

COVID-19 Vaccine Storage Information

To ensure continued efficacy, vaccine storage conditions must follow strict and consistent temperature requirements. All vaccines must be stored and administered following the vaccine manufacturer's specifications. This informational guide provides an overview of storage temperature requirements for COVID vaccines currently in use and currently approved for Emergency Use Authorization in the U.S.¹ and answers some frequently asked questions about storage for COVID-19 and other vaccines.

This document is intended as a recommendation and is based on storage guidelines available at the publication time for emerging vaccines associated with COVID-19.^{2,3}



Manufacturer	Pfizer	Moderna	Janssen (J&J)
Shipment Storage	-80°C to -60°C	-25°C to -15°C	+2°C to +8°C
On-Site Storage	<ul style="list-style-type: none"> Freezer: -80°C to -60°C Biomedical Freezer: -25°C to -15°C for up to 2 weeks Refrigerator: +2°C to +8°C for up to 120 hours (5 days) 	<ul style="list-style-type: none"> Freezer: -25°C to -15°C Refrigerator: +2°C to +8°C for up to 30 days 	<ul style="list-style-type: none"> Do not store frozen Refrigerator: +2°C to +8°C
Time to Use After Thaw	<ul style="list-style-type: none"> Up to 120 hours (five days) refrigerated Up to 2 hours (including thaw time) room temperature, up to +25°C 	<ul style="list-style-type: none"> Up to 30 days refrigerated Up to 12 hours room temperature, +8°C to +25°C 	<ul style="list-style-type: none"> See carton QR code for expiration information when refrigerated Up to 12 hours room temperature, +9°C to +25°C
Dose	Multi, 6 doses per vial	Multi, 10 doses per vial	Multi, 5 doses per vial
































Please note that all requirements and dosing information shown are based upon information available at the time of publication and are therefore subject to change. Shelf-life information is based on unpunctured vials. Do NOT refreeze thawed vaccine, regardless of brand.

Packaging	Pfizer ⁴	Moderna ⁵	Janssen (J&J) ⁶
Primary	<ul style="list-style-type: none"> 2ml type 1 glass preservative free multi-dose vial (MDV) 0.45 ml frozen liquid drug 6 doses per vial 	<ul style="list-style-type: none"> Multi-dose vial (MDV) 10 doses per vial 	<ul style="list-style-type: none"> 2.5ml preservative free multi-dose vial (MDV) 0.5 ml liquid drug 5 doses per vial
Secondary	<ul style="list-style-type: none"> Tray: 229 × 229 × 40 mm Holds 195 vials (1,170 doses) 	<ul style="list-style-type: none"> 10 vials per carton Carton: 5.5" × 2.2" × 2.5" (L × W × D) 	<ul style="list-style-type: none"> 10 vials per carton Carton: 3.66" × 1.50" × 2.13" (L × W × D)
Tertiary	<ul style="list-style-type: none"> Internal Carton: 245 × 245 × 241 mm External Carton: 400 × 400 × 560 mm Holds 5 trays (5,850 doses) 	<ul style="list-style-type: none"> 12 cartons per case (1,200 doses) 	<ul style="list-style-type: none"> 48 cartons per case (2,400 doses) Case: 15.31" × 9.56" × 4.75" (L × W × D)

1. As of 03/2021. Visit [cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf](https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf) for more information.
 2. COVID-19 Vaccination Program Interim Playbook for Jurisdiction Operations, Centers for Disease Control and Prevention (CDC) January 11, 2021, Version 1.0 [cdc.gov/vaccines/covid-19/downloads/COVID-19-vaccination-program-playbook-annex.pdf](https://www.cdc.gov/vaccines/covid-19/downloads/COVID-19-vaccination-program-playbook-annex.pdf)
 3. Advisory Committee on Immunization Practices (ACIP) [cdc.gov/vaccines/acip/](https://www.cdc.gov/vaccines/acip/)
 4. Advisory Committee on Immunization Practices (ACIP) [cdc.gov/vaccines/acip/](https://www.cdc.gov/vaccines/acip/)
 5. [modernatx.com/covid19vaccine-eua/providers/storage-handling](https://www.modernatx.com/covid19vaccine-eua/providers/storage-handling)
 6. Advisory Committee on Immunization Practices (ACIP) [cdc.gov/vaccines/acip/](https://www.cdc.gov/vaccines/acip/)

PHCbi Brand Vaccine Storage Solutions

The chart below provides suggestions for storage volume needs based on existing market information.

		High Traffic Capacity	Moderate Traffic Capacity	Low Traffic Capacity
-80°C to -60°C	Pfizer	 MDF-DU901VHA-PA 76371-774 29.8 cu.ft. 115V 192 Trays 37,440 Vials 224,640 Doses	 MDF-DU702VH-PA 76020-716 (220V) MDF-DU702VHA-PA 76305-598 (115V) 25.7 cu.ft. 144 Trays 28,080 Vials 168,480 Doses	 MDF-C8V1-PA 10046-902 3.0 cu.ft. 115V 20 Trays 3,900 Vials 23,400 Doses
			 MDF-DU502VH-PA 76269-676 (220V) MDF-DU502VHA-PA 76305-596 (115V) 18.6 cu.ft. 96 Trays 18,720 Vials 112,320 Doses	
-20°C to -15°C	Pfizer ⁷	 MDF-U731M-PA 10067-690 24.4 cu.ft. 115V 26,520 Vials 159,120 Doses	 MDF-MU539HL-PA 76383-296 17.8 cu.ft. 115V 19,500 Vials 117,000 Doses	 MPR-N450FH-PA 76353-814 Combo Unit* MPR-N450FSH-PA 76353-816 Combo Unit (Freezer Chamber) 4.8 cu.ft. 115V 3,510 Vials 21,060 Doses
			 MDF-MU339HL-PA 76383-294 13.0 cu.ft. 115V 10,530 Vials 63,180 Doses	 MPR-N250FH-PA 76498-952 Combo Unit* MPR-N250FSH-PA 76498-954 Combo Unit (Freezer Chamber) 2.8 cu.ft. 115V 1,755 Vials 10,530 Doses
	Moderna	 MDF-U731M-PA 10067-690 24.4 cu.ft. 115V 8,800 Vials 88,000 Doses	 MDF-MU539HL-PA 76383-296 17.8 cu.ft. 115V 5,760 Vials 57,600 Doses	 MPR-N450FH-PA 76353-814 Combo Unit* MPR-N450FSH-PA 76353-816 Combo Unit (Freezer Chamber) 4.8 cu.ft. 115V 1,500 Vials 15,000 Doses
			 MDF-MU339HL-PA 76383-294 13.0 cu.ft. 115V 4,590 Vials 45,900 Doses	 MPR-N250FH-PA 76498-952 Combo Unit* MPR-N250FSH-PA 76498-954 Combo Unit (Freezer Chamber) 2.8 cu.ft. 115V 1,080 Vials 10,800 Doses
+2°C to +8°C	Pfizer ⁸	 MPR-1412-PA 76355-510 48.2 cu.ft. 115V 43,680 Vials 262,080 Doses	 MPR-722-PA 76355-506 24.2 cu.ft. 115V 21,840 Vials 131,040 Doses	 MPR-N450FH-PA 76353-814 Combo Unit* MPR-N450FSH-PA 76353-816 Combo Unit (Refrigerator Chamber) 11.5 cu.ft. 115V 6,630 Vials 39,780 Doses
		 MPR-1014-PA 97035-150 36.4 cu.ft. 115V 28,800 Vials 172,800 Doses	 MPR-S300H-PA 76383-298 12.2 cu.ft. 115V 9,750 Vials 58,500 Doses	 MPR-N250FH-PA 76498-952 Combo Unit* MPR-N250FSH-PA 76498-954 Combo Unit (Refrigerator Chamber) 6.3 cu.ft. 115V 3,510 Vials 21,060 Doses
	Moderna ⁹	 MPR-1412-PA 76355-510 48.2 cu.ft. 115V 14,400 Vials 144,000 Doses	 MPR-722-PA 76355-506 24.2 cu.ft. 115V 7,200 Vials 72,000 Doses	 MPR-N450FH-PA 76353-814 Combo Unit* MPR-N450FSH-PA 76353-816 Combo Unit (Refrigerator Chamber) 11.5 cu.ft. 115V 2,640 Vials 26,400 Doses
		 MPR-1014-PA 97035-150 36.4 cu.ft. 115V 8,670 Vials 86,700 Doses	 MPR-S300H-PA 76383-298 12.2 cu.ft. 115V 2,560 Vials 25,600 Doses	 MPR-N250FH-PA 76498-952 Combo Unit* MPR-N250FSH-PA 76498-954 Combo Unit (Refrigerator Chamber) 6.3 cu.ft. 115V 2,310 Vials 23,100 Doses
	Janssen ¹⁰	 MPR-1412-PA 76355-510 48.2 cu.ft. 115V 40,000 Vials 200,000 Doses	 MPR-722-PA 76355-506 24.2 cu.ft. 115V 20,000 Vials 100,000 Doses	 MPR-N450FH-PA 76353-814 Combo Unit* MPR-N450FSH-PA 76353-816 Combo Unit (Refrigerator Chamber) 11.5 cu.ft. 115V 9,000 Vials 45,000 Doses
		 MPR-1014-PA 97035-150 36.4 cu.ft. 115V 26,000 Vials 130,000 Doses	 MPR-S300H-PA 76383-298 12.2 cu.ft. 115V 8,000 Vials 40,000 Doses	 MPR-N250FH-PA 76498-952 Combo Unit* MPR-N250FSH-PA 76498-954 Combo Unit (Refrigerator Chamber) 6.3 cu.ft. 115V 5,720 Vials 28,600 Doses

Note: All vial volumes listed are dependent upon storage trays
 * Refrigerator chamber with glass door

- 7. For up to 2 weeks
- 8. Must be used within 5 days
- 9. Must be used within 30 days
- 10. Do not freeze

Vaccine Storage FAQs

Q: Can Pfizer, Moderna and Janssen COVID-19 vaccines all be stored in the same model?

A: We understand that distributors don't always have a choice when it comes to COVID vaccine shipments. You might not even know what you're going to get until it arrives. That's why we offer combination freezer/refrigerator units that can allow storage of vaccines across the temperature spectrums. Your VWR representative can assist you in making the appropriate selection for storage of COVID-19 and other vaccines.

Q: What should I look for when purchasing a vaccine storage unit?

A: Because of the tight storage temperature requirements for COVID and other vaccines, conventional refrigerators are not recommended. In fact, the CDC recommends freezers or refrigerators that are specifically designed for pharmaceutical and medical-grade storage. These purpose-built models have the superior ability to maintain precise, uniform temperatures throughout the cabinet. This is especially important for vaccines that must not be frozen.

Q: Can the vaccines be stored directly in the PHCbi brand units?

A: You can configure the unit racking to meet your needs for storage of the shipping boxes. Follow the vaccine manufacturers' directions for storage.

Q: Can the door be left open without affecting the vaccines?

A: A temporary temperature rise is normal, especially during a busy clinic day. Be sure to evaluate how quickly the refrigerator or freezer you are considering returns to the setpoint temperature. PHCbi brand models are designed to ensure quick temperature recovery following frequent door openings.

Not finding all of the answers you need? Your local VWR representative is here to help.

11. If the Moderna vaccines are still frozen upon arrival, they can be stored in a freezer between -25°C and -15°C. The CDC Moderna Storage and Handling Summary specifically cautions against the use of dry ice for storage: [cdc.gov/vaccines/covid-19/info-by-product/moderna/downloads/storage-summary.pdf](https://www.cdc.gov/vaccines/covid-19/info-by-product/moderna/downloads/storage-summary.pdf)

12. The Janssen (J&J) vaccine should not be frozen and should not be stored at temperatures below +2°C, as recommended in the CDC Janssen Storage and Handling Summary: [cdc.gov/vaccines/covid-19/info-by-product/janssen/downloads/janssen-storage-handling-summary.pdf](https://www.cdc.gov/vaccines/covid-19/info-by-product/janssen/downloads/janssen-storage-handling-summary.pdf)



Q: Can dry ice be added to the unit?

A: It is not recommended to add dry ice directly to any PHCbi brand freezer or refrigerator. Dry ice might expose the vaccines to temperatures colder than -50°C. Janssen (J&J) and Moderna vaccines should not be stored using dry ice.^{11,12} You should make an emergency plan that follows CDC guidelines to prepare for emergency vaccine storage in response to natural disasters or power outages.

Q: At what temperatures can the models be set?

A: We offer a range of models with temperatures suitable for vaccines that require ultra-low temperature storage between -86°C and -40°C as well as models that accommodate vaccines requiring +2°C to +8°C storage temperatures. Additionally, only PHCbi brand products offer combination units with freezer chambers to store vaccines at -30°C to -20°C and +2°C to +14°C in the same footprint.

Q: What type of power source do the models need?

A: PHCbi brand freezers and refrigerators use standard AC outlets and are available in 115V or 220V. Contact your local VWR representative for details.

Q: Are there energy-efficient PHCbi brand models available?

A: We offer 16 different PHCbi brand models that are ENERGY STAR® Certified for performance and energy efficiency. These include both biomedical and ultra-low temperature freezers as well as high performance refrigerators. Our refrigerators use SNAP compliant refrigerants to help you meet sustainability goals.

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