

# 2022 Vaccine Storage Unit Guidance

Proper vaccine storage and handling are important factors in preventing, minimizing, and/or eradicating the COVID pandemic. Units meeting CDC recommendations are most likely to provide a safe and effective vaccine environment. This guide reflects current COVID requirements for vaccine storage units. Guidelines may change based on pandemic discoveries and evidence. Please refer to CDC and TDOH COVID websites for the most up-to-date information.

The stand-alone units should include the following features:

- ✓ Reliably maintain proper vaccine temperatures.
  - Refrigerators must maintain temperatures between 36°F and 46°F (2°C and 8°C); Stand-alone preferred.
  - Freezers must maintain temperatures between -58°F and +5°F (-50°C and -15°C); Stand-alone.
  - Ultra-Cold freezers must maintain temperatures between -60°C to -90°C range with a digital temperature display.
  
- ✓ Purpose-built pharmaceutical grade units designed specifically for storage of biologics are highly recommended.
- ✓ Refrigerator or freezer thermostats should be set at the factory-set or midpoint temperature of the acceptable temperature range.
- ✓ Have enough room to store water bottles in the refrigerator (on the top shelf and floor and in the door racks) and frozen coolant packs in the freezer, to stabilize the temperatures and minimize temperature excursions that can impact vaccine potency.
- ✓ Have enough room to store the year's largest inventory without crowding. Vaccines should be placed in the middle of the unit and allow for space in-between and around vaccines for air circulation.
- ✓ Recommend wire shelves to allow good interior circulation to minimize internal temperature variance.
- ✓ Frost-free or auto-defrosting features. If they do not, it is the provider's responsibility to manually defrost the storage unit on a regular basis to prevent frost and ice buildup which can affect vaccine temperatures.
- ✓ Seal tightly and close properly (recommend door ajar audible alarm, self-closing door hinges, or door locks)
- ✓ Minimum storage size required is 4.9 cu. ft. (See inventory size calculation below). Compact, purpose-built units for biologics can be used to store vaccines.

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## Unapproved Storage Units

### DORM-STYLE, SOFT DRINK, AND BAR-STYLE UNITS

Small, single door combined units should never be used for ANY type of vaccine storage. These units cannot be approved for vaccine storage and are high risk for temperature excursions. Cold air from the freezer compartment is often vented down into the main compartment causing unstable and inconsistent refrigerator temperatures.

### COMBINATION HOUSEHOLD UNITS- FREEZER COMPARTMENT

Combination household units can be approved for refrigerated vaccine only. The freezer compartment cannot approve combination units for frozen vaccine storage.

## STORAGE UNIT EXAMPLES

***Please note the Tennessee Immunization Program cannot endorse or recommend specific products or brands.***

The manufacturers and distributors below are a sample of biological-grade refrigerators.

Aegis	<a href="http://www.aegisfridge.com/">http://www.aegisfridge.com/</a>
American Biotech Supply	<a href="http://americanbiotechsupply.com/find-a-dealer">http://americanbiotechsupply.com/find-a-dealer</a>
Helmer	<a href="http://www.helmerinc.com/">http://www.helmerinc.com/</a>
ThermoFisher Scientific	<a href="http://www.thermofisher.com/us/en/home/html">www.thermofisher.com/us/en/home/html</a>
Follett	<a href="http://www.follettice.com">http://www.follettice.com</a>

The manufacturers and distributors below are a sample of household and commercial-grade refrigerators.

Frigidaire	<a href="https://www.lowes.com/pd/Frigidaire-16-63-cu-ft-Freezerless-Refrigerator-White/50328149">https://www.lowes.com/pd/Frigidaire-16-63-cu-ft-Freezerless-Refrigerator-White/50328149</a>
Maxx Cold	<a href="https://www.lowes.com/pd/Maxx-Cold-23-cu-ft-1-Door-Reach-In-Commercial-Refrigerator-White/50426098">https://www.lowes.com/pd/Maxx-Cold-23-cu-ft-1-Door-Reach-In-Commercial-Refrigerator-White/50426098</a>
Kenmore	<a href="http://www.sears.com/kenmore-16.7-cu-ft-freezerless-refrigerator/p-04660722000P#">http://www.sears.com/kenmore-16.7-cu-ft-freezerless-refrigerator/p-04660722000P#</a>

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## PORTABLE COLD STORAGE UNITS

Portable storage units are excellent options for emergency storage and transport. They are required for regular non-emergent transports or use during off-site/mobile clinics. It is important to procure a unit that can maintain required temperature ranges, has a programmable thermostat, and has the capability to plug into both a vehicle charging port and AC wall outlets. They cannot be used as a primary storage unit.

### Approved Portable Refrigerator links:

The manufacturers and distributors below are a sample of portable transport units.

[Accucold Portable Refrigerator/Freezer - SPRF26M | MME \(mmemed.com\)](#)

[Amazon.com: YITAMOTOR Portable Refrigerator 19 Quart \(18 Liter\) Mini Fridge Electric Powered 12V/24V DC and 120V AC for Car, Boat, Truck, SUV, RV, Home \(Car Refrigerator\): Automotive](#)

[Amazon.com: Whynter FMC-350XP 34 Quart Compact Portable Refrigerator, AC 110V/ DC 12V True Freezer for Car, Home, Camping, RV-8°F to 50°F, Gray: Appliances](#)

[Amazon.com: Portable Refrigerator 19 Quart\( 18L\) Car Refrigerator, Double Voltage Mini Fridge Freezer\(-13°F~35.6°F\) with LCD Display, Multifunction Mode for Car, Camping, Travel and Home, 12V DC & 110V AC: Appliances](#)

### Choosing the right sized vaccine unit:

1. Estimate the maximum number of VFC vaccine and privately purchased vaccine that will be in the refrigerator.

Refrigerator:	
Add the number of doses <i>on hand (current inventory)</i> from your last order form.	
Public Vaccine	_____
Private Vaccine	+ _____
Total Doses	= _____
Multiple (max inventory)	_____ <b>X 1.25</b>
<b>Maximum Doses</b>	= _____

2. Match your maximum doses with the minimum cubic feet needed to safely store your vaccine.

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Maximum Doses	Minimum Cubic Feet
≥ 2,000 doses	May need more than one refrigerator
1,000 – 2,000 doses	40 cu. ft.
900 – 1,000 doses	36 cu. ft.
801 – 900 doses	21 – 23 cu. ft.
701 – 800 doses	17 – 19.5 cu. ft.
400 – 700 doses	11 – 16.7 cu. ft.
100 – 399 doses	4.9 – 6.1 cu. ft.

- Using this refrigerator guide as a reference, search for a storage unit that's properly sized and meets all VFC requirements. Whenever possible, choose biomedical-grade over household style units.