

2013

Louisiana VFC Refrigerator & Freezer guide



General Requirements

The Centers for Disease Control (CDC) recommends that any refrigerator or freezer you choose for vaccine storage be:

- **able to maintain required vaccine storage temperatures year-round.**
Refrigerator: 35° F to 46° F (2° and 8° C)
Freezer: 5° F to -30° F (-15° C to -20° C)
- **large enough to hold the year's largest inventory.**
- **Automatic Defrost.**
- **monitored by a certified, calibrated, digital data logger with detachable biosafe glycol-encased (or similar buffered) probe inside each storage unit.**
- **dedicated to the storage of vaccines. Food and beverages should not be stored in a vaccine storage unit because this practice results in frequent opening of the door and destabilization of the temperature.**

Separate vs. Combined Refrigerators and Freezers

The CDC and the Louisiana VFC strongly recommend that clinics purchase stand-alone, biologic-grade refrigerator and freezer units for vaccine storage. Experience has shown that separate units remove the risk of freezing refrigerated vaccine, increases storage space and reduces compressor wear associated with a dual zone system.

Two manufacturers, Sanyo Biologic and Thermo Scientific, offer biologic-grade fridge/freezer combined units. These are purpose-build for biologic storage and utilize dual cooling systems. CDC is currently evaluating the stability of these combined units for vaccine storage.

Purpose of this List

With the above guidelines in mind, we have compiled a short list of refrigerators and freezers that would be appropriate for VFC vaccine storage. The list covers a range of price points and styles to fit any size clinic or budget. While Louisiana VFC cannot endorse specific products, we can assist you in your research. However, the terms and conditions related to your purchase are between you and the vendor.

While we make every attempt to keep this document updated, model numbers, styles and features change often. Before making your final decision, contact the manufacturer/vendor for up-to-date pricing and specifications.

If you have found a unit you would like to purchase (not listed here), contact your VFC Health Educator for review and approval.

Standard Refrigerators and Freezers



These are the units found in home and appliance stores. Higher-end models are sometimes referred to as “commercial-grade” and are most often used in the food service industry. While not ideal for vaccine storage, many clinics use this type of unit due to its affordability and availability.

If you choose a standard unit, some *essential* features to look for are:

- Dedication to a single temperature range (i.e. fridge only or freezer only)
- Automatic Defrost.
- Fully adjustable shelves
- Ample room to store *all* vaccine on the middle 2-3 shelves

- Ability to maintain required temperature ranges

Some *recommended* features include:

- Locks on the outside of the doors
- Digital thermostat controls
- Forced air circulation
- Alarm on door to detect door ajar
- Battery or generator back-up in case of power failure

Warning

Freezing vaccine: Never store freeze-sensitive vaccines near the cold air vent in refrigerators. It is common for air to blow out of the vents at below freezing temperatures.

Biologic-grade Undercounter Refrigerators and Freezers



Biologic-grade undercounter refrigerators and freezers are an excellent choice for those clinics with limited space. Not to be confused with dorm-style refrigerators (see warning at end of this section), biologic-grade undercounter refrigerators and freezers are high quality, stand-alone units that allow for “best practice” vaccine storage in a small space. Benefits of undercounter refrigerators and freezers include:

- **Lower risk of catastrophic loss.** Separate compressors decrease the risk of loss that might occur in a combined unit.
- **Stability of temperatures.** Because these units are only required to hold a

single set temperature, they are not constantly re-adjusting and “sharing” cold air between the refrigerator and freezer.

- **No risk of accidental freezing or thawing.** Combined units often use a cold air vent (blowing down from the freezer) to regulate temperatures in the refrigerator compartment. This rush of freezing air can quickly freeze any vaccines in its path. Conversely, turning up the temperature in your refrigerator can result in a warmer freezer compartment.
- **Cost benefit.** If a clinic is looking to add to their existing refrigerator or freezer capacity, an undercounter option allows for the purchase of only what is needed. A single undercounter refrigerator might negate the need to buy a new larger, more expensive combination unit.

Warning



Dormitory-Style Units: Small single-door (dormitory-style or bar-style) combined refrigerator-freezer units should not be used for vaccine storage. The freezer compartment in this type of unit is incapable of maintaining temperatures cold enough to store MMRV, Varicella, and zoster vaccines. If attempts are made to cool the freezer compartment to the appropriate temperature, the temperature in the refrigerator compartment will fall below the recommended range, potentially freezing the refrigerated vaccines.

Quick pick: Biologic-grade Undercounter

Sanyo Undercounter Laboratory Refrigerator (SR-L6111W) & Freezer (SF-L6111W)

Laboratory and Clinical Design

- Door mounted controller
- Digital input of temperature allows end user temperature flexibility
- Integrated microprocessor technology for proven quality
- Feature stable temp and uniformity for scientific grade



preservation

Microprocessor Temperature Controls

Comprehensive temperature set point with adjustable range, preset alarm at +/- 3°C from temperature setpoint, monitoring based on SANYO-built microprocessor controller with digital display.

Accessibility and Safety

- Easy to read, angled LED display and keypad
- Remote alarm contacts for connecting to a centralized alarm monitoring system
- Automatic tracking alarm around setpoint monitors critical temperature variances
- Door ajar alarm with alarm delay timer eliminates nuisance alarms

Secured Door

Keyed door is lockable. Optional padlock hasp allows for additional security.



Biologic-grade Full-sized Refrigerators and Freezers



Biologic grade refrigerators and freezers are considered the best, most secure option for vaccine storage. These “gold-standard” vaccine units are most often found in health departments, laboratories, central pharmacies and hospitals. Manufacturers in this category offer a range of sizes and options to fit any clinic’s needs.

Quick Picks: Biologic-grade Full Size

Follett REF20-LB Medical grade Refrigerator

High-performance upright refrigerators designed specifically for healthcare. Advanced features leapfrog other offerings to deliver superior performance, long-term reliability and user-friendly features.

- Custom-designed, modular refrigeration system with microprocessor controller provides a $\pm 1^{\circ}\text{C}$ performance throughout
- Industry-exclusive plenum air distribution delivers cold air at six different levels
- Frost-free and auto-condensate evaporation
- Easy-to-read LCD shows temperature and provides navigation to feature programming
- All the alarms you need: high/low temperature, door open, power failure, low battery
- RS-485 port and dry contacts for data streaming and remote alarming
- Full stainless steel interior and exterior provide outstanding resistance to rust and corrosion
- Dished stainless floor contains spills for easy clean-up
- Heavy-duty dual casters roll easily and lock securely
- 2.75" of CGC-free foam insulation throughout



Quick Pick: Biologic-grade Fridge/Freezer Combo

MPR-215F: 7.6 cu. ft. Pharmaceutical Refrigerator with Freezer

One unit with dual temperature zone needs only minimal installation space. The two door design reduces air loss during door openings. The triple or double-pane windows with heat reflection film reduces the condensation. To provide easier validation services calibration adjustment through the control panel is available. The MPR Series combo units have two separate specially designed compressors and offers quiet operation.

- Microprocessor control for accurate temperature management.
- Mechanical convection airflow- ducts and plenums achieve uniform temperature regardless of product loading, with quick temperature recovery following door openings.
- Unique refrigerator defrost system prevents temperature variations during defrost cycle.
- Secondary temperature deviation safety device prevents over temperature or under temperature condition.



- High and low temperature alarm includes audible and visual warning with alarm ring back.
- Remote alarm contacts allow connection to remote alarm system.
- Open door indicator light with 15 minute delayed audible alarm adds to safety.
- Keyed door locks contribute to inventory security.

Manufacturers to Consider

Sanyo Biomedical

<http://www.sanyobiomedical.com>

Follett

<http://www.follettice.com>

Helmer

<http://www.helmerinc.com>

Thermo Scientific

<http://www.thermo.com>

Lab Research Products

<http://www.labresprod.com>

Migali Scientific Refrigeration

<http://migaliscientific.com/>

Fisher Scientific

<http://www.fishersci.com>

Sun Frost

<http://www.sunfrost.com/>

Used and Refurbished Refrigerators and Freezers

There are several used and remanufactured equipment vendors online. Prices are often 30-50% off retail. Also consider calling your manufacture of choice and asking about used or “scratch and dent” items. Helmer, for example, has a rotating inventory of scratch and dent units that come with a lower price *and* a full warranty.

As with any large purchase, ask lots of questions, choose only reputable brands and get guarantees in writing.

Alliance Analytical

<http://www.aaisolutions.com>

Ace Laboratory Systems

<http://www.ancelabsystems.com>

Lab X

<http://www.labx.com>

Labequip

<http://www.labequip.com/>

Extras

This section was created to showcase additional equipment, add-ons and services that your clinic may want to consider when assessing you vaccine storage and monitoring needs. These options are in no way required to participate in VFC; they are merely being offered as a resource for those who are interested.

AcuTemp PX1L

The AcuTemp PX1L (formerly VaxiPac®) ice-free carrying case can transport chilled vaccines, drugs, specimens and other bio-medical material safely to the point of use. Designed with ThermoCor® high performance insulation technology and used with AcuTemp® PXC coolant packs, the AcuTemp PX1L is capable of extensive hold times with no active cooling. As a result, the integrity of the critical, and often lifesaving, products transported in the AcuTemp PX1L is ensured.

Phone: 937-312-0114:

<http://acutemp.com/products/index.asp>



FridgeFreeze portable vaccine refrigerators and freezers

All FridgeFreeze portable vaccine refrigerators and freezers work with 12/24 and 110/240 volts. All units include an internal fan to prevent thermal layering and keep a consistent temperature throughout the entire FridgeFreeze. For precise temperature control, a digital thermostat is standard with built-in temperature alarms. All units come with a lockable latch and your choice of a smooth or diamond plated finish.

Phone: 619-220-6003:

<http://www.fridgefreeze.com>



Alarm phone dialers



These are sold by several manufacturers with varied models, styles and prices to choose from. They are designed to call pre-determined phone numbers when the attached temp probe goes outside of the user-set range. Alarm Phone dialers are especially useful in areas that experience frequent power outages. Below are some suppliers of Alarm Phone dialers:

Sensaphone

Phone: 877.373.2700

www.sensaphone.com/sensaphone-400.html

Dickson

Phone: 1-800-757-3747

www.dicksondata.com/product/model_D121.php

United Security Products

Phone: 800-227-1592

www.unitedsecurity.com/pages/dialers.html



Refrigerator /Freezer power back-up

Disruption in power supply is one of the most frequent causes of costly vaccine loss. It doesn't take long for a refrigerator and freezer to begin to warm once the power has been cut. With this in mind, a clinic may want to consider adding a secondary source of power in case of emergency. If a clinic already has a back-up system, it is highly recommended that you have your refrigerator placed on that emergency power circuit.

Backup generators should be of a sufficient capacity to run continuously for 72 hours if necessary. Plans should be made to ensure that an adequate supply of fuel is on hand. Some examples include:

Guardian: 8 kW Air-Cooled Standby Generator

www.guardiangenerators.com/Products/Residential/Guardian/GUARDIAN8kW.aspx

Winco: Packaged Standby Generator-8 kw

www.usa-emergencygenerator.com/winco/index.html