Cold Storage for COVID-19 Testing

Helping you meet CDC Guidelines

SOLUTIONS FOR PATIENT SAMPLES & REAGENTS

Clinical laboratories have taken significant steps towards expanding testing capacity for COVID-19. The molecular tests used for diagnosis each have specific storage requirements for patient specimens as well as for reagents and test kits. Serology tests, which detect antibodies indicating whether someone has had the disease, also have storage requirements that vary depending on the test. Temperature requirements for the different components of each test can be found in the manufacturer's Instructions for Use (IFU).

Helmer Scientific offers a full range of laboratory refrigerators and freezers with superior temperature uniformity, recovery and stability. Local alarms, event logging and continuous temperature monitoring help laboratories meet guidelines and regulations. Ensure that your temperature sensitive patient samples and reagents are protected with professional, medical-grade refrigeration.

INTEGRITY OF STORED PRODUCTS

The accuracy of all testing relies on the integrity of the samples. The CDC recommends storing specimens at 2-8°C for up to 72 hours after collection. If a delay in testing or shipping is expected, specimens should be stored at -70°C or below.

Some COVID-19 tests refer to this guidance while others spell out their own unique requirements. While reagents usually require storage within one specific range, samples are often stored using a stepwise approach, requiring refrigerated and then frozen temperatures depending on the length of storage.

WHAT'S AT RISK WITH IMPROPER SPECIMEN STORAGE

According to the American Society for Microbiology (ASM), "Without proper transport medium or storage, specimens degrade. This is especially true for the RNA that is detected by an RT-PCR test. RNA is less stable the DNA, so if a specimen in not transported or stored appropriately, the risk of a false-negative RT-PCR result increases."

MOLECULAR TEST STORAGE OVERVIEW

Review of the IFU for selected molecular test platforms illustrated the need for storage in the following temperature ranges:

- Room temperature: 15°C to 25°C
- Refrigerated: 2°C to 8°C
- Frozen: -10°C to -30°C
- Deep Frozen: -70°C or below

SEROLOGY TEST STORAGE OVERVIEW

Review of the IFU for selected serology test platforms illustrated the need for storage in the following temperature ranges:

- Room temperature: 15°C to 25°C
- Refrigerated: 2°C to 8°C
- Frozen: -20°C or below

LABORATORY REFRIGERATORS AND FREEZERS FROM HELMER SCIENTIFIC

HELPING YOU COMPLY WITH REGULATORY GUIDANCE

Safe and effective temperature-controlled storage is critical for ensuring accurate test results. It also supports adherence to CDC recommendations for storing COVID-19 specimens and compliance with CAP checklist requirements.

GX SOLUTIONS PROFESSIONAL, MEDICAL-GRADE LABORATORY REFRIGERATORS

GX Solutions, professional, medical-grade laboratory refrigerators take cold storage to new levels. Focusing on temperature, noise and energy management, GX Solutions are the first cold storage solutions to optimize all three areas and offer a professional, medical-grade solution.

GX Solutions are powered by OptiCool™ technology which pairs variable capacity compressor (VCC) technology and natural hydrocarbon (HC) refrigerants to achieve performance characteristics that offer a superior storage environment:

- Optimized temperature management - uniformity, recovery and stability
- Noise levels lowered - 3X quieter quieter than conventional medical-grade refrigerators
- Energy levels reduced - 50-65% more efficient than conventional medical-grade refrigerators
- Environmental sustainability initiatives supported

Available in i.Series® and Horizon Series™ lines, GX Refrigerators are available in upright and undercounter models. For compact areas, a stacking kit is available to stack 2 undercounter units.

GX PROFESSIONAL, MEDICAL-GRADE LABORATORY REFRIGERATORS

Model Number	Temp Range Setpoint	Capacity cu ft | L	Electrical	Doors	Ventilated Shelves	Exterior Dimensions wxhxd in | mm	Net Weight
iLR105-GX HLR105-GX	+2° to +10°C 4°C	5.3 | 150	115V 60Hz 220-240 50/60 Hz	1	2	24 x 31.5 x 26.7 610 x 798 x 678	174 | 79
iLR113-GX HLR113-GX	+2° to +10°C 4°C	13.3 | 377	115V 60Hz 220-240 50/60 Hz	1	4	24.1 x 70.5 x 26.1 612 x 1790 x 663	306 | 139
iLR120-GX HLR120-GX	+2° to +10°C 4°C	20.2 | 572	115V 60Hz 220-240 50/60 Hz	1	4	29 x 79.6 x 28.2 737 x 2021 x 715	445 | 202 442 | 201
iLR125-GX HLR125-GX	+2° to +10°C 4°C	25.2 | 714	115V 60Hz 220-240 50/60 Hz	1	4	29 x 79.6 x 34.2 737 x 2021 x 867	456 | 207 453 | 206
iLR245-GX HLR245-GX	+2° to +10°C 4°C	44.9 | 1271	115V 60Hz 220-240 50/60 Hz	2	8	59 x 79.6 x 28.2 1499 x 2021 x 715	667 | 303 667 | 303
iLR256-GX HLR256-GX	+2° to +10°C 4°C	56 | 1586	115V 60Hz 220-240 50/60 Hz	2	8	59 x 79.6 x 34.2 1499 x 2021 x 867	703 | 319 693 | 315

ADA compliant full-length handle and compatible with ADA compliant countertops

LABORATORY FREEZERS (-15°C to -30°C)

High performance laboratory freezers offer superior chamber temperature uniformity and quick recovery, essential for the safe storage of frozen samples and reagents. Helmer freezers are designed with a heavy-duty, forced-air refrigeration system that helps ensure the proper temperature is maintained throughout the storage space.

Helmer Scientific Laboratory Freezers offer the following

- » Continuous temperature monitoring with high and low alarms that ensure termperature won't exceed or fall below the alarm limits
- » Evaporator fan shuts off during door opening to maintain stable temperatures
- » Program electrical defrost cycles to run at low use periods to maintain temperature with minimal temperature fluctuation

Available in i.Series® and Horizon Series™ lines, laboratory freezers are available in upright and undercounter models. Undercounter models can be stacked with a second freezer or a GX refrigerator to save space in compact areas.

-30°C MEDICAL-GRADE LABORATORY FREEZERS

Model Number	Temp Range Setpoint	Capacity cu ft | L	Electrical	Doors	Shelves	Exterior Dimensions wxhxd in | mm	Net Weight lb | kg
iLF104-ADA HLF104-ADA	-15° to -30°C -30°C	4 | 113	115V 60Hz	1	2	24 x 32 x 26.75 610 x 813 x 680	211 | 96 205 | 93
iLF105 HLF105	-15° to -30°C -30°C	5 | 142	115V 60Hz 230V 50Hz | 230V/60 Hz	1	2	24 x 34 x 26.75 610 x 864 x 680	215 | 98 209 | 95
iLF120 HLF120	-15° to -30°C -30°C	20.2 | 572	115V 60Hz 230V 50Hz | 208/230V/60 Hz	1	4	29.5 x 80 x 29.5 750 x 2032 x 750	443 | 201 440 | 200
iLF125 HLF125	-15° to -30°C -30°C	25.2 | 714	115V 60Hz 230V 50Hz | 208/230V/60 Hz	1	4	29.5 x 80 x 35.5 750 x 2032 x 902	481 | 219 478 | 217

ULTRA-LOW TEMPERATURE FREEZERS (-80°C)

Helmer Ultra-Low Freezers were designed from the inside out to provide optimum performance and protection. They include a cascade refrigeration system which has been designed to optimize and protect the compressor. The cabinet was designed with a unique Heat Barrier System that keeps heat out, resulting in better temperature uniformity and minimizing frost build-up. The freezers are controlled and monitored by the exclusive i.C3® Information Center which places critical freezer information at your fingertips on a large, 7", color touchscreen. Helmer Scientific Ultra-Low Freezers offer the following:

» Heat Barrier System™ reduces frost

» Insulated and structurally reinforced inner doors

» Ice-resistant sealing surface

» Robust, single-handed door handle

» Optimized oil management

» Integrated access control

-80°C ULTRA LOW TEMPERATURE FREEZERS

Model Number	Temp Range Setpoint	Capacity cu ft | L	Electrical	Doors	Shelves	Exterior Dimensions wxhxd in | mm	Net Weight lb | kg
IUF116	-50° to -86°C -80°C	16 | 453	208/230V 60Hz	1	3	24 x 32 x 26.75 610 x 813 x 680	607 | 275
iUF118	-50° to -86°C -80°C	18 | 510	208/230V 60Hz	1	4	24 x 34 x 26.75 610 x 864 x 680	622 | 282
iUF124	-50° to -86°C -80°C	24 | 680	208/230V 60Hz	1	3	29.5 x 80 x 29.5 750 x 2032 x 750	704 | 319
iUF126	-50° to -86°C -80°C	26 | 736	208/230V 60Hz	1	4	29.5 x 80 x 35.5 750 x 2032 x 902	725 | 328

For more information visit:
helmerinc.com/gx-solutions

Helmer SCIENTIFIC
www.helmerinc.com
800-743-5637