing is cast aluminum. A one liter bottle of vacuum pump oil and two inlet adapters, 1/2" OD and 3/4" OD, are provided.

Catalog Number	Electrical Specifications	Ultimate Vacuum (Partial Pressure)	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	■

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

* International electrical configuration

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. Suitable for ammonia and low molecular weight amines. Shipping weight 4 lbs. (2 kg)

Accessories



Glass Trap 7873400

7873400 Glass Trap

Protects CentriVap Cold Trap reservoir and lid from corrosives. Shipping weight 4 lbs. (2 kg)

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 used to open the valve to break the vacuum. Shipping weight 3 lbs. (1.4 kg)



Vacuum Controller
7991000

7456600 Tempered Glass Lid

To replace the acrylic lid included with the CentriVap Concentrator when applications involve solvents which attack acrylic. Included with CentriVap Mobile Systems and CentriVap Solvent Systems. 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)

7814500 Vacuum Tubing Kit

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



Three-Way Valve 7474000

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)

7522100 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, and Rotary Vane Pump. Shipping weight 1.0 lb. (0.5 kg)



Two-Port Manifold
7522100

8025000 Portable Table

Chemical-resistant, two shelf cart accommodates the CentriVap Cold Trap with the CentriVap Benchtop Concentrator stacked atop it on the upper shelf and a vacuum pump on the lower shelf. Or the upper shelf may accommodate 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 44 lbs. (20 kg).



Portable Table 8025000

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 111 lbs. (50 kg).

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 111 lbs. (50 kg).



Mobile Bench 8060000



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 74740-00 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 11 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).



Benchtop Concentrator connected to FreeZone 1 Liter Benchtop Freeze Dry System and Direct Drive Vacuum Pump

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.

* Mylar® is a registered trademark of E.I. duPont de NeMours & Company
** International electrical configuration

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



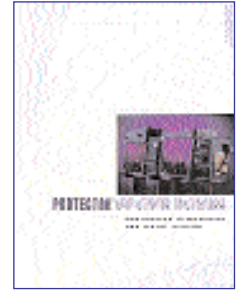
Fume Hoods and Blowers



Carbon-Filtered Enclosures



HEPA-Filtered Safety Cabinets, Enclosures and Clean Benches



Glove Boxes



Histology/Pathology Work Stations



Water Purification Systems



Glassware Washers



Freeze Dry Systems



Multiple Sample Evaporation Systems



Agricultural Chemistry Products



Laboratory Carts and Benches



Vacuum Desiccator



Blood Drawing Chairs



Digital Chloridometers



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