

Vaccine Storage Units Types and Recommendations

CDC Vaccine Storage Unit Requirements for VFC Providers as of January 1, 2015

- Stand-alone freezer units for storing frozen vaccines.
- Combination/household style units can only be used for storing refrigerated vaccines if:
 - a) The refrigerator and freezer sections of the unit have separate temperature controls (separate thermostats), and
 - b) The freezer section of the unit is **not** being used.
- Pharmaceutical-grade combination units may be used for storing refrigerated and frozen vaccines.
 - a) *The unit must have documentation stating it is pharmaceutical or medical grade.*
- Note: Stand-alone refrigerator units are still highly recommended at this time.

Vaccine Storage Unit Recommendations

Storage equipment recommendations vary based on the volume of vaccine in each facility. Providers who receive annually:

- **>10,000 doses of vaccine** (very high volume providers) are recommended to use “Pharmaceutical-grade”, “Biologic-grade”, or “Medical-grade” refrigerator-only (freezer-less) storage units and commercial stand-alone freezers.
- **2,000 – 10,000 doses of vaccine** (high volume providers) are recommended to use commercial refrigerator-only units and stand-alone freezers. Commercial units generally can be purchased locally through major chain retailers and do not require generator back-up.
- **<2,000 doses of vaccine** (medium or low volume providers) are strongly encouraged to use domestic or commercial grade refrigerator-only units and stand-alone freezers. The use of household refrigerator/freezer combination units is accepted only under the circumstances outlined below.

Vaccine Storage Unit Requirements for VFC/WyVIP Providers

Refrigerators Must:

- Maintain required vaccine storage temperatures (2°C to 8°C) year-round, preferably set at 4° to 5°C.
- Have automatic defrost (frost-free) and be free of any frost, ice, or water/coolant leaks.
 - *Manual defrost (cyclic defrost) refrigerators with visible cooling plates/coiling in the internal back wall of the unit are unacceptable.*
- Have sufficient usable space to store the largest number of doses expected at one time (including flu season), without overcrowding.
 - Bins and drawers must be removed from the unit or used to store temperature stability water bottles only.
 - Vaccines stored in combination refrigerator/freezer units should NEVER be stored in areas directly underneath air vents, in deli-crispers/vegetable bins, or in the doors.
- Be used only for vaccine storage unless there is adequate space for storage of other medications. However, these products must be stored below the vaccines on a different shelf.
- Be reliable, with a quiet compressor/motor, and not have a history of frequent needed repairs.
 - *Units over 10 years old often need to be replaced.*
- Have doors that seal tightly and close properly.

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- *The use of Velcro straps to secure storage unit doors is highly recommended.*
- Have a working calibrated thermometer placed centrally in the unit.
 - *Calibrated digital data loggers will be required beginning January 1, 2015.*
- Combination/household style units must have separate temperature controls (thermostats) for the refrigerator and freezer portions of the unit (effective January 1, 2015).

Freezers Must:

- Be a separate, stand-alone unit (effective January 1, 2015).
 - *Pharmaceutical grade combination units are the **only** exception.*
- Maintain required vaccine storage temperatures (-15°C and below) year-round, preferably -20°C and below.
- Provide space to store vaccines, calibrated thermometer, and frozen cold packs comfortably.
- Have an automatic defroster.
 - Manual defrosters are acceptable only if the office has an alternate place to store vaccines when defrosting the freezer.
- Have a working calibrated thermometer placed centrally in the unit.
- Have doors that seal tightly and close properly.
- Be used only for vaccine storage.

UNACCEPTABLE Vaccine Storage Units for VFC Providers

The following storage unit types must NOT be used for vaccine storage at any time or duration:

- **“Dorm-style”** units provide poor temperature control and often freeze vaccines that require refrigeration, resulting in immediate and irreversible damage.
 - “Dorm-style” units are defined as small refrigerator/freezer combination units with a single external door and an evaporator plate or cooling coil that forms a small freezer compartment within the unit or is pulled across the internal back wall of the unit.
- **Manual defrost refrigerators** (also known as cyclic defrost) have significant temperature variations, often freezing and damaging vaccines.
 - These units often have exposed cooling plates, coiling or vertical plates in the interior back wall of the refrigerator. These may be covered with visible frost or ice.
- **“Convertible”** refrigerator-only units have an internal switch that converts an “all-refrigerator unit” to an “all-freezer” unit.

Proper Placement of Your Vaccine Storage Units—Make Sure It Fits!

The number-one reason new refrigerators are returned is that they do not fit in the designated space! Make sure your new equipment will fit in your office. If you are replacing a refrigerator/freezer combination unit, you will now need space for two units: a new stand-alone refrigerator unit and a stand-alone freezer unit.

Pay close attention to the depth, width, and height measurements of your model before your purchase. You will need at least an extra 4 inches from the wall and ceiling to ensure good air circulation around the unit. This is essential for proper heat exchange and cooling functions on the unit. The unit’s location is also important. It must be placed away from direct sunlight and in a well-ventilated area.

IMPORTANT: Never stack a vaccine storage unit on top of another, unless the manufacturer or retailer has approved the configuration.

Setting-Up Your New Unit

Before placing vaccines in your new unit, follow these simple steps to ensure success:

- Plug the vaccine storage units directly into the outlets. Never use extension cords, power strips, outlets connected to a wall switch, or any other device that can easily disconnect power to the unit.
- If the unit comes with vegetable bins or deli-crispers, remove them from the unit, or fill them with bottles of water marked “Do Not Drink.”
- Put proper “Do Not Unplug” signage directly on the unit, the unit’s power cord, and the power outlet to prevent the unit from being unplugged.
- Carefully label the areas where you will be storing each vaccine type (i.e. “Public” or “Private”).
- Place calibrated thermometers in the center of each unit.
- Set refrigerator temperatures to 4° to 5°C and freezer temperatures to -20°C or below.
- Prior to placing vaccines in the unit, record temperatures twice a day for at least 10 days.
- **VFC/WyVIP Providers must not place publicly supplied vaccines in the new unit until an Immunization Program has reviewed the temperatures and has approved the unit for use.**

Please review the [CDC Vaccine Storage & Handling Toolkit](#) for additional information on setting up the new vaccine storage unit.