



Thermo Scientific Cryopreservation
Storage Equipment

indefinite sample storage
infinite possibilities

Thermo
SCIENTIFIC



Thermo Scientific Cryopreservation Equipment

Our cryopreservation sample preparation and storage solutions offer scientists outstanding temperature performance, low operating costs and integrated control features.

Extended Hold Times – Unlike mechanical systems, Thermo Scientific LN₂ storage solutions are designed to offer consistent temperatures even when electricity is lost. Samples remain protected much longer during power outages than alternative technologies. With cryo storage tanks, the need to locate backup storage and relocate samples is dramatically reduced.

Low Power Consumption – Because most Thermo Scientific cryogenic storage products rely on liquid nitrogen, they consume less power than a standard light bulb, providing significant energy savings.

Zero Greenhouse Gases – Because LN₂ storage depends on the cooling power of naturally sourced nitrogen gas, there are no halogenated hydrocarbon refrigerants used and no greenhouse gas concerns.

**dependable,
secure
sample protection**



Sample Preparation

Controlled-rate freezers prepare your samples prior to cryogenic storage, ensuring maximum viability. Available in standard and IVF format.

Sample Storage Auto-Fill LN₂

Storage systems provide the ideal combination of quick sample access, liquid nitrogen storage reliability, microprocessor auto-fill technology and storage capacity from 6,318 to 38,500 1.2-2.0 mL vials. Large capacity, high-efficiency storage solutions offer outstanding sample protection and storage capacities up to 93,000 1.2-2.0 mL vials.

Sample Storage Manual-Fill LN₂ Dewars

BioCane, Locator and Locator Plus offer cost-effective storage flexibility and excellent portability with capacities from 180 to 6,000 1.2-2.0 mL vials for cost-effective flexibility and portability.

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dependable sample preparation

Thermo Scientific CryoMed Controlled-Rate Freezers

Our CryoMed freezers feature an integrated control system (consisting of freezing chamber, microprocessor control and printer – all in one bench top unit), allowing multiple freezing profiles to be tailored to specific protocols. Freezer functionality is enhanced by a MS Windows®-based controlled-rate freezing interface software (included) that connects to your PC and external printer.



Easy Programming and Monitoring

- The CryoMed controlled rate freezer can be operated directly from the unit's built-in microprocessor or remotely through the PC interface
- Includes a Java®-based PC software (as a standard feature) compatible with current Windows operating systems
- Backlit LCD provides at-a-glance operational status
- Allows at-a-glance from a distance to view sample and chamber tracking
- Chamber and sample temperatures and operation status are simultaneously displayed on a backlit LCD
- Chamber and sample temperatures are monitored by Type T thermocouples, which eliminate lag time and provide "real time" responsiveness
- Standard alarms enable open thermocouple, heater malfunction, high/low temp limit, temperature tracking, power failure, and completion of run
- Four-digit access code for added security
- Six standard preset profiles and ten user defined profiles for customer-created profiles are standard

LN₂ Freezing System Components

- Dual solenoid valves increase LN₂ injection volume for precise temperature control and accelerated freezing
- Specifically designed air handling system and patented liquid nitrogen injection ring work in tandem for precise temperature control and uniformity
- Over-temperature protection for heating provides a safe working environment
- IVF chambers are compliant with human sample standards and provide convenient top access for manual seeding of samples

Construction

- Type 304 stainless steel with exterior powder-coat finish for excellent durability
- Foamed in-place polyurethane insulation and Teflon® heat break minimizes cabinet condensation
- Bulb-style gaskets ensure tight door seal



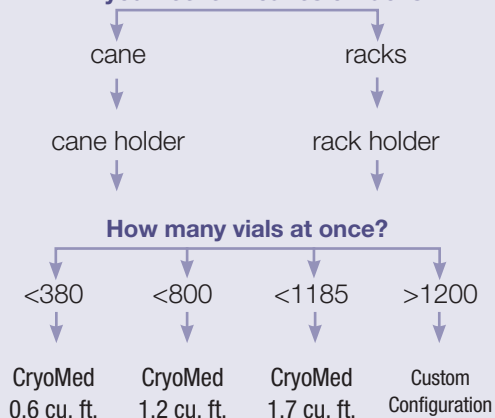
What is your method of sample preparation?

VIALS*

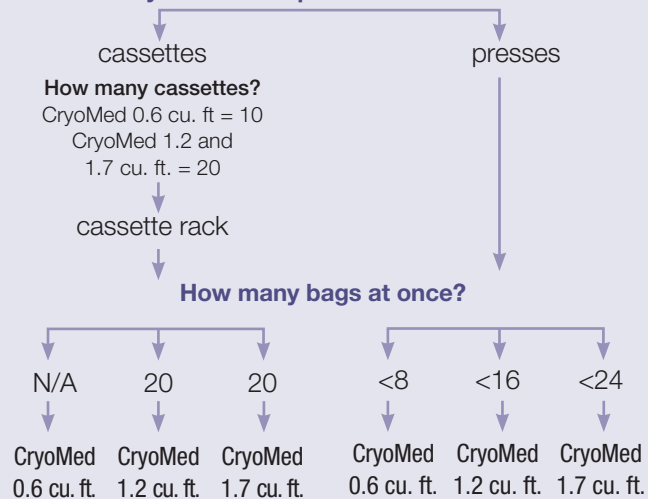
STRAWS

BAGS**

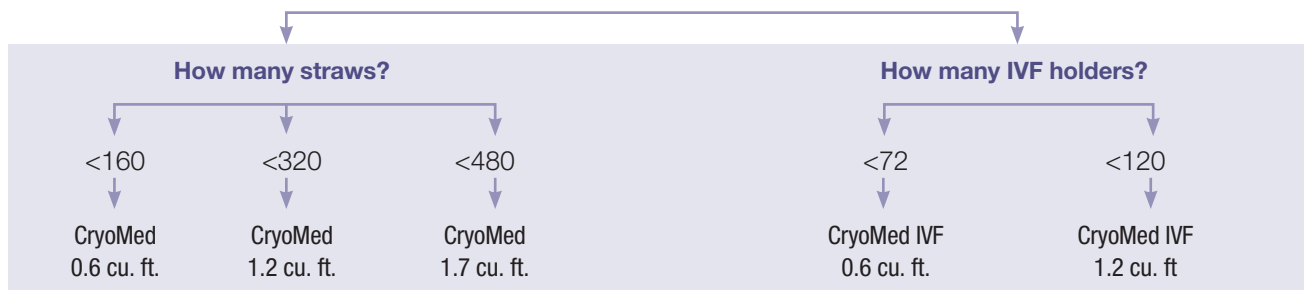
Will you freeze in canes or racks?



Will you freeze in presses or cassettes?



Will you freeze in straw racks or in IVF holders?



*assumes 1.2/2.0 mL vials






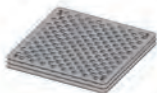
**assumes 250 mL bag

Thermo Scientific CryoMed Controlled Rate Freezers

| Model No. | Electrical | Plug Type | Chamber Volume | Access Type | Temp. Range | Exterior Dimensions W x H x D in. (cm) | Interior Dimensions W x H x D in. (cm) | Shipping Weight | Regulatory Listings | LN ₂ and Utility connection |
|-----------|------------|------------|---------------------|-----------------------------|--|--|---|--------------------------|---------------------|---|
| 7450 | 120v/60 Hz | NEMA 5-15P | 0.6 cu. ft. / 17L | Front Loading | 50° to -180°C | 31.7 x 21.2 x 20.4 (80.5 x 53.8 x 51.8) | 7 x 12 x 13 (17.8 x 30.5 x 33) | 200 lbs. / 90.7 kg | cULus and CE | All models require 22 psi (1.5 bar) low pressure supply tank and are supplied with one 6' braided stainless steel hose, with .5" x 45 degree flare connectors on each end |
| 7451 | 220v/50 Hz | CEE 7/7 | | | | | | | | |
| 7472 | 100v/60 Hz | NEMA 5-15P | | | | | | | | |
| 7452 | 120v/60 Hz | NEMA 5-15P | 1.2 cu. ft. / 34L | | | 37.7 x 21.2 x 20.4 (95.8 x 53.8 x 51.8) | 13 x 12 x 13 (33 x 30.5 x 33) | 215 lbs. / 97.5 kg | | |
| 7453 | 220v/50 Hz | CEE 7/7 | | | | | | | | |
| 7473 | 100v/60 Hz | NEMA 5-15P | | | | | | | | |
| 7454 | 120v/60 Hz | NEMA 5-15P | 1.7 cu. ft. / 48.1L | | | 43.7 x 21.2 x 20.4 (111 x 53.8 x 51.8) | 19 x 12 x 13 (48.3 x 30.5 x 33) | 235 lbs. / 106.6 kg | | |
| 7455 | 220v/50 Hz | CEE 7/7 | | | | | | | | |
| 7474 | 100v/60 Hz | NEMA 5-15P | | | | | | | | |
| 7456 | 120v/60 Hz | NEMA 5-15P | 0.6 cu. ft. / 17L | Front and Top Loading (IVF) | 31.7 x 21.2 x 20.4 (80.5 x 57.2 x 51.8) | 7 x 12 x 13 (17.8 x 30.5 x 33) | 200 lbs. / 90.7 kg | 510K, CFDA, cULus and CE | | |
| 7457 | 220v/50 Hz | CEE 7/7 | | | | | | | | |
| 7475 | 100v/60 Hz | NEMA 5-15P | | | | | | | | |
| 7458 | 120v/60 Hz | NEMA 5-15P | 1.2 cu. ft. / 34L | | 43.5 x 47 x 50 (95.8 x 57.2 x 51.8) | 13 x 12 x 13 (33 x 30.5 x 33) | 215 lbs. / 97.5 kg | | | |
| 7459 | 220v/50 Hz | CEE 7/7 | | | | | | | | |
| 7476 | 100v/60 Hz | NEMA 5-15P | | | | | | | | |

CryoMed Freezing Racks and Holders

| CryoMed 0.6 cu. ft. | CryoMed 1.2 cu. ft. | CryoMed 1.7 cu. ft. | CryoMed - IVF 0.6 cu. ft. | CryoMed - IVF 1.2 cu. ft. |
|------------------------|------------------------|------------------------|---------------------------------|---------------------------------|
|------------------------|------------------------|------------------------|---------------------------------|---------------------------------|

| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | | | | | |
|---|---|--|----------------------------|-----|-----|----------------------|------|------------|
|  | 4000294 | 11.3 x 3 x 5.25 (28.7 x 7.6 x 13.3) | Racks per chamber | 4 | 8 | 12 | 4* | 8* |
| | Straw rack for .25/.5 mL straws - holds 40 straws | | Straws per rack | 40 | 40 | 40 | 40 | 40 |
| | | | Total # straws per chamber | 160 | 320 | 480 | 160* | 320* |
|  | 4000303 | 11 x 12 x 12 (28 x 30.5 x 30.5) | Racks per chamber | N/A | 1 | 1 large & 1 small | N/A | 1* |
| | Cane freezing rack - large | | Canes per rack | N/A | 162 | 162 & 77 | N/A | 162* |
| | | | Vials (2 mL) per cane | N/A | 5 | 5 | N/A | 5* |
| | | | Total # vials per chamber | N/A | 810 | 1,195 | N/A | 810* |
|  | 4000700 | 11 x 6 x 12 (28 x 15.2 x 30.5) | Racks per chamber | 1 | N/A | 1 large & 1 small | 1* | N/A |
| | Cane freezing rack - small | | Canes per rack | 77 | N/A | 162 & 77 | 77* | N/A |
| | | | Vials (2 mL) per cane | 5 | N/A | 5 | 5* | N/A |
| | | | Total # vials per chamber | 385 | N/A | 1,195 | 385* | N/A |
|  | 4000701 | 1.1 x 6 x 12 (2.8 x 15.2 x 30.5) | Racks per chamber | 5 | N/A | 5 large & 5 small | 5* | N/A |
| | 1.2/2 mL freezing rack - small | | Vials per rack | 76 | N/A | 161 & 76 | 76* | N/A |
| | | | Total # vials per chamber | 380 | N/A | 1,185 | 380* | N/A |
|  | 4000702 | 9.8 x 6.2 x 12.4 (24.9 x 15.7 x 31.5) | Rack holders per chamber | 1 | N/A | 1 large & 1 small | 1* | N/A |
| | Small rack holder for 4000701 racks | | Racks per rack holder | 5 | N/A | 5 & 5 | 5* | N/A N/A |
| | | | Total # racks per chamber | 5 | N/A | 10 | 5* | N/A |
|  | 4000703 | 1.1 x 12 x 12 (2.8 x 30.5 x 30.5) | Racks per chamber | N/A | 5 | 5 large & 5 small | N/A | 5* |
| | 1.2/2 mL freezing rack - large | | Vials per rack | N/A | 161 | 161 & 76 | N/A | 161* |
| | | | Total # vials per chamber | N/A | 805 | 1,185 | N/A | 805* |

*These accessories can only be used when top loading cane vial and straw holders are not in use


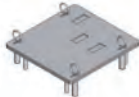



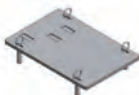

➤ CryoMed Freezing Racks and Holders

CryoMed
0.6 cu. ft.CryoMed
1.2 cu. ft.CryoMed
1.7 cu. ft.CryoMed
- IVF
0.6 cu. ft.CryoMed
- IVF
1.2 cu. ft.

| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | | | | | |
|---|--|---|----------------------------------|-----|-----|-------------------|------|------|
|  | 4000704 | 9.8 x 12.2 x 12.4 (24.9 x 31 x 31.5) | Rack holders per chamber | N/A | 1 | 1 large & 1 small | N/A | 1* |
| | Large rack holder for 4000703 racks | | Racks per rack holder | N/A | 5 | 5 & 5 | N/A | 5* |
| | | | Total # racks per chamber | N/A | 5 | 10 | N/A | 5* |
|  | 4000705 | 2.6 x 6 x 12 (6.6 x 15.2 x 30.5) | Racks per chamber | 3 | N/A | 3 large & 3 small | 3* | N/A |
| | 4 or 5 mL freezing rack - small | | Vials per rack | 76 | N/A | 161 & 76 | 76* | N/A |
| | | | Total # vials per chamber | 228 | N/A | 711 | 228* | N/A |
|  | 4000706 | 8.1 x 6.2 x 12.4 (20.6 x 15.7 x 31.5) | Rack holders per chamber | 1 | N/A | 1 large & 1 small | 1* | N/A |
| | Small rack holder for 4000705 racks | | Racks per rack holder | 3 | N/A | 3 & 3 | 3* | N/A |
| | | | Total # racks per chamber | 3 | N/A | 6 | 3* | N/A |
|  | 4000707 | 8.1 x 12.2 x 12.4 (20.6 x 31 x 31.5) | Racks per chamber | N/A | 3 | 3 large & 3 small | N/A | 3* |
| | 4 or 5 mL freezing rack - large | | Vials per rack | N/A | 161 | 161 & 76 | N/A | 161* |
| | | | Total # vials per chamber | N/A | 483 | 711 | N/A | 483* |
|  | 4000708 | 8.1 x 12.2 x 12.4 (20.6 x 31 x 31.5) | Rack holders per chamber | N/A | 1 | 1 large & 1 small | N/A | 1* |
| | Large rack holder for 4000707 racks | | Racks per rack holder | N/A | 3 | 3 & 3 | N/A | 3* |
| | | | Total # racks per chamber | N/A | 5 | 6 | N/A | 3* |
|  | 4000310 | 10.5 x 6.2 x 12.6 (26.7 x 15.7 x 32) | Rack holders per chamber | 1 | 2 | 3 | 1* | 2* |
| | Two level skin rack - holds skin packets measuring 5 x 7 in. | | Skin packets per rack | 48 | 48 | 48 | 48 | 48 |
| | | | Total # skin packets per chamber | 48 | 96 | 144 | 48* | 96* |
|  | 4000312 | 5.2 x 6.2 x 12.6 (13.2 x 15.7 x 32) | Rack holders per chamber | 2 | 4 | 6 | 2* | 4* |
| | One level skin rack - holds skin packets measuring 5 x 7 in. | | Skin packets per rack | 24 | 24 | 24 | 24 | 24 |
| | | | Total # skin packets per chamber | 48 | 96 | 144 | 48* | 96* |
|  | 4000340 | 11 x 4 x 5 (28 x 10.2 x 12.7) | Rack holders per chamber | 3 | 6 | 9 | 3* | 6* |
| | Cord blood freezing rack for 50 mL canisters (4000610) | | Canisters per rack | 10 | 10 | 10 | 10 | 10 |
| | | | Total # canisters per chamber | 30 | 60 | 90 | 30* | 60* |
|  | 4000340 | 11 x 4 x 5 (28 x 10.2 x 12.7) | Rack holders per chamber | 3 | 6 | 9 | 3* | 6* |
| | Cord blood freezing rack for 25 mL canisters (1950381) | | Canisters per rack | 10 | 10 | 10 | 10 | 10 |
| | | | Total # canisters per chamber | 30 | 60 | 90 | 30* | 60* |
|  | 185089 | 11.6 x 5.5 to 7.5 x 8.2 (29.5 x 14 to 19 x 20.8) | Rack holders per chamber | N/A | 2 | 2 | N/A | 2* |
| | Adjustable freezing rack for canisters | | Canisters per rack | N/A | 10 | 10 | N/A | 10* |
| | | | Total # canisters per chamber | N/A | 20 | 20 | N/A | 20* |





> CryoMed Freezing Presses

CryoMed
0.6 cu. ft.CryoMed
1.2 cu. ft.CryoMed
1.7 cu. ft.CryoMed - IVF
0.6 cu. ft.CryoMed - IVF
1.2 cu. ft.

| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | | | | | |
|---|--|----------------------------------|----------------------------|-----|----|----|-----|-----|
|  | 4000314 | 5.9 x 9 (15 x 22.9) | Presses per chamber | 4 | 8 | 12 | 4* | 8* |
| | Bag press for 250 mL bag (Fenwal 4R5461 or equivalent) | | Bags per rack | 2 | 2 | 2 | 2 | 2 |
| | | | Total # - bags per chamber | 8 | 16 | 24 | 8* | 16* |
|  | 4000316 | 8 x 8.5 (20.3 x 21.6) | Presses per chamber | N/A | 4 | 8 | N/A | 4* |
| | Bag press for 200 mL bag (Gambro DF-200 or equivalent) | | Bags per rack | N/A | 2 | 2 | N/A | 2* |
| | | | Total # - bags per chamber | N/A | 8 | 16 | N/A | 8* |
|  | 4000317 | 8.8 x 12 (22.4 x 30.5) | Presses per chamber | N/A | 4 | 8 | N/A | 4* |
| | Bag press for Delmed 2030-2 | | Bags per rack | N/A | 4 | 4 | N/A | 4* |
| | | | Total # - bags per chamber | N/A | 16 | 32 | N/A | 16* |
|  | 4000318 | 9 x 12 (22.9 x 30.5) | Presses per chamber | N/A | 4 | 8 | N/A | 4* |
| | Bag press for 250 mL bag (Fenwal 4R5461 or equivalent) | | Bags per rack | N/A | 4 | 4 | N/A | 4* |
| | | | Total # - bags per chamber | N/A | 16 | 32 | N/A | 16* |
|  | 4000320 | 9 x 12 (22.9 x 30.5) | Presses per chamber | N/A | 4 | 8 | N/A | 4* |
| | Bag press for 200 mL bag (Gambro DF-200 or equivalent) | | Bags per rack | N/A | 4 | 4 | N/A | 4* |
| | | | Total # - bags per chamber | N/A | 16 | 32 | N/A | 16* |
|  | 4000321 | 8 x 12 (20.3 x 30.5) | Presses per chamber | N/A | 4 | 8 | N/A | 4* |
| | Bag press for 700 mL bag (Gambro DF-700 or equivalent) | | Bags per rack | N/A | 2 | 2 | N/A | 2* |
| | | | Total # - bags per chamber | N/A | 8 | 16 | N/A | 8* |
|  | 4000555 | 6 x 10.3 (15.2 x 26.2) | Presses per chamber | 4 | 8 | 12 | 4* | 8* |
| | Bag press for 500 mL bag (Fenwal 4R5462 or equivalent) | | Bags per rack | 2 | 2 | 2 | 2 | 2 |
| | | | Total # - bags per chamber | 4 | 16 | 24 | 4* | 16* |


*These accessories can only be used when top loading cane, vial, and straw holders are not in use.

> CryoMed Holders and Plugs for Top Loading Chambers*

| | | | CryoMed 0.6 cu. ft. | CryoMed 1.2 cu. ft. | CryoMed 1.7 cu. ft. | CryoMed - IVF 0.6 cu. ft. | CryoMed - IVF 1.2 cu. ft. |
|---|---------------------------|------------------------------|------------------------|------------------------|------------------------|------------------------------|------------------------------|
| Model No. & Description | | Storage | | | | | |
|  | 4000710 | Holders per chamber | N/A | N/A | N/A | 18 | 30 |
| | .25/.5 mL straw holder | Straws per holder | N/A | N/A | N/A | 4 | 4 |
| | | Total # - straws per chamber | N/A | N/A | N/A | 72 | 120 |
|  | 4000711 | Holders per chamber | N/A | N/A | N/A | 18 | 30 |
| | 1.2/2 mL vial holder | Vials per holder | N/A | N/A | N/A | 1 | 1 |
| | | Total # - vials per chamber | N/A | N/A | N/A | 18 | 30 |
|  | 180254 | Holders per chamber | N/A | N/A | N/A | 18 | 30 |
| | Cane holder | Canes per holder | N/A | N/A | N/A | 1 | 1 |
| | | Total # - canes per chamber | N/A | N/A | N/A | 18 | 30 |
|  | 180255 | Plugs per chamber | N/A | N/A | N/A | 18 | 30 |
| | Sleeve plug | | | | | | |

*IVF chamber includes 18 sleeve plugs for the small chamber and 30 sleeve plugs for the large chamber, and 1 each of the straw holder (#4000710), 2 mL vial holder (#4000711), and 1 cane holder (#4000714).



> CryoMed Sample Sensors*

| | | | CryoMed 0.6 cu. ft. | CryoMed 1.2 cu. ft. | CryoMed 1.7 cu. ft. | CryoMed - IVF 0.6 cu. ft. | CryoMed - IVF 1.2 cu. ft. |
|---|---|----------------|------------------------|------------------------|------------------------|------------------------------|------------------------------|
| Model No. & Description | | | | | | | |
|  | Thermocouple sensor for 1.2/2 mL vials | 4000385 | | | | 4000385* | |
| | Thermocouple sensor for 4/5 mL vials | 4000386 | | | | 4000386* | |
| | Thermocouple sensor ribbon type for bags | 4000393 | | | | 4000393* | |
| | Thermocouple sensor .02 sheath for straws | 4000384 | | | | 4000402 | |
| | Thermocouple sensor .062 sheath for vials | N/A | | | | 4000403 | |

*These accessories can only be used when top loading cane, vial, and straw holders are not in use.

NOTE: Front load CryoMed includes a 2 mL sample sensor (Model no. 4000385). The IVF chamber includes a vial sensor (Model no. 4000403) and a straw sensor (Model no. 4000402).

> CryoMed Canisters for Freezing Racks

| Model No. & Description | | Dimensions H x W x D in. (cm) |
|---|--|-----------------------------------|
|  | 1950831 | Swing arm canister for 25 mL bag |
| | 4000610 (Fenwal 4R9951, OriGen CS 50 or equivalent) | Swing arm canister for 50 mL bag |
| | 4000356 (Gambro DF-200 or equivalent) | Swing arm canister for 200 mL bag |
| | 4000357 (Gambro DF-700, OriGen CS 1000 or equivalent) | Swing arm canister for 700 mL bag |
|  | 4000335 (Fenwal 4R5461, OriGen CS 25 or equivalent) | Sliding canister for 250 mL bag |
| | 4000336 (Fenwal 4R5462, OriGen CS 500 or equivalent) | Sliding canister for 500 mL bag |
| | 4000332 (Gambro DF-200 or equivalent) | Sliding canister for 200 mL bag |
| | 4000333 (Gambro DF-700, OriGen CS 1000 or equivalent) | Sliding canister for 700 mL bag |

> Printer Paper

| Model No. & Description |
|---|
| 4000566 Thermal printer paper (5 rolls per pack) |

> Windows® 7-8 Compatible Software for Previous-Generation CryoMed

| Model No. & Description: |
|--|
| 4000414 Upgrade kit consisting of PC software and an RS-232 to USB adapter cord compatible with Windows XP, 7, and 8. |

reliable long-term storage solution

Thermo Scientific CryoPlus Sample Storage Systems

Thermo Scientific CryoPlus series provides the perfect combination of liquid nitrogen storage reliability and microprocessor technology. Storage capacities of up to 38,500 2.0 mL vials (8,450 to 65,910 Thermo Scientific™ Nunc™ Cryobank™ vials) make the most of your laboratory storage space.



Storage System Features

- Top-mounted control panel allows easy access to the CryoPlus' microprocessor controller for programming
- All lids incorporate foamed-in-place, high density urethane insulation with dedicated vent (U.S. Patent 5,779,089). Two independent, flexible gaskets reduce the migration of moisture into the chamber and reduce icing.
- 24 tricolor LEDs continuously display actual liquid nitrogen level and high-level/low-level setpoints
- Remote alarm contacts for in-house remote alarms or connection to a Sensaphone® Telephone Dialing System
- Counterbalanced UL 61010 third addition compliant lid with 100% clearance allows each entry into the storage area for retrieval of samples, while minimizing sample exposure time and maintaining a safe work environment.
- Heavy-duty casters are provided standard
- Incorporates a temperature sleeve as a standard feature, which provides colder temperatures at the top and more efficient operation in vapor phase
- Storage tanks are vacuum insulated with stainless steel interior
- Exterior cabinet is constructed of 18-gauge, cold roll steel with powder-coat paint for durability and a high quality uniform finish. Salt spray tests exceed 1,000 hours per ASTM Standard 117B-85
- All models come standard with LN₂ transfer hose

For maximum product security, CryoPlus incorporates three different solutions

- A convenient front-mounted cabinet key lock for sample security
- A keyed lock on the microprocessor for temperature and alarm set-point security
- A rear-mounted recessed power switch to prevent accidental power shut off

A complete sample storage solution offering for vapor or liquid phase

- Square and vertical racks for vial storage
- Frames and canisters for bag storage
- Specialty racks for cane storage
- Gas by-pass assembly delivers warm nitrogen to atmosphere until the control probe reaches set temperature. The by-pass valve closes and the fill valve is energized, preventing the storage area from being subjected to warm nitrogen gas. This is also required if the CryoPlus is connected to a manifold system to prevent LN₂ source alarms.

CryoPlus Information Panel



Information Center
alarm center

Control Center
temperature
alarm level
set-points

**LN₂ fill
Notification**
and manual
over-ride

Security Section
lock and unlock of
control functions

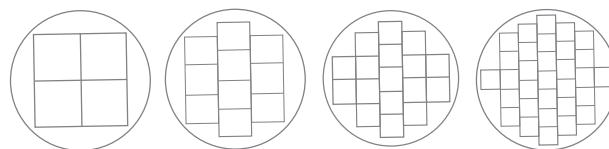


Thermo Scientific CryoPlus Sample Storage Systems

| Model | Model No. | LN ₂ Capacity (liters) | Vial Capacity 1.2-2.0mL (CryoBank) | Electrical | Plug Type | Inner Tank Diameter in. (cm) | Exterior Dimensions H x W x D in. (cm) | Shipping Weight | Regulatory Listings | LN ₂ and Utility Connection |
|------------|-----------|-----------------------------------|---|----------------|------------|------------------------------|--|-----------------------|--------------------------|---|
| CryoPlus 1 | 7400 | 90 | 6,318 ¹ (8,450 ²) | 115v/60 Hz | NEMA 5-15P | 16 (40.6) | 21.5 x 41 x 26 (54.6 x 104.1 x 66) | 260 lbs/ 117.9kg | CFDA, cULus and CE | All models require 22 psi low pressure supply tank and are supplied with (1) 0.5 in. 45° flare stainless steel flexible transfer hose |
| | 7401 | | | 208-230v/50 Hz | CEE 7/7 | | | | | |
| CryoPlus 2 | 7402 | 200 | 13,500 ² (22,815 ²) | 115v/60 Hz | NEMA 5-15P | 24 (61) | 28.5 x 41 x 34 (72.4 x 104.1 x 86.4) | 480 lbs/ 217.7 kg | | |
| | 7403 | | | 208-230v/50 Hz | CEE 7/7 | | | | | |
| CryoPlus 3 | 7404 | 340 | 23,000 ² (38,870 ²) | 115v/60 Hz | NEMA 5-15P | 31 (69.9) | 34.5 x 41 x 41.5 (87.6 x 104.1 x 105.4) | 550 lbs/ 249 kg | | |
| | 7405 | | | 208-230v/50 Hz | CEE 7/7 | | | | | |
| CryoPlus 4 | 7406 | 552 | 39,000 ² (65,910 ²) | 115v/60 Hz | NEMA 5-15P | 39.5 (69.9) | 43.5 x 47 x 50 (110.5 x 119.4 x 127) | 1070 lbs/ 484.3 kg | | |
| | 7407 | | | 208-230v/50 Hz | CEE 7/7 | | | | | |

1. Using arrowhead racks no. 4000044.

2. Using vertical racks no. 4000012.



CryoPlus 1

CryoPlus 2

CryoPlus 3

CryoPlus 4

CryoPlus Rack Selection Guide

Model No. & Description Dimensions
H x W x D in. (cm) Storage

Square Racks for Liquid Phase Storage

| | | | | | | | | |
|--|-----------------|---|--------------------------------------|------------------|-------|--------|--------|--------|
| | 4000006* | Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | 27.4 x 5.5 x 6.3 (69.6 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | | | | Boxes per rack | 13 | 13 | 13 | 13 |
| | | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | | Vials per vessel | 5,200 | 13,000 | 22,100 | 37,700 |
| | 4000007 | Rack includes stainless steel boxes and cardboard dividers for 1.5/2 mL vials | 27.4 x 5.5 x 6.3 (69.6 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | | | | Boxes per rack | 13 | 13 | 13 | 13 |
| | | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | | Vials per vessel | 5,200 | 13,000 | 22,100 | 37,700 |
| | 4000042 | Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | 26 x 5.5 x 6.3 (66 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | | | | Boxes per rack | 12 | 12 | 12 | 12 |
| | | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | | Vials per vessel | 4,800 | 12,000 | 20,400 | 34,800 |
| | 4000008 | Rack includes cardboard boxes and cardboard dividers for 4 mL vials | 25.4 x 5.5 x 6.3 (64.5 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | | | | Boxes per rack | 8 | 8 | 8 | 8 |
| | | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | | Vials per vessel | 3,200 | 8,000 | 13,600 | 23,200 |
| | 4000009 | Rack includes stainless steel boxes and cardboard dividers for 4 mL vials | 25.4 x 5.5 x 6.3 (64.5 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | | | | Boxes per rack | 8 | 8 | 8 | 8 |
| | | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | | Vials per vessel | 3,200 | 8,000 | 13,600 | 23,200 |
| | 4000010 | Rack includes cardboard boxes and cardboard dividers for 5 mL vials | 26.6 x 5.5 x 6.3 (67.6 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | | | | Boxes per rack | 7 | 7 | 7 | 7 |
| | | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | | Vials per vessel | 2,800 | 7,000 | 11,900 | 20,300 |

*Rack no. 4000006 will not accommodate polycarbonate boxes; use rack no. 4000042 instead.

CryoPlus Rack Selection

CryoPlus 1






CryoPlus 2

CryoPlus 3


CryoPlus 4

Model No. & Description **Dimensions**
H x W x D in. (cm) **Storage**


Square Racks for Vapor Phase Storage

| | | | | | | | |
|---|---|--------------------------------------|------------------|-------|--------|--------|--------|
|  | 4000001 | 23.9 x 5.5 x 6.3 (60.7 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | | Boxes per rack | 11 | 11 | 11 | 11 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 4,400 | 11,000 | 18,700 | 31,900 |
|  | 4000002 | 23.9 x 5.5 x 6.3 (60.7 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | Rack includes stainless steel boxes for 1.5/2 mL vials | | Boxes per rack | 11 | 11 | 11 | 11 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 4,400 | 11,000 | 18,700 | 31,900 |
|  | 4000003 | 22.3 x 5.5 x 6.3 (56.6 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | Rack includes cardboard boxes and cardboard dividers for 4 mL vials | | Boxes per rack | 7 | 7 | 7 | 7 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 2,800 | 7,000 | 11,900 | 20,300 |
|  | 4000004 | 22.3 x 5.5 x 6.3 (56.6 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | Rack includes stainless steel boxes and cardboard dividers for 4 mL vials | | Boxes per rack | 7 | 7 | 7 | 7 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 2,800 | 7,000 | 11,900 | 20,300 |
|  | 4000005 | 22.8 x 5.5 x 6.3 (57.9 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | Rack includes cardboard boxes and cardboard dividers for 5 mL vials | | Boxes per rack | 6 | 6 | 6 | 6 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 2,400 | 6,000 | 10,200 | 17,400 |

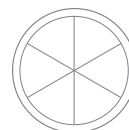
Specialty Racks

| | | | | | | | |
|---|---|--------------------------------------|--------------------|-----|-------|-------|-------|
|  | 4000379 | 23.9 x 5.5 x 6.3 (60.7 x 14 x 16) | Racks per vessel | 4 | 10 | 17 | 29 |
| | SUC-1 rack for cane storage (includes canisters #4000176) | | Canisters per rack | 8 | 8 | 8 | 8 |
| | | | Canes per canister | 25 | 25 | 25 | 25 |
| | | | Canes per vessel | 800 | 2,000 | 3,400 | 5,800 |

Platform Risers Required for Racks in Vapor Phase Storage







| | | | | | |
|---|---|----------------|----------------|----------------|----------------|
|  | 3.5" riser for use with 4000001, 4000002, and 4000379 racks | 4000060 | 4000060 | 4000063 | 4000066 |
| | 4" riser for use with 4000005 racks | 4000056 | 4000062 | 4000065 | 4000068 |
| | 5" riser for use with 4000003 and 4000004 racks | 4000061 | 4000061 | 4000064 | 4000067 |

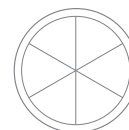
* Each canister will hold 25 canes without cryo sleeves or 16 canes with cryosleeves



CryoPlus 1




➤ Arrowhead Racks for Liquid Phase Storage

| | Model No. & Description | Dimensions H x W x D in. (cm) | Storage | |
|---|---|--|------------------|-------|
|  | 4000044 | 28.1 x 7.8 x 7.5 (71.4 x 19.8 x 19.1) | Racks per vessel | 6 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | | Boxes per rack | 13 |
| | | | Vials per box | 81 |
| | | | Vials per vessel | 6,318 |
|  | 4000112 | 26 x 7.8 x 7.5 (66 x 19.8 x 19.1) | Racks per vessel | 6 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | | Boxes per rack | 12 |
| | | | Vials per box | 81 |
| | | | Vials per vessel | 5,832 |
|  | 4000113 | 26 x 7.8 x 7.5 (66 x 19.8 x 19.1) | Racks per vessel | 6 |
| | Rack includes stainless steel boxes and cardboard dividers for 1.5/2 mL vials | | Boxes per rack | 12 |
| | | | Vials per box | 81 |
| | | | Vials per vessel | 5,832 |
|  | 4000104 | 25.4 x 7.8 x 7.5 (64.5x 19.8 x 19.1) | Racks per vessel | 6 |
| | Rack includes cardboard boxes and cardboard dividers for 4 mL vials | | Boxes per rack | 8 |
| | | | Vials per box | 81 |
| | | | Vials per vessel | 3,888 |
|  | 4000105 | 25.4 x 7.8 x 7.5 (64.5x 19.8 x 19.1) | Racks per vessel | 6 |
| | Rack includes stainless steel boxes and cardboard dividers for 4 mL vials | | Boxes per rack | 8 |
| | | | Vials per box | 81 |
| | | | Vials per vessel | 3,888 |
|  | 4000043 | 26.5 x 7.8 x 7.5 (67.3 x 19.8 x 19) | Racks per vessel | 6 |
| | Rack includes cardboard boxes and cardboard dividers for 5 mL vials | | Boxes per rack | 7 |
| | | | Vials per box | 81 |
| | | | Vials per vessel | 3,402 |



➤ Arrowhead Racks for Vapor Phase Storage

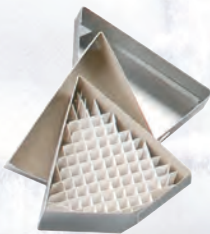
CryoPlus 1

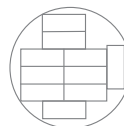
| | Model No. & Description | Dimensions H x W x D in. (cm) | Storage | |
|---|---|--|------------------|-------|
|  | 4000110 | 23.8 x 7.8 x 7.5 (60.5 x 19.8 x 19.1) | Racks per vessel | 6 |
| | | | Boxes per rack | 11 |
| | | | Vials per box | 81 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | | Vials per vessel | 5,346 |
|  | 4000111 | 23.8 x 7.8 x 7.5 (60.5 x 19.8 x 19.1) | Racks per vessel | 6 |
| | | | Boxes per rack | 11 |
| | | | Vials per box | 81 |
| | Rack includes stainless steel boxes and cardboard dividers for 1.5/2 mL vials | | Vials per vessel | 5,346 |
|  | 4000108 | 21.6 x 7.8 x 7.5 (54.9 x 19.8 x 19.1) | Racks per vessel | 6 |
| | | | Boxes per rack | 10 |
| | | | Vials per box | 81 |
| | Rack includes cardboard boxes and cardboard dividers for 2 mL vials | | Vials per vessel | 4,860 |

➤ Platform Risers Required for Racks in Vapor Phase Storage

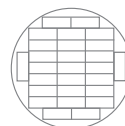
| | Description of riser and racks for intended use | CryoPlus 1 |
|---|--|------------|
|  | 3.5 in. riser for use with 4000110 and 4000111 racks | 4000060 |
| | 5 in. riser for use with 4000108 racks | 4000061 |

➤ Arrowhead Boxes and Dividers for Vapor Phase Storage

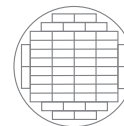
| | Model No. | Description |
|---|----------------------|--|
|  | Boxes | |
| | 4000193 | Arrowhead cardboard box (with drain hole) includes 81-cell divider for use with 1.5/2 mL vials |
| | 4000194 | Arrowhead stainless steel box (with drain hole) does not include 81-cell divider for use with 1.5/2 mL vials |
| | 4000195 | Arrowhead cardboard box (with drain hole) includes 81-cell divider for use with 4/5 mL vials |
| | 4000196 | Arrowhead stainless steel box (with drain hole) does not include 81-cell divider for use with 4 mL vials |
| | Cell Dividers | |
| | 4000181 | 81-cell divider for use with all arrowhead boxes |



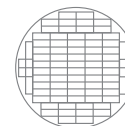
CryoPlus 1



CryoPlus 2





CryoPlus 3




CryoPlus 4


> Vertical Racks for Liquid Phase Storage

| Model No. & Description | Dimensions H x W x D in. (cm) | Storage |
|---|---|--|
| Vertical Rack for Liquid Phase Storage | | |
|  | 4000012 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | 27.6 x 2.3 x 5.7 (70.1 x 5.8 x 14.5) |
| | | |
| | | |
| | | |
| | | Racks per vessel 10 27 46 78 Boxes per rack 5 5 5 5 Vials per box 100 100 100 100 Vials per vessel 5,000 13,500 23,000 39,000 |







| | | |
|---|---|---|
| Vertical Rack for Vapor Phase Storage | | |
|  | 4000011 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | 22.2 x 2.3 x 5.7 (56.4 x 5.8 x 14.5) |
| | | |
| | | |
| | | |
| | | Racks per vessel 10 27 46 78 Boxes per rack 4 4 4 4 Vials per box 100 100 100 100 Vials per vessel 4,000 10,800 18 31,200 |

| | | | | |
|--|--|---------|---------|--------------------|
| Platform Risers Required for Racks in Vapor Phase Storage | | | | |
|  | Description of riser and racks for intended use | | | |
| | 5 in. riser for use with 4000011 racks | 4000061 | 4000061 | 4000064 4000067 |





> Boxes and Dividers

| | Model No. | Description |
|--|----------------|--|
|  | 4000014 | Cardboard box with 100-cell divider for use with 1.5/2 mL vials (does have drain hole) |
| | 820010 | Polycarbonate box with 100-cell divider for use with 1.5/2 mL vials with internal threaded caps (does have drain hole) |
| | 820011 | Polycarbonate box with 81-cell divider for use with 1.5/2 mL vials (does have drain hole) |


> Frames and Canisters for Liquid Phase Storage

| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | CryoPlus 1 | CryoPlus 2 | CryoPlus 3 | CryoPlus 4 |
|---|---|---|----------------------|------------|------------|------------|------------|
|  | 4000670 | 27.4 x 0.6 x 4.6 (69.6 x 1.5 x 11.7) | Frames per vessel | 34 | 90 | 154 | 256 |
| | Frame for 4000610 canister | | Canisters per frame | 7 | 7 | 7 | 7 |
| | | | Canisters per vessel | 238 | 630 | 1,078 | 1,792 |
|  | 1900585 | 27.4 x 0.6 x 3.8 (69.6 x 1.5 x 9.7) | Frames per vessel | 34 | 100 | 184 | 314 |
| | Frame for 1950831 canister | | Canisters per frame | 7 | 7 | 7 | 7 |
| | | | Canisters per vessel | 238 | 700 | 1,288 | 2,198 |
|  | 4000371 | 23.7 x 0.6 x 6.5 (60.2 x 1.5 x 16.5) | Frames per vessel | 28 | 64 | 112 | 174 |
| | Frame for 4000335 canister | | Canisters per frame | 4 | 4 | 4 | 4 |
| | | | Canisters per vessel | 112 | 256 | 448 | 696 |
|  | 4000372 | 23.8 x 0.7 x 8.2 (60.5 x 1.8 x 20.8) | Frames per vessel | 22 | 50 | 82 | 152 |
| | Frame for 4000336 canister | | Canisters per frame | 4 | 4 | 4 | 4 |
| | | | Canisters per vessel | 88 | 200 | 328 | 608 |
|  | 4000368 | 26.4 x 0.9 x 6.1 (67.1 x 2.3 x 15.5) | Frames per vessel | 19 | 40 | 68 | 116 |
| | Frame for 4000332 and 4000356 canisters | | Canisters per frame | 4 | 4 | 4 | 4 |
| | | | Canisters per vessel | 76 | 160 | 272 | 464 |
|  | 4000369 | 26.4 x 1 x 10 (67.1 x 2.5 x 25.4) | Frames per vessel | 10 | 26 | 44 | N/A |
| | Frame for 4000333 and 4000357 canisters | | Canisters per frame | 4 | 4 | 4 | N/A |
| | | | Canisters per vessel | 40 | 104 | 176 | N/A |

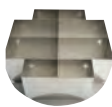
> Frames and Canisters for Vapor Phase Storage

| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | CryoPlus 1 | CryoPlus 2 | CryoPlus 3 | CryoPlus 4 |
|---|----------------------------|---|----------------------|------------|------------|------------|------------|
|  | 4000660 | 23.5 x 0.6 x 4.6 (59.7 x 1.5 x 11.7) | Frames per vessel | 34 | 90 | 154 | 256 |
| | Frame for 4000610 canister | | Canisters per frame | 6 | 6 | 6 | 6 |
| | | | Canisters per vessel | 204 | 540 | 924 | 1,792 |
|  | 1900584 | 23.5 x 0.6 x 3.8 (59.7 x 1.5 x 9.7) | Frames per vessel | 34 | 100 | 184 | 314 |
| | Frame for 1950831 canister | | Canisters per frame | 6 | 6 | 6 | 6 |
| | | | Canisters per vessel | 204 | 600 | 1,104 | 1,884 |
|  | 4000371 | 23.7 x 0.6 x 6.5 (60.2 x 1.5 x 16.5) | Frames per vessel | 28 | 64 | 112 | 174 |
| | Frame for 4000335 canister | | Canisters per frame | 4 | 4 | 4 | 4 |
| | | | Canisters per vessel | 112 | 256 | 448 | 696 |
|  | 4000372 | 23.8 x 0.7 x 8.2 (60.5 x 1.8 x 20.8) | Frames per vessel | 22 | 50 | 82 | 152 |
| | Frame for 4000336 canister | | Canisters per frame | 4 | 4 | 4 | 4 |
| | | | Canisters per vessel | 88 | 200 | 328 | 608 |









➤ Platform Risers Required for Frames in Vapor Phase Storage

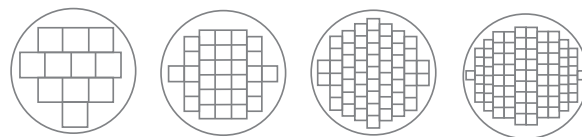
| | Description of riser and frames for intended use | CryoPlus 1 | CryoPlus 2 | CryoPlus 3 | CryoPlus 4 |
|---|---|------------|------------|------------|------------|
|  | 3.5 in. riser for use with 4000371 and 4000372 frames | 4000060 | 4000060 | 4000063 | 4000066 |
| | 4 in. riser for use with 4000660 frames | 4000056 | 4000062 | 4000065 | 4000068 |

Platform dividers for the above frames

| | Description of platform divider and frames for intended use | CryoPlus 1 | CryoPlus 2 | CryoPlus 3 | CryoPlus 4 |
|---|---|------------|------------|------------|------------|
|  | Platform divider for use with 4000660 and 4000670 frames | 4000616 | 4000624 | 4000631 | 4000639 |
| | Platform divider for use with 4000371 frames | N/A | 4000075 | 4000050 | 4000053 |
| | Platform divider for use with 4000372 frames | N/A | 4000076 | 4000051 | 4000054 |
| | Platform divider for use with 4000368 frames | N/A | 4000078 | 4000047 | 4000052 |
| | Platform divider for use with 4000369 frames | N/A | 4000079 | 4000048 | N/A |

Canisters for the above frames

| | Model No. & Description | Dimensions H x W x D in. (cm) |
|---|---|---|
|  | 1950831 Sliding canister for 25 mL bag | 3.6 x 3.915 x .375 (9.14 x 9.94 x 0.95) |
|  | 4000610 Swing arm canister for 50 mL bag (Fenwal 4R9951 or equivalent) | 3.7 x 6.3 x 0.5 (9.4 x 16 x 1.3) |
|  | 4000335 Sliding canister for 250 mL bag (Fenwal 4R5461 or equivalent) | 5.5 x 7.6 x 0.4 (14 x 19.3 x 1) |
|  | 4000336 Sliding canister for 500 mL bag (Fenwal 4R5462 or equivalent) | 5.6 x 9.2 x 0.4 (14.2 x 23.4 x 1) |
|  | 4000332 Sliding canister for 200 mL bag (Gambro DF-200 or equivalent) | 6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2) |
|  | 4000356 Swing arm canister for 200 mL bag (Gambro DF-200 or equivalent) | 6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2) |
|  | 4000333 Sliding canister for 700 mL bag (Gambro DF-700 or equivalent) | 6.5 x 11.8 x 0.8 (16.5 x 30 x 2) |
|  | 4000357 Swing arm canister for 700 mL bag (Gambro DF-700 or equivalent) | 6.5 x 12.1 x 0.8 (16.5 x 30.7 x 2) |



➤ Mini Square Racks for Liquid Phase Storage



| Model No. & Description | Dimensions H x W x D in. (cm) | Storage | CryoPlus 1 | CryoPlus 2 | CryoPlus 3 | CryoPlus 4 |
|---|--|------------------|------------|------------|------------|------------|
| 4000260 | 26.2 x 3.3 x 3.4 (66.5 x 8.4 x 8.6) | Racks per vessel | 11 | 30 | 55 | 92 |
| Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials | | Boxes per rack | 12 | 12 | 12 | 12 |
| | | Vials per box | 25 | 25 | 25 | 25 |
| | | Vials per vessel | 3,300 | 9,000 | 16,500 | 27,600 |

➤ Mini Boxes for Liquid Phase Storage



| | Model No. | Description |
|----------------------|---------------|---|
| Boxes | 189470 | Mini cardboard box - 2.75 in. x 2.75 in. x 2 in. for use with 25-cell divider for use with 1.5/2 mL vials |
| Cell Dividers | 189387 | 25-cell divider for use in the 189470 box |

LN₂ Cryo Storage Selector Guide

VAPOR OR LIQUID PHASE STORAGE?

VAPOR PHASE

Low LN₂ consumption
Vial storage 20-94k
SmartVue-ready
-190°C under the lid



| | |
|-------------------------|---------------------|
| 19,500 vials / 500 BB | CryoExtra 20 |
| 40,600 vials / 1,020 BB | CryoExtra 40 |
| 80,600 vials / 1,910 BB | CryoExtra 80 |
| 93,000 vials / 1,910 BB | CryoExtra 94 |

Full sample access
-150°C under the lid



| | |
|-----------------------|-------------------|
| 5,346 vials / 112 BB | CryoPlus 1 |
| 11,000 vials / 256 BB | CryoPlus 2 |
| 18,700 vials / 448 BB | CryoPlus 3 |
| 31,900 vials / 696 BB | CryoPlus 4 |

LIQUID PHASE

Cryovials*

≥ 6000



| | |
|-----------------|-------------------|
| 6,318 / 112 BB | CryoPlus 1 |
| 13,000 / 256 BB | CryoPlus 2 |
| 22,100 / 448 BB | CryoPlus 3 |
| 37,700 / 696 BB | CryoPlus 4 |

Blood Bags**

≤ 6000

Cane or box storage?

Cane
or Straw



Box

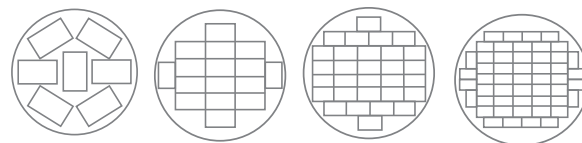


| | |
|-------------------------|-------------------|
| ≤ 2k vials/ 3360 straws | BioCane 73 |
| ≤ 1.5k vials/ 2500 | BioCane 47 |
| ≤ 700vials/ 1200 straws | BioCane 34 |
| ≤ 120 vials/ 300 straws | BioCane 20 |









| | |
|---------------------|--------------------|
| 4-6k | Locator 6+ |
| 2-4k | Locator 4+ |
| ≤ 2k (100 cell box) | Locator Jr+ |
| ≤ 2k (25 cell box) | Locator 8+ |

*Based on 2.0 mL vial


**Based on 250mL blood bag



➤ Racks for Thermo Scientific™ Matrix 2D™ Tubes

| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | CryoPlus 1 | CryoPlus 2 | CryoPlus 3 | CryoPlus 4 |
|---|---|---|-------------------|------------|------------|------------|------------|
| Liquid Phase | | | | | | | |
|  | 1950836 | 27 x 5.313 x 3.65 (68.6 x 13.5 x 9.3) | Racks per vessel | 7 | 16 | 30 | 51 |
| | Rack for Matrix 2D plates measuring 1.082 in. to 1.394 in. tall | | Plates per rack | 18 | 18 | 18 | 18 |
| | | | Plates per vessel | 126 | 288 | 900 | 918 |
|  | 1950839 | 27.15 x 5.313 x 3.65 (69 x 13.5 x 9.3) | Racks Per vessel | 7 | 16 | 30 | 51 |
| | Rack for Matrix 2D plates measuring 1.55 in. to 2.15 in. tall | | Plates per rack | 12 | 12 | 12 | 12 |
| | | | Plates per vessel | 84 | 192 | 360 | 612 |
|  | 1950840 | 27.5 x 5.313 x 3.65 (69.9 x 13.5 x 9.3) | Racks per vessel | 7 | 16 | 30 | 51 |
| | Rack for Matrix 2D plates measuring 2.3 in. tall | | Plates per rack | 11 | 11 | 11 | 11 |
| | | | Plates per vessel | 77 | 176 | 330 | 561 |
|  | 1950841 | 27.5 x 5.313 x 3.65 (69.9 x 13.5 x 9.3) | Racks per vessel | 7 | 16 | 30 | 51 |
| | Rack for Matrix 2D plates measuring 3.78 in. tall | | Plates per rack | 7 | 7 | 7 | 7 |
| | | | Plates per vessel | 49 | 112 | 210 | 357 |
| Vapor Phase | | | | | | | |
|  | 1950832 | 22.5 x 5.313 x 3.65 (57.2 x 13.5 x 9.3) | Racks per vessel | 7 | 16 | 30 | 51 |
| | Rack for Matrix 2D plates measuring 1.082 in. to 1.394 in. tall | | Plates per rack | 15 | 15 | 15 | 15 |
| | | | Plates per vessel | 105 | 240 | 450 | 765 |
|  | 1950833 | 22.6 x 5.313 x 3.65 (57.4 x 13.5 x 9.3) | Racks per vessel | 7 | 16 | 30 | 51 |
| | Rack for Matrix 2D plates measuring 1.55 in. to 2.15 in. tall | | Plates per rack | 10 | 10 | 10 | 10 |
| | | | Plates per vessel | 70 | 160 | 300 | 510 |
|  | 1950834 | 22.5 x 5.313 x 3.65 (57.2 x 13.5 x 9.3) | Racks per vessel | 7 | 16 | 30 | 51 |
| | Rack for Matrix 2D plates measuring 2.3 in. tall | | Plates per rack | 9 | 9 | 9 | 9 |
| | | | Plates per vessel | 63 | 144 | 270 | 459 |
|  | 1950835 | 19.65 x 5.313 x 3.65 (49.9 x 13.5 x 9.3) | Racks per vessel | 7 | 16 | 30 | 51 |
| | Rack for Matrix 2D plates measuring 3.78 in. tall | | Plates per rack | 5 | 5 | 5 | 5 |
| | | | Plates per vessel | 35 | 80 | 150 | 255 |

Platform risers required for racks in vapor phase storage

|  | Description of riser and racks for intended use | CryoPlus 1 | CryoPlus 2 | CryoPlus 3 | CryoPlus 4 |
|--|---|------------|------------|------------|------------|
| | 5 in. riser for use with 1950832, 1950833, 1950834, and 1950835 racks | 4000061 | 4000061 | 4000064 | 4000067 |


> Boxes and Dividers

| Model No. | Description |
|----------------------|--|
| Boxes | |
| 4000014 | Cardboard box with 100-cell divider for use with 1.5/2 mL vials (does have drain hole) |
| 4000015 | Cardboard box with 100-cell divider for use with 4/5 mL vials (does have drain hole) |
| 820010 | Polycarbonate box with 100-cell divider for use with 1.5/2 mL vials with internal threaded caps (does have drain hole) |
| 820011 | Polycarbonate box with 81-cell divider for use with 1.5/2 mL vials (does have drain hole) |
| 4000238 | Stainless steel box for 1.5/2 mL vials (does not include 100-cell divider) |
| 4000239 | Stainless steel box for 4 mL vials (does not include 100-cell divider) |
| Cell Dividers | |
| 4000013 | 100-cell divider for use in the 4000014, 4000015, 4000238, and 4000239 boxes |

> Other Accessories for CryoPlus

CryoPlus 1 | CryoPlus 2 | CryoPlus 3 | CryoPlus 4


Recorder Kit

| | | |
|--|--|---------------|
|  | Factory installed - 120 volt, 50/60 Hz with 6 in. diameter circular chart, 7-day temperature recorder, pen and chart drive (Specify – top, left and right side mount – right side is default if not specified) | 201175 |
| | Factory installed - 220 volt, 50/60 Hz with 6 in. diameter circular chart, 7-day temperature recorder, pen and chart drive (Specify – top, left and right side mount – right side is default if not specified) | 201280 |
| | Replacement Felt Tip Pen | 245231 |
| | Replacement Circular Chart Paper | 197064 |


Hot Gas By-Pass Valve Assembly

| | | |
|--|---|---------------|
|  | Factory installed – 120 volt, 50/60 Hz | 195021 |
| | Field installed (QI) – 120 volt, 50/60 Hz | 195700 |
| | Factory installed – 220 volt, 50/60 Hz | 195023 |
| | Field installed (QI) – 220 volt, 50/60 Hz | 195701 |

Thermal Temperature Sleeve

| | | | | | |
|---|-----------------------------|----------------|----------------|-----------------|----------------|
|  | Factory installed | 1950720 | 1950721 | Standard | |
| | Customer installed/retrofit | 1950706 | 1950707 | 1950708 | 1950709 |

Thermal Data Printer

| | | |
|--|--|----------------|
|  | 120V, 60 Hz Printer with cable assembly and RS-232 connector kit | 4000565 |
| | Thermal printer paper (5 rolls/package) | 4000566 |

RJ-11 Remote Alarm Cable Kit

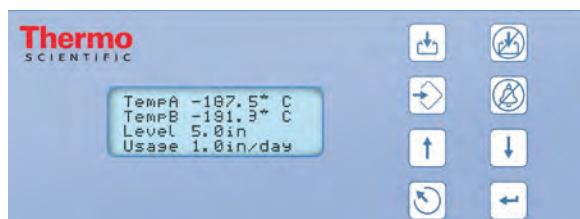
| | | |
|--|---|---------------|
| | Used to connect remote alarm to equipment | 400142 |
|--|---|---------------|

high-efficiency storage

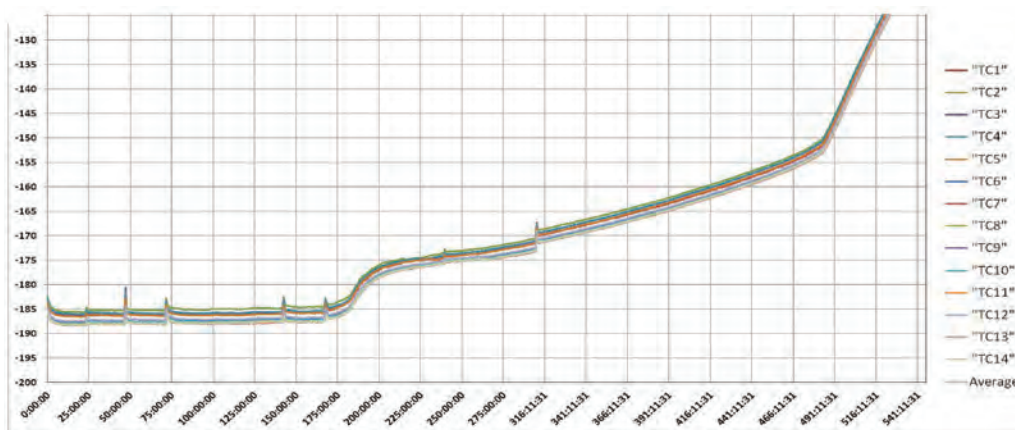
Thermo Scientific CryoExtra Cryogenic Storage

Our new CryoExtra™ 8100 series high-efficiency storage solutions provide outstanding sample protection for scientific research with uniform cryogenic temperatures throughout the vessel. Automated temperature monitoring and microprocessor-based LN₂ level control provide peace-of-mind for valuable samples. Ease-of-use is ensured with built-in steps, flat workspace, and ergonomic lids. All vessels can accommodate both vapor and liquid phase storage.

- Four capacities from 463 L to 1,770 L
- Sample capacity from 19,500 up to 93,000 1.2 – 2.0 mL vials (30,420 to 152,100 CryoBank vials)
- Minimal footprint – 1,770 L model has the same exterior footprint as the 1,745 L unit, saving valuable lab space
- Outstanding temperature uniformity
- Stable lid opening temperature
- Advanced temperature monitor and alarms
- Automated fill and level monitoring
- Push button de-fog for easy sample location
- Hot gas bypass keeps warm nitrogen gas from impacting samples during a fill cycle
- User comfort features and convenient, built-in workspace
- Lockable lid for sample protection
- Designed for global use with 100-240V and 50/60 Hz power supplies. Local power cords and plugs sets available.

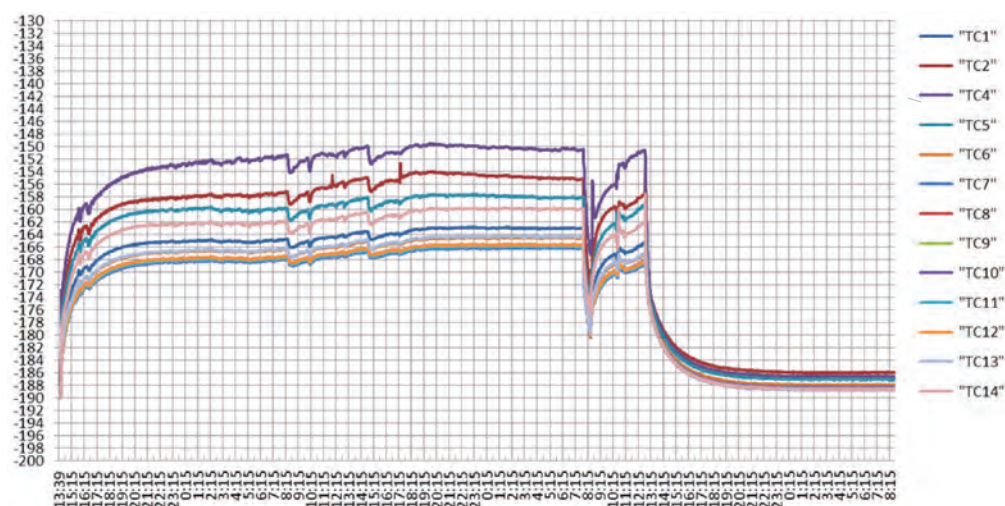


Microprocessor-based controller



No LN₂ Re-Supply Test Result (Model CE8140)

The insulative properties of the CE8140 are demonstrated through a no LN₂ re-supply test. The CE8140 is filled with LN₂ to the high fill set point and then, the LN₂ is removed. The temperature is then monitored using 16 sensors, monitoring how long it takes to reach two benchmark temperatures: -185°C and -135°C. As shown in the figure, the CE8140 was able to keep the average internal temperature below -185°C for seven days. The tank was also able to keep the temperature below -135°C for 21 days.



Lid Open Test Result (Model CE8140)

The lid open test is a measure of the ability of a unit to maintain temperature under an extreme lid opening event, as well as the ability to recover once the lid is re-applied. As the data shows, the CE8140 was able to maintain average temperatures for all probes at or below -150°C over the 48 hour course of the test. Once the lid was re-applied, it took four hours for the CE8140 to reach an average temperature of -185°C.

Maximum Capacity

Designed to maximize sample capacity with minimum footprint, CryoExtra accepts both vertical and horizontal racks. Thermo Scientific cryogenic racking solutions are designed for the vessel's storage configuration, further maximizing capacity. Our 93,000 sample capacity model has the same footprint as our 80,600 sample capacity model, saving valuable floor space.

Uniform Temperatures

Minimal top to bottom temperature variation due to vacuum insulated stainless steel vessel.

Stable Lid Open Temperature

Innovative lid and neck design ensures stable temperature even during lid openings, conserving liquid nitrogen and maintaining temperature.

Advanced Temperature Monitoring Controller

Microprocessor controller monitors temperature using thermocouples accurate to $\pm 1^\circ\text{C}$. Other features: user-adjustable alarm setpoint with full alarm mute options; built-in remote alarm contacts and easy to read level indicator.

Automated Fill and Level Monitoring

Four thermistors monitor both the fill and control LN₂ levels to ensure proper levels. Self diagnostics ensure reliable sensor functioning. Monitor features: current temperature display, high temperature alarm, LN₂ level and alarms, sensor fail alarm and filling status.

Hot Gas Bypass

Keeps samples safe from warm nitrogen gas during a fill cycle, improving sample security.

Convenient Work Space

A stainless platform near the vessel opening provides a flat surface for ergonomic rack placement and speeding sample recovery. All units feature integral, folding steps and interior trap door for sub-carousel access.



Interior trap door

Thermo Scientific CryoExtra

Selection Guide

CryoExtra 20

CryoExtra 40

CryoExtra 80

CryoExtra 94

| | | | | |
|--|------------------------|-------------------------|---------------------------|---------------------------|
| LN ₂ capacity (capacity under turntable) | 463 liters (55 liters) | 797 liters (133 liters) | 1,745 liters (318 liters) | 1,770 liters (296 liters) |
| Maximum System Capacity | | | | |
| Vial capacity (1.2–2 mL) | 19,500 | 40,600 | 80,600 | 93,000 |
| Blood bag capacity (frames) 50 mL, Fenwal 4R9951 | 1,056 (132) | 1,876 (268) | 3,381 (483) | 3,864 (483) |
| Blood bag capacity (frames) 250 mL, Fenwal 4R9953 | 500 (100) | 1,020 (204) | 1,910 (382) | 1,910 (382) |
| Blood bag capacity (frames) 500 mL, Fenwal 4R9955 | 410 (82) | 791 (158) | 1,520 (304) | 1,520 (304) |
| Blood bag capacity (frames) 500 mL, Gambro DF-200 | 340 (68) | 552 (138) | 1,060 (265) | 1,325 (265) |
| Blood bag capacity (frames) 700 mL, Gambro DF-700 | 220 (44) | 320 (80) | 656 (164) | 820 (164) |
| Rack Configuration Requirements for Maximum Capacity (Combination of Square and Mini Racks) | | | | |
| Square 2 in. boxes | Holds 100 2 mL vials | Holds 100 2 mL vials | Holds 100 2 mL vials | Holds 100 2 mL vials |
| Racks for 100 cell boxes | 12 (1950683) | 26 (1950866) | 60 (1950696) | 60 (1950683) |
| Racks for 25 cell boxes | 4 (1950686) | 12 (1950871) | 8 (1950685) | 8 (1950686) |
| Stages per rack | 15 | 14 | 13 | 15 |

Specifications (Non Medical Device)*

| Model* | Model No. | Vial Capacity 1.2-2.0 mL (CryoBank) | Electrical | Plug Type | Usable Interior Height in. (cm) | Exterior Dimensions H x W x D in. (cm) | Neck Diameter in. (mm) | Inner Diameter in. (mm) | Weight (full) | Regulatory Listings | LN ₂ and Utility Connection |
|--------------|-----------|-------------------------------------|----------------------|------------|---------------------------------|---|------------------------|-------------------------|-------------------|---------------------|---|
| CryoExtra 20 | CE8120 | 19,500 (30,420) | 100-230V 50/60 Hz | NEMA 5-15P | 34.5 (87.7) | 65 x 32 x 32 (165.1 x 81.3 x 81.3) | 12.5 (317) | 28.2 (731) | 1340 lbs/ 608 kg | cULus and CE | All models require 22 psi (1.5 bar) low pressure supply tank and are supplied with (1) 0.5 in. 45° flare stainless steel flexible transfer hose |
| CryoExtra 40 | CE8140 | 40,600 (61,516) | | NEMA 5-15P | 30.8 (78.2) | 63.25 x 42 x 42 (160.7 x 106.6 x 106.6) | 17.5 (445) | 38.7 (983) | 2140 lbs/ 971 kg | | |
| CryoExtra 80 | CE8180 | 80,600 (131,820) | | NEMA 5-15P | 29.2 (74.2) | 68.19 x 60 x 60 (173.3 x 152.4 x 152.4) | 25 (635) | 54.75 (1391) | 4830 lbs/ 2191 kg | | |
| CryoExtra 94 | CE8194 | 93,000 (152,100) | | NEMA 5-15P | 34.2 (86.9) | 73.19 x 60 x 60 (173.3 x 152.4 x 152.4) | 25 (635) | 54.75 (1391) | 4875 lbs/ 2211 kg | | |









Specifications (Medical Device)**

| Model* | Model No. | Vial Capacity 1.2-2.0 mL (CryoBank) | Electrical | Plug Type | Usable Interior Height in. (cm) | Exterior Dimensions H x W x D in. (cm) | Neck Diameter in. (mm) | Inner Diameter in. (mm) | Weight (full) | Regulatory Listings | LN ₂ and Utility Connection |
|------------------|-----------|-------------------------------------|----------------------|------------|---------------------------------|---|------------------------|-------------------------|-------------------|----------------------|---|
| CryoExtra 20 MDD | CE8120M | 19,500 (30,420) | 100-230V 50/60 Hz | NEMA 5-15P | 34.5 (87.7) | 65 x 32 x 32 (165.1 x 81.3 x 81.3) | 12.5 (317) | 28.2 (731) | 1340 lbs/ 608 kg | cULus, CE and MDDIIa | All models require 22 psi (1.5 bar) low pressure supply tank and are supplied with (1) 0.5 in. 45° flare stainless steel flexible transfer hose |
| CryoExtra 40 MDD | CE8140M | 40,600 (61,516) | | NEMA 5-15P | 30.8 (78.2) | 63.25 x 42 x 42 (160.7 x 106.6 x 106.6) | 17.5 (445) | 38.7 (983) | 2140 lbs/ 971 kg | | |
| CryoExtra 80 MDD | CE8180M | 80,600 (131,820) | | NEMA 5-15P | 29.2 (74.2) | 68.19 x 60 x 60 (173.3 x 152.4 x 152.4) | 25 (635) | 54.75 (1391) | 4830 lbs/ 2191 kg | | |
| CryoExtra 94 MDD | CE8194M | 93,000 (152,100) | | NEMA 5-15P | 34.2 (86.9) | 73.19 x 60 x 60 (173.3 x 152.4 x 152.4) | 25 (635) | 54.75 (1391) | 4875 lbs/ 2211 kg | | |

* Non MDD units are not available in EU.

** Class IIa medical device for diagnostic use; independent automated monitoring is recommended such as a chart recorder or electronic monitor. Not available in North America.

› CryoExtra Rack Selection



| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | CryoExtra 20 | CryoExtra 40 | CryoExtra 80 | CryoExtra 94 |
|---|---|---|--------------------|--------------|--------------|--------------|--------------|
| Square Racks | | | | | | | |
|  | 1950683 | 32.5 x 5.5 x 5.63 (82.6 x 14 x 14.3) | Racks per vessel | 12 | N/A | N/A | 60 |
| | Rack includes cardboard boxes and dividers for 1.5/2 ml vials | | Boxes per rack | 15 | N/A | N/A | 15 |
| | | | Vials per box | 100 | N/A | N/A | 100 |
| | | | Vials per vessel | 18,000 | N/A | N/A | 90,000 |
|  | 1950696 | 28.4 x 5.5 x 6.3 (72.1 x 14 x 16) | Racks per vessel | 12 | 26 | 60 | 60 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 ml vials | | Boxes per rack | 13 | 13 | 13 | 13 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 15,600 | 33,800 | 78,000 | 78,000 |
|  | 4000007 | 27.4 x 5.5 x 6.3 (69.6 x 14 x 16) | Racks Per vessel | 12 | 26 | 60 | 60 |
| | Rack includes stainless steel boxes and cardboard dividers for 1.5/2 ml vials | | Boxes per rack | 13 | 13 | 13 | 13 |
| | | | Vials per box | 13 | 13 | 13 | 13 |
| | | | Vials per vessel | 15,600 | 33,800 | 78,000 | 78,000 |
|  | 1950866 | 30.6 x 5.5 x 6.3 (77.7 x 14 x 16) | Racks per vessel | 12 | 26 | N/A | 60 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 ml vials | | Boxes per rack | 14 | 14 | N/A | 14 |
| | | | Vials per box | 100 | 100 | N/A | 100 |
| | | | Vials per vessel | 16,800 | 36,400 | N/A | 84,000 |
|  | 4000008 | 25.4 x 5.5 x 6.3 (64.5 x 14 x 16) | Racks per vessel | 12 | 26 | 60 | 60 |
| | Rack includes cardboard boxes and cardboard dividers for 4 ml vials | | Boxes per rack | 8 | 8 | 8 | 8 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 9,600 | 20,800 | 48,000 | 48,000 |
|  | 4000009 | 25.4 x 5.5 x 6.3 (64.5 x 14 x 16) | Racks per vessel | 12 | 26 | 60 | 60 |
| | Rack includes stainless steel boxes and cardboard dividers for 4 ml vials | | Boxes per rack | 8 | 8 | 8 | 8 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 9,600 | 20,800 | 48,000 | 48,000 |
|  | 4000010 | 26.6 x 5.5 x 6.3 (67.6 x 14 x 16) | Racks per vessel | 12 | 26 | 60 | 60 |
| | Rack includes cardboard boxes and cardboard dividers for 5 ml vials | | Boxes per rack | 7 | 7 | 7 | 7 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 8,400 | 18,200 | 42,000 | 42,000 |
| Specialty Racks | | | | | | | |
|  | 4000379 | 23.9 x 5.5 x 6.3 (60.7 x 14 x 16) | Racks per vessel | 12 | 26 | 26 | 60 |
| | SUC-1 rack for cane storage (includes canisters #4000176) | | Canisters per rack | 8 | 8 | 8 | 8 |
| | | | Canes per canister | 25 | 25 | 25 | 25 |
| | | | Canes per vessel | 2,400 | 5,200 | 5,200 | 12,000 |

* Each canister will hold 25 canes without cryo sleeves or 16 canes with cryosleeves

› Boxes and Dividers











| Model No. | Description |
|----------------------|--|
| Boxes | |
| 4000014 | Cardboard box with 100-cell divider for use with 1.5/2 ml vials (does have drain hole) |
| 4000015 | Cardboard box with 100-cell divider for use with 4/5 ml vials (does have drain hole) |
| 820010 | Polycarbonate box with 100-cell divider for use with 1.5/2 ml vials with internal threaded caps (does have drain hole) |
| 820011 | Polycarbonate box with 81-cell divider for use with 1.5/2 ml vials (does have drain hole) |
| 820013 | Polycarbonate box with 81-cell divider for use with 4 ml vials (does have drain hole) |
| 4000238 | Stainless steel box for 1.5/2 ml vials (does not include 100-cell divider) |
| 4000239 | Stainless steel box for 4 ml vials (does not include 100-cell divider) |
| Cell Dividers | |
| 4000013 | 100-cell divider for use in the 4000014, 4000015, 4000238, and 4000239 boxes |

> CryoExtra Rack Selection









| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | CryoExtra 20 | CryoExtra 40 | CryoExtra 80 | CryoExtra 94 |
|---|--|---|------------------|--------------|--------------|--------------|--------------|
| Vertical Racks | | | | | | | |
|  | 4000012 | 27.6 x 2.3 x 5.7 (70.1 x 5.8 x 14.5) | Racks per vessel | 36 | 70 | 156 | 156 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2ml vials | | Boxes per rack | 5 | 5 | 5 | 5 |
| | | | Vials per box | 100 | 100 | 100 | 100 |
| | | | Vials per vessel | 18,000 | 35,000 | 78,000 | 78,000 |
|  | 1950694 | 32.8 x 2.3 x 5.7 (83.3 x 5.8 x 14.5) | Racks per vessel | N/A | N/A | N/A | 156 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2ml vials | | Boxes per rack | N/A | N/A | N/A | 6 |
| | | | Vials per box | N/A | N/A | N/A | 100 |
| | | | Vials per vessel | N/A | N/A | N/A | 93,600 |




> CryoExtra Rack Selection

| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | CryoExtra 20 | CryoExtra 40 | CryoExtra 80 | CryoExtra 94 |
|---|---|---|----------------------|--------------|--------------|--------------|--------------|
| Frames and Canisters | | | | | | | |
|  | 1900585 | 27 x 0.7 x 3.4 (68.6 x 1.8 x 8.6) | Frames per vessel | 184 | 364 | 690 | 690 |
| | Frame for 1950831 canister | | Canisters per frame | 7 | 7 | 7 | 7 |
| | | | Canisters per vessel | 1,288 | 2,548 | 4,830 | 4,830 |
|  | 1950873 | 30.8 x 0.7 x 3.4 (78.2 x 1.8 x 8.6) | Frames per vessel | 184 | N/A | N/A | 690 |
| | Frame for 1950831 canister | | Canisters per frame | 8 | N/A | N/A | 8 |
| | | | Canisters per vessel | 1,47 | N/A | N/A | 5,520 |
|  | 4000670 | 27.4 x 0.6 x 4.6 (69.6 x 1.5 x 11.7) | Frames per vessel | 128 | 241 | 490 | 490 |
| | Frame for 4000610 canister | | Canisters per frame | 7 | 7 | 7 | 7 |
| | | | Canisters per vessel | 896 | 1,687 | 3,430 | 3,430 |
|  | 1950687 | 31.2 x 0.6 x 3.8 (79.2 x 1.5 x 9.7) | Frames per vessel | 128 | N/A | N/A | 490 |
| | Frame for 4000610 canister | | Canisters per frame | 8 | N/A | N/A | 8 |
| | | | Canisters per vessel | 1,024 | N/A | N/A | 3,920 |
|  | 1950688 | 29.6 x 0.7 x 6.5 (75.2 x 1.8 x 16.5) | Frames per vessel | 100 | 268 | 382 | 382 |
| | Frame for 4000335 canister | | Canisters per frame | 5 | 5 | 5 | 5 |
| | | | Canisters per vessel | 500 | 1,340 | 1,910 | 1,910 |
|  | 1950689 | 29.6 x 0.7 x 8.2 (75.2 x 1.8 x 20.8) | Frames per vessel | 82 | 158 | 304 | 304 |
| | Frame for 4000336 canister | | Canisters per frame | 5 | 5 | 5 | 5 |
| | | | Canisters per vessel | 410 | 790 | 1,520 | 1,520 |
|  | 4000368 | 26.4 x .9 x 6.1 (67.1 x 2.3 x 15.5) | Frames per vessel | 68 | 138 | 265 | 265 |
| | Frame for 4000332 and 4000356 canisters | | Canisters per frame | 4 | 4 | 4 | 4 |
| | | | Canisters per vessel | 272 | 552 | 1,060 | 1,060 |
|  | 1950692 | 29.6 x 0.9 x 6.5 (75.2 x 2.3 x 16.5) | Frames per vessel | 68 | N/A | N/A | 265 |
| | Frame for 4000332 and 4000356 canisters | | Canisters per frame | 5 | N/A | N/A | 5 |
| | | | Canisters per vessel | 340 | N/A | N/A | 1,325 |
|  | 4000369 | 26.4 x 1 x 10 (67.1 x 2.5 x 25.4) | Frames per vessel | 44 | 80 | 164 | 164 |
| | Frame for 4000333 and 4000357 canisters | | Canisters per frame | 4 | 4 | 4 | 4 |
| | | | Canisters per vessel | 176 | 320 | 656 | 656 |
|  | 1950693 | 32.9 x 1 x 10 (83.6 x 2.5 x 25.4) | Frames per vessel | 44 | N/A | N/A | 164 |
| | Frame for 4000333 and 4000357 canisters | | Canisters per frame | 5 | N/A | N/A | 5 |
| | | | Canisters per vessel | 220 | N/A | N/A | 820 |

Canisters for Above Frames


| | | | |
|---|----------------|--|--|
|  | 1950831 | 3.6 x 3.915 x 0.375 (9.14 x 9.94 x 0.95) | Sliding canister for 25ml bag |
|  | 4000610 | 3.7 x 6.3 x 0.5 (9.4 x 16 x 1.3) | Swing arm canister for 50ml bag (Fenwal 4R9951 or equivalent) |
|  | 4000335 | 5.5 x 7.6 x 0.4 (14 x 19.3 x 1) | Sliding canister for 250ml bag (Fenwal 4R5461 or equivalent) |
|  | 4000336 | 5.6 x 9.2 x 0.4 (14.2 x 23.4 x 1) | Sliding canister for 500ml bag (Fenwal 4R5462 or equivalent) |
|  | 4000332 | 6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2) | Sliding canister for 200ml bag (Gambro DF-200 or equivalent) |
|  | 4000356 | 6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2) | Swing arm canister for 200ml bag (Gambro DF-200 or equivalent) |
|  | 4000333 | 6.5 x 11.8 x 0.8 (16.5 x 30 x 2) | Sliding canister for 700ml bag (Gambro DF-700 or equivalent) |
|  | 4000357 | 6.5 x 12.1 x 0.8 (16.5 x 30.7 x 2) | Swing arm canister for 700ml bag (Gambro DF-700 or equivalent) |

> CryoExtra Rack Selection







| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | CryoExtra 20 | CryoExtra 40 | CryoExtra 80 | CryoExtra 94 |
|---|---|--|------------------|--------------|--------------|--------------|--------------|
| Mini Square Racks for Liquid Phase Storage | | | | | | | |
|  | 1950685 | 28.5 x 3.2 x 3.3 (72.4 x 8.1 x 8.4) | Racks per vessel | 4 | 12 | 8 | 8 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 ml vials | | Boxes per rack | 13 | 13 | 13 | 13 |
| | | | Vials per box | 25 | 25 | 25 | 25 |
| | | | Vials per vessel | 1,300 | 3,900 | 2,600 | 2,600 |
| | 1950871 | 30.7 x 3.2 x 3.3 (78 x 8.1 x 8.4) | Racks per vessel | 4 | 12 | N/A | 8 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 ml vials | | Boxes per rack | 14 | 14 | N/A | 14 |
| | | | Vials per box | 25 | 25 | N/A | 25 |
| | | | Vials per vessel | 1,400 | 4,200 | N/A | 2,800 |
| | 1950686 | 32.9 x 3.2 x 3.3 (83.6 x 8.1 x 8.4) | Racks per vessel | 4 | N/A | N/A | 8 |
| | Rack includes cardboard boxes and cardboard dividers for 1.5/2 ml vials | | Boxes per rack | 15 | N/A | N/A | 15 |
| | | | Vials per box | 25 | N/A | N/A | 25 |
| | | | Vials per vessel | 1,500 | N/A | N/A | 3,000 |

1950685

> Boxes and Dividers

| Model No. & Description | |
|---|---|
|  | Boxes |
| | 189470 Mini cardboard box – 2.75 x 2.75 x 2 in. for use with 25-cell divider for use with 1.5/2 ml vials |
| | Cell Dividers |
| | 189387 25-cell divider for use in the 189470 box |

> CryoExtra Rack Selection

| Model No. & Description | | Dimensions H x W x D in. (cm) | Storage | CryoExtra 20 | CryoExtra 40 | CryoExtra 80 | CryoExtra 94 |
|---|---|--|-------------------|--------------|--------------|--------------|--------------|
| Racks for Matrix 2D Racks – | | | | | | | |
|  | 1950836 | 27 x 5.313 x 3.65 (68.6 x 13.5 x 9.3) | Racks per vessel | 24 | 52 | 94 | 94 |
| | Rack for Matrix 2D plates Height: 1.082 to 1.394 in. | | Plates per rack | 18 | 18 | 18 | 18 |
| | | | Plates per vessel | 432 | 936 | 1,692 | 1,692 |
|  | 1950839 | 27.15 x 5.313 x 3.65 (69 x 13.5 x 9.3) | Racks per vessel | 24 | 52 | 94 | 94 |
| | Rack for Matrix 2D plates Height: 1.55 to 2.15 in. | | Plates per rack | 12 | 12 | 12 | 12 |
| | | | Plates per vessel | 288 | 624 | 1 | 1 |
|  | 1950840 | 27.5 x 5.313 x 3.65 (70 x 13.5 x 9.3) | Racks per vessel | 24 | 52 | 94 | 94 |
| | Rack for Matrix 2D plates Height: 2.3 in. | | Plates per rack | 11 | 11 | 11 | 11 |
| | | | Plates per vessel | 308 | 572 | 1,034 | 1,034 |
|  | 1950841 | 27.5 x 5.313 x 3.65 (70 x 13.5 x 9.3) | Racks per vessel | 24 | 52 | 94 | 94 |
| | Rack for Matrix 2D plates Height: 3.78 in. | | Plates per rack | 7 | 7 | 7 | 7 |
| | | | Plates per vessel | 168 | 364 | 658 | 658 |
|  | 1950842 | 33 x 5.313 x 3.65 (83.8 x 13.5 x 9.3) | Racks per vessel | 24 | 52 | 94 | 94 |
| | Rack for Matrix 2D plates Height: 1.022 to 1.994 in. | | Plates per rack | 22 | N/A | N/A | 22 |
| | | | Plates per vessel | 528 | N/A | N/A | 2,068 |
|  | 1950843 | 31.7 x 5.313 x 3.65 (80.5 x 13.5 x 9.3) | Racks per vessel | 24 | 52 | 94 | 94 |
| | Rack for Matrix 2D plates Height: 1.55 to 2.15 in. | | Plates per rack | 14 | N/A | N/A | 14 |
| | | | Plates per vessel | 336 | N/A | 1316 | 612 |
|  | 1950844 | 32.5 x 5.313 x 3.65 (82.5 x 13.5 x 9.3) | Racks per vessel | 24 | 52 | 94 | 94 |
| | Rack for Matrix 2D plates Height: 2.3 in. | | Plates per rack | 13 | N/A | N/A | 13 |
| | | | Plates per vessel | 312 | N/A | N/A | 1,222 |
|  | 1950845 | 31.4 x 5.313 x 3.65 (79.7 x 13.5 x 9.3) | Racks per vessel | 24 | 52 | 94 | 94 |
| | Rack for Matrix 2D plates Height: 3.78 in. | | Plates per rack | 8 | N/A | N/A | 8 |
| | | | Plates per vessel | 192 | N/A | N/A | 752 |

cost-effective storage



Thermo Scientific BioCane Canister and Cane Systems

Thermo Scientific BioCane storage systems provide a cost effective way to store biological samples in canes. Available in four sizes, the system can safely hold samples for extended periods of time without replenishing LN₂.

- All models include stainless steel canisters
- Canister handles are color-coded for easy canister identification
- Durable aluminum construction and vacuum insulation
- Narrow-mouth design minimizes LN₂ evaporation
- Lockable lid and optional low level alarm enhance sample security
- Available accessories
 - Roller base
 - Canes
 - Low level alarm
 - Cryo Sleeves

Thermo Scientific BioCane Storage Systems

| | BioCane 20 | BioCane 34 | BioCane 47 | BioCane 73 |
|-----------------------------------|-------------------|-------------------|-------------------|-------------------|
| Catalog No. | CK509X2 | CK509X3 | CK509X4 | CK509X6 |
| LN ₂ capacity (liters) | 20.5 | 34.8 | 47.4 | 73 |
| Canisters per unit | 6 | 6 | 6 | 8 |
| Canes per canister | 5 | 20 | 42 | 42 |
| Total vial capacity (6/cane) | 180 | 720 | 1512 | 2016 |
| Total straw capacity (10/cane) | 300 | 1200 | 2520 | 3360 |
| Static holding time (days) | 227 | 193 | 121 | 121 |
| Neck diameter: in (cm) | 2 (5.1) | 3.5 (8.8) | 5 (12.7) | 6 (15.2) |
| Exterior dimensions | 14.5 x 25.7 | 18.2 x 26.6 | 20 x 26.5 | 22 x 27.3 |
| Diameter x height: in (cm) | (36.8 x 65.3) | (47.2 x 67.6) | (50.8 x 67.3) | (55.9 x 69.3) |
| Shipping weight | 29 lbs. / 13.2 kg | 41 lbs. / 18.6 kg | 47 lbs. / 21.4 kg | 95 lbs. / 43.2 kg |
| Regulatory listings | CE | CE | CE | CE |



› Thermo Scientific BioCane Accessories

| | BioCane 20 | BioCane 34 | BioCane 47 | BioCane 73 |
|---|------------|------------|------------|------------|
| Vials, 1 mL, case of 500 | AY509X32 | AY509X32 | AY509X32 | AY509X32 |
| Cryogenic vials(E), case/500, 1.2 mL, 13.5 mm O.K., 38.1 mm H | AY509X13 | AY509X13 | AY509X13 | AY509X13 |
| Vials, 1.5 mL, case of 500 | AY509X33 | AY509X33 | AY509X33 | AY509X33 |
| Cryogenic vials(E), case/500, 2.0 mL, 13.5 mm O.K., 48.3 mm H | AY509X12 | AY509X12 | AY509X12 | AY509X12 |
| Low level alarm | 8130* | 8130* | 8130* | 8130* |
| Wheeled accessory cart (5 in. high) | AY509X9 | AY509X9 | AY509X9 | AY509X1 |
| Square rack option interchangeable with canisters (includes 5 cardboard boxes, each box with 25 cell dividers*) | N/A | N/A | 195555 | N/A |
| One cryo cane, 1.2 mL – 6 ampule | 4000211 | 4000211 | 4000211 | 4000211 |
| CryoSleeve (100 per case, length 273 mm / 10.75 in.) | 4000218 | 4000218 | 4000218 | 4000218 |

* Model 8130 is not CE marked

quick, efficient sample retrieval

Thermo Scientific Locator PLUS Rack and Box Systems

Thermo Scientific Locator Plus indexed storage systems provide cost effective sample storage and offer efficient sample retrieval. All models are available with an ultrasonic level monitor.

- Outstanding temperature uniformity: samples are stored below -180°C even when less than 2 in. (5 cm) of liquid nitrogen remains in the vessel
- Ultrasonic Level Monitor safeguards irreplaceable samples—Optional monitor provides continuous LED readout of liquid nitrogen level; activates visual and audible alarms when level falls below safe range
- Advanced vacuum insulation minimizes liquid nitrogen evaporation and reduces operating costs
- Lockable lid enhances sample security
- Includes stainless steel racks designed for use with 2 in. (5 cm) Nalgene cryogenic boxes (larger racks available for 5.0 mL ampoules in Locator Jr. PLUS, Locator 4 PLUS, and Locator 6 Plus)
- Available accessories
 - Roller base
 - Polycarbonate boxes
 - Cryogenic vials
 - Cryo logbook
 - CryoClaw
 - Low level alarm





Thermo Scientific Locator PLUS Storage Systems

| Catalog No | Ultrasonic Level Monitor | LN ₂ Capacity (liters) | Rack Per Unit | Box Capacity Per Rack | 2 mL vials Per Box | 2 mL Vial Capacity (full unit) | Static Holding Time (days) | Neck Diameter in. (cm) | Exterior Dimensions Diameter x Height in. (cm) | Shipping Weight | Regulatory Listings |
|-------------------------|--------------------------|-----------------------------------|---------------|-----------------------|--------------------|--------------------------------|----------------------------|------------------------|--|--------------------|---------------------|
| Locator Jr PLUS | | | | | | | | | | | |
| CY50925-70 | n/a | 71 | 4 | 5 | 100 | 2000 | 83 | 8.5 (21.5) | 22 x 26.9 (55.8 x 68.3) | 91 lbs. / 41.4 kg | CE |
| CY509106 | standard | | | | | | | | | | cCSAus and CE |
| CY509106CN (China Only) | | | | | | | | | | | |
| Locator 4 PLUS | | | | | | | | | | | |
| CY50935-70 | n/a | 121 | 4 | 10 | 100 | 4000 | 122 | 8.5 (21.5) | 22 x 37.5 (55.8 x 95.3) | 118 lbs. / 53.5 kg | CE |
| CY509108 | standard | | | | | | | | | | cCSAus and CE |
| CY509108CN (China Only) | | | | | | | | | | | |
| Locator 6 PLUS | | | | | | | | | | | |
| CY50985-70 | n/a | 184 | 6 | 10 | 100 | 6000 | 185 | 8.5 (21.5) | 26 x 37.5 (66 x 95.3) | 160 lbs. / 72.6 kg | CE |
| CY509109 | standard | | | | | | | | | | cCSAus and CE |
| CY509109CN (China Only) | | | | | | | | | | | |
| Locator 8 PLUS | | | | | | | | | | | |
| CY50945-70 | n/a | 121 | 8 | 10 | 25 | 2000 | 201 | 6 (15.2) | 22 x 37.5 (55.8 x 95.3) | 115 lbs. / 52.2 kg | CE |
| CY509111 | standard | | | | | | | | | | cCSAus and CE |
| CY509111CN (China Only) | | | | | | | | | | | |

Thermo Scientific Locator PLUS Accessories

| | Locator Jr. PLUS | Locator 4 PLUS | Locator 6 PLUS | Locator 8 PLUS |
|---|---------------------|---------------------|---------------------|-------------------|
| 5.0 mL vial rack , does not include boxes | HR509X19A-70 | HR509X20A-70 | HR509X32A-70 | N/A |
| Boxes, 2 in. height: 1.0 and 1.5 mL Nalgene, 100 vial per box, case of 10 | CS509X24 | CS509X24 | CS509X24 | N/A |
| Boxes, 2 in. height: 2 mL Nalgene, 25 vial per box, case of 80 | N/A | N/A | N/A | CS509X3 |
| Boxes, 2 in. height: 2 mL Nalgene, 81 vial per box, case of 40 | CS509X4 | CS509X4 | CS509X4 | N/A |
| Boxes, 2 in. height: 2 mL Nalgene, 81 vial per box, case of 20 | CS509X5 | CS509X5 | CS509X5 | N/A |
| Boxes, 4 in. height: 5 mL Nalgene, 81 vial per box, each | CS509X10 | CS509X10 | CS509X10 | N/A |
| Vials, 1 mL, case of 500 | AY509X32 | AY509X32 | AY509X32 | AY509X32 |
| Cryogenic vials (E), case/500, 1.2 mL, 13.5 mm O.K., 38.1 mm H | AY509X13 | AY509X13 | AY509X13 | AY509X13 |
| Vials, 1.5 mL, case of 500 | AY509X33 | AY509X33 | AY509X33 | AY509X33 |
| Cryogenic vials (E), case/500, 2.0 mL, 13.5 mm O.K., 48.3 mm H | AY509X12 | AY509X12 | AY509X12 | AY509X12 |
| Low level alarm | 8130* | 8130* | 8130* | 8130* |
| Wheeled accessory cart (5 in. high) | AY509X9 | AY509X9 | AY509X9 | AY509X1 |
| Customer installed level monitor 100-240V | CN509X16-70 | CN509X17-70 | CN509X15 | CN509X7-70 |
| One cryo cane, 1.2 mL – 6 Ampule | 4000211 | 4000211 | 4000211 | 4000211 |
| Log book | 1950338 | 1950338 | 1950338 | 1950338 |
| CryoClaw | AY509X18 | AY509X18 | AY509X18 | AY509X18 |
| Replacement suction cups (2) for CryoClaw | AY509X19 | AY509X19 | AY509X19 | AY509X19 |

* Model 8130 is not CE marked



simplified storage and retrieval

Thermo Scientific Locator Rack and Box Systems

Thermo Scientific Locator indexed storage systems provide cost-effective sample storage and allow for efficient sample retrieval. All models are available with an ultrasonic level monitor.

- Outstanding temperature uniformity: samples are stored below -180°C even when less than 2 in. (5 cm) of liquid nitrogen remains in the vessel
- Ultrasonic Level Monitor safeguards irreplaceable samples
 - Optional monitor provides continuous LED readout of liquid nitrogen level; activates visual and audible alarms when level falls below safe range
- Lockable lid enhances sample security
- Includes stainless steel racks designed for use with 2 in. (5 cm) Nalgene cryogenic boxes (larger racks available for 5.0 mL ampoules in Locator Jr. and Locator 4)
- Available accessories
 - Roller base
 - Polycarbonate boxes
 - Cryogenic vials
 - Cryo logbook
 - CryoClaw
 - Low-level alarm

Thermo
SCIENTIFIC



Thermo Scientific Locator Storage Systems

| Catalog No | Level Monitor | LN ₂ Capacity (liters) | Rack Per Unit | Box Capacity Per Rack | 2mL vials Per Box | 2 mL Vial Capacity (full unit) | Static Holding Time (days) | Neck Diameter in. (cm) | Exterior Dimensions Diameter x Height in. (cm) | Shipping Weight | Regulatory Listings |
|-------------------------|---------------|-----------------------------------|---------------|-----------------------|-------------------|--------------------------------|----------------------------|------------------------|--|--------------------|---------------------|
| Locator Jr | | | | | | | | | | | |
| CY50925 | n/a | 60 | 4 | 4 | 100 | 1600 | 70 | 8.5 (21.5) | 22 x 24.5 (55.8 x 62.2) | 90 lbs. / 40.8 kg | CE |
| CY509105 | standard | | | | | | | | | | cCSAus and CE |
| CY509105CN (China Only) | | | | | | | | | | | |
| Locator 4 | | | | | | | | | | | |
| CY50935 | n/a | 111 | 4 | 9 | 100 | 3600 | 112 | 8.5 (21.5) | 22 x 35.5 (55.8 x 90.2) | 115 lbs. / 52.2 kg | CE |
| CY509107 | standard | | | | | | | | | | cCSAus and CE |
| CY509107CN (China Only) | | | | | | | | | | | |
| Locator 8 | | | | | | | | | | | |
| CY50945 | n/a | 111 | 8 | 9 | 25 | 1800 | 185 | 6 (15.2) | 22 x 35.5 (55.8 x 90.2) | 117 lbs. / 53.1 kg | CE |
| CY509110 | standard | | | | | | | | | | cCSAus and CE |
| CY509110CN (China Only) | | | | | | | | | | | |

Thermo Scientific Locator Accessories

| | Locator Jr. | Locator 4 | Locator 8 |
|---|--------------|--------------|------------|
| 5.0 mL vial Rack , does not include boxes | HR509X19A-70 | HR509X20A-70 | N/A |
| Boxes, 2 in. height: 1.0 and 1.5 mL Nalgene, 100 vial per box, case of 10 | CS509X24 | CS509X24 | N/A |
| Boxes, 2 in. height: 2 mL Nalgene, 25 vial per box, case of 80 | N/A | N/A | CS509X3 |
| Boxes, 2 in. height: 2 mL Nalgene, 81 vial per box, case of 40 | CS509X4 | CS509X4 | N/A |
| Boxes, 2 in. height: 2 mL Nalgene, 81 vial per box, case of 20 | CS509X5 | CS509X5 | N/A |
| Boxes, 4 in. height: 5 mL Nalgene, 81 vial per box, each | CS509X10 | CS509X10 | N/A |
| Vials, 1 mL, case of 500 | AY509X32 | AY509X32 | AY509X32 |
| Cryogenic Vials, case/500, 1.2 mL, 13.5 mm, 38.1 mm H | AY509X13 | AY509X13 | AY509X13 |
| Vials, 1.5 mL, case of 500 | AY509X33 | AY509X33 | AY509X33 |
| Cryogenic Vials, case/500, 2.0 mL, 13.5 mm, 48.3 mm H | AY509X12 | AY509X12 | AY509X12 |
| Low level alarm | 8130* | 8130* | 8130* |
| Wheeled accessory cart (5 in. high) | AY509X9 | AY509X9 | AY509X1 |
| Customer installed level monitor 100-240V | CN509X16-70 | CN509X17-70 | CN509X7-70 |
| One cryo cane, 1.2 mL – 6 Ampule | 4000211 | 4000211 | 4000211 |
| Log book | 1950338 | 1950338 | 1950338 |
| CryoClaw | AY509X18 | AY509X18 | AY509X18 |
| Replacement suction cups (2) for CryoClaw | AY509X19 | AY509X19 | AY509X19 |

* Model 8130 is not CE marked

Thermo Scientific Liquid Nitrogen Transfer Vessels

Designed for storing and dispensing small amounts of liquid nitrogen, our Thermo Series includes four models with capacities from 5 to 32 L.

- Designed to bring liquid nitrogen to other cryo vessels
- Lightweight aluminum design and small neck opening insures ease of handling and low static evaporation rates
- Compact Thermo 5 and 10 dewars feature a convenient handle for pouring and for use in applications where only small quantities of liquid nitrogen are needed
- Thermo 10, 20 and 30 can be fitted with an optional self-pressurized withdrawal device to easily dispense LN₂ without pouring
- Available accessories
 - Withdrawal device
 - 12 mL dipper
 - Roller base

convenient LN₂ transfer





Thermo Scientific LN₂ Storage Vessels

| | Thermo 5 | Thermo 10 | Thermo 20 | Thermo 30 |
|--|-----------------------------|------------------------------|-----------------------------|-----------------------------|
| Model No. | TY509X1 | TY509X2 | TY509X3 | TY509X4 |
| LN ₂ capacity (liters) | 5 | 10 | 20 | 32 |
| Static holding time (days) | 33.3 | 55.6 | 111 | 145 |
| Neck diameter: in. (cm) | 2.2 (5.6) | 2.2 (5.6) | 2 (5.0) | 2.5 (6.4) |
| Exterior dimensions: Diameter x height: in. (cm) | 8.8 x 18.2 (22.4 x 46.2) | 10.3 x 21.5 (26.2 x 54.6) | 8.8 x 18.2 (36.8 x 62.7) | 8.8 x 18.2 (43.2 x 61.2) |
| Shipping weight | 12 lbs. / 5.5 kg | 14 lbs. / 6.4 kg | 24 lbs. / 10.9 kg | 30 lbs. / 13.6 kg |

Accessories

| | Thermo 5 | Thermo 10 | Thermo 20 | Thermo 30 |
|-------------------------------------|----------|-----------|-----------|-----------|
| Description | | | | |
| Withdrawal device | N/A | AY509X5 | AY509X4 | AY509X3 |
| 12 mL dipper | AY509X6 | AY509X6 | AY509X6 | AY509X6 |
| Wheeled accessory cart (5 in. high) | N/A | N/A | AY509X9 | AY509X9 |

Thermo Scientific Arctic Express Storage Systems

Our Arctic Express and Arctic Express Dual systems protect samples during shipment and storage. Featuring excellent flexibility and safety features, these systems can be used as dry shippers or laboratory cryo storage vessels.

Arctic Express IATA-Shipper Transport Systems

- Worldwide shipment of precious samples with safety and security; approved for UN and IATA
- Two-week holding time preserves sample integrity
- Lockable cover with internal security compartment provides protection and sample isolation
- Aluminum container with handle holds internal security compartment

Arctic Express Cryogenic Shipping Containers

- Innovative material absorbs liquid nitrogen to prevent spillage during shipment
- 14- and 21-day liquid nitrogen holding times allow specimens to be shipped safely
- Durable construction and sturdy base allow dry shipper to withstand rough handling
- Lockable lid prevents unauthorized entry
- Easily transported via most common carriers
- Lightweight aluminum design and convenient pail-style handle

Arctic Express Dual Shipper Storage Systems

- When filled with liquid nitrogen, Arctic Express dual shippers can be used as a canister and cane storage system indefinitely with static holding times of up to 125 days
- Dual shippers hold six numbered, color-coded, stainless steel cans, (included) which accommodate canes that hold ampoules
- Hard-shell shipping container comes standard for both Arctic Express and Dual Shippers

safe sample shipping





Thermo Scientific Arctic Express LN₂ Vapor Shipping Systems

| Model | Arctic Express 5 | Arctic Express 10 | Arctic Express 20 | Arctic Express IATA |
|--|--------------------------|--------------------------|--|---|
| Catalog No. | CY50915 | CY50905 | CY50910 | CY50920 |
| LN ₂ capacity (liters) | 1.5 | 4.3 | 10 | 10 |
| Canisters per unit | 1 | 1 | n/a | internal security compartment |
| Canes per canister | 3 | 8 | 161 | n/a |
| 2mL Vials per cane | 3 | 6 | 6 | n/a |
| 2 mL Vial capacity | 9 | 48 | 966 (bulk - 6 vials per cane) or 500 vials using 5 - 2" boxes (100-cell) | 400 vials using 4 - 2" boxes (100-cell) |
| Total straw capacity | 15 | 120 | 1610 | n/a |
| Static holding time (days) | 8 | 21 | 14 | 14 |
| Neck diameter: in. (cm) | 1.4 (3.5) | 2 (5.0) | 8.5 (21.6) | 8.5 (21.6) |
| Exterior dimensions: Diameter x height: in. (cm) | 7.3 x 13.5 (18.5 x 34.3) | 8.7 x 19.4 (22.1 x 49.3) | 15 x 23 (38.1 x 58.4) | 15 x 23 (38.1 x 58.4) |
| Shipping weight | 24 lbs. / 10.9 kg | 29 lbs. / 13.2 kg | 52 lbs. / 23.6 kg | 58 lbs. / 26.4 kg |
| Regulatory listings | CE | CE | CE | CE and IATA |

Thermo Scientific Arctic Express LN₂ Vapor Shipping Systems

| Model | Arctic Express Dual 10 | Arctic Express Dual 20 | Arctic Express Dual 28 |
|--|---------------------------|---------------------------|-------------------------|
| Catalog No. | CK50920 | CK50921 | CK50922 |
| LN ₂ capacity (liters) | 10 | 18.5 | 28 |
| LN ₂ capacity—absorbed (liters) | 3 | 3 | 8 |
| Canisters per unit | 6 | 6 | 6 |
| Canes per canister | 5 | 6 | 21 |
| 2 mL Vial capacity (6/cane) | 180 | 216 | 756 |
| Total straw capacity (10/cane) | 300 | 360 | 1260 |
| Static holding time – shipper (days) | 21 | 21 | 21 |
| Static holding time (days) | 42 | 125 | 50 |
| Neck diameter: in. (cm) | 2 (5) | 2.2 (5.6) | 3.8 (9.7) |
| Exterior dimensions: Diameter x height: in. (cm) | 10.2 x 21.6 (25.9 x 54.9) | 14.5 x 25.7 (36.8 x 65.3) | 18.2 x 22 (46.2 x 55.9) |
| Shipping weight | 34 lbs. / 15.5 kg | 46 lbs. / 20.9 kg | 60 lbs. / 27.3 kg |
| Regulatory listings | CE | CE | CE |

Thermo Scientific Thermo-Flask Benchtop Liquid Nitrogen Containers

Our Thermo-Flask liquid nitrogen containers feature inner vessels of borosilicate glass evacuated to 1×10^{-5} mm Hg. Available in stainless steel, and featuring vented clamped lids, carrying handles and rubber-cushioned bases.

- Durable, corrosion-resistant stainless steel exterior
- Shallow wide-mouth ideal for applications requiring flash freezing*
- Convenient dish-shaped design perfect for benchtop use
- “Push-fit” insulated lid, vented to prevent pressure build-up

Thermo Scientific Benchtop Liquid Nitrogen Containers

| Model No. | LN ₂ Capacity (liters) | Inside Neck Diameter in. (cm) | Exterior Dimensions Diameter x Height in. (cm) | Shipping Weight |
|-------------|-----------------------------------|-------------------------------|--|------------------|
| 2129 | 1 | 5.1 (13) | 6.3 x 4.5 (16 x 11.4) | 8 lbs. / 3.6 kg |
| 2130 | 1.9 | 6.1 (15.5) | 7.3 x 5.4 (18.5 x 13.7) | 10 lbs. / 4.5 kg |
| 2122 | 1.01 | 3.4 (8.6) | 4.6 x 9 (11.7 x 22.9) | 6 lbs. / 2.7 kg |
| 2123 | 2.01 | 4.2 (10.7) | 5.6 x 10.6 (14.2 x 26.9) | 8 lbs. / 3.6 kg |
| 2124 | 4.51 | 5.9 (15) | 7.2 x 13.8 (18.3 x 35.1) | 10 lbs. / 4.5 kg |

Accessory

| Model No. | Description |
|----------------|--------------|
| AY509X6 | 12 mL Dipper |



*The shallow wide mouth flasks do not have lids. Only the flasks with handles have lids.



Thermo Scientific LN₂ Supply Tanks

All of our stainless steel LN₂ supply tanks are rated at 22 psi (1.5 bar).

› Thermo Scientific LN₂ Supply Tanks

| Catalog No. | LN ₂ Capacity (liters) | Casters | Static Evaporation Rate (per day) | Exterior Dimensions (Diameter x Height) in. (cm) | Shipping Weight |
|----------------|-----------------------------------|----------|-----------------------------------|--|-------------------|
| 8127 | 50 | standard | 4% | 16 x 41 (40.6 x 104.1) | 136 lbs. / 62 kg |
| 8127CE* | | | | | |
| 8120TF | 180 | n/a | 2% | 20 x 63.3 (50.8 x 161.3) | 326 lbs. / 148 kg |
| 8120CE* | | | | | |
| 8121 | 230 | standard | 2% | 26.0 x 54.8 (66 x 139.2) | 425 lbs. / 193 kg |
| 8121CE* | | | | | |

Tank Rating for all models: 22 psi (1.5 bar)

* (outside North America)

› Thermo Scientific LN₂ Supply Tanks Accessories

| | 8127 / 8127CE | 8120TF / 8120CE | 8121 / 8121CE |
|--|---------------|-----------------|---|
| Cylinder roller base for use with 8120/8120CE Measures 22 x 3.5 x 30 in. (55.9 x 8.9 x 76.2cm) | N/A | 4000175 | N/A - 8121/8121CE has built-in casters and fold down handle |
| Cylinder hand truck with pneumatic wheels for use with 8120/8120CE | N/A | 4000173 | N/A - 8121/8121CE has built-in casters and fold down handle |
| 6 ft. flexible braided stainless steel transfer hose with 1/2", 45 degree flare fittings on each end | 4000401 | | |
| 4 ft. flexible braided stainless steel transfer hose with 1/2", 45 degree flare fittings on each end | 4000400 | | |
| LN ₂ fill phase separator | 4000571 | | |

Cryopreservation accessories



- | | | | |
|-----------------------------|-----------------------------------|----------------------------------|--------------------------------|
| 1 Cell dividers | 5 LN ₂ measuring stick | 8 Cryo sleeve with optional cane | 13 Sensaphone dialing system |
| 2 Square box with hole | 6 CryoClaw | 9 Cryo markers | 14 Low-level alarm with sensor |
| 3 Rectangular cardboard box | 7 Cryo gloves | 10 T-valve assembly | 15 Flexible metal hose |
| 4 Polycarbonate boxes | | 11 Phase separator | |
| | | 12 Tongs | |

| Description | Model No. |
|-------------|-----------|
|-------------|-----------|

| | |
|--|----------|
| Cryo Vials | |
| Each vial is constructed of sterile polypropylene with a white marking area and includes a screw cap. | |
| 1.2 mL, self-standing, conical interior bottom, silicone washer, one case of 500 | 4000198 |
| 2.0 mL, self-standing, round interior bottom, silicone washer, one case of 500 | 4000200 |
| 4.0 mL, self standing, round bottom, silicone washer, one case of 500 | 4000206 |
| 5.0 mL, round bottom, silicone washer, one case of 500 | 4000208 |
| Cryo Vial Color Coding Caps | |
| Rainbow (assortment of all colors), one case of 400 | 4000389 |
| Cryo Boxes | |
| Individual | |
| 2.0 in. (5.1 cm) rectangular cardboard box, includes a 40-cell divider (for CryoPlus models) | 4000189 |
| 2.0 in. (5.1 cm) square stainless steel box, does not include a 100-cell divider | 4000238 |
| 2.0 in. (5.1 cm) square cardboard box, includes a 100-Cell Divider (for CryoPlus models) | 4000014 |
| 2.75 in. (7.0 cm) square cardboard box, does not include a 25-Cell Divider (for CryoPlus models) | 189470 |
| 3.0 in. (7.6 cm) square cardboard box, includes a 100-cell divider (for CryoPlus models) | 4000015 |
| 2.0 in. (5.1 cm) high polycarbonate box with 100-cell divider, includes a numerical grid system printed on the cover | 820010 |
| 2.0 in. (5.1 cm) high polycarbonate box with 81-cell divider, includes a numerical grid system printed on the cover | 820011 |
| 3.0 in. (5.1 cm) high polycarbonate box with 81-cell divider, includes a numerical grid system printed on the cover | 820013 |
| Dividers | |
| Cardboard 100-cell divider | 4000013 |
| Cardboard 40-cell divider | 4000174 |
| Cardboard 25-cell divider | 189387 |
| Canes | |
| One cane, 1.2 mL – 6 ampoule | 4000211 |
| One aluminum cane for storage of any 12.5 mm diameter cryo tubes | 4000217 |
| One Cane, 5.0 mL – 2 ampoule | 4000214 |
| One aluminum cane for 9.2 mL and 10.0 mL goblets | 4000216 |
| Cryo Sleeve | |
| Polyvinyl Sleeve, 0.6 in. (1.5 cm) interior diameter, 10.8 in. (27.4 cm) long, one case of 100 | 4000218 |
| Tongs | |
| Transport vials from freezing racks to boxes | |
| Stainless steel cryo tongs | 4000388 |
| Claws | |
| Retrieve fallen object in the LN₂ vessels | |
| CryoClaw | AY509X18 |
| Replacement suction cups for CryoClaw | AY509X19 |
| Measuring Stick | |
| LN ₂ Measuring Stick | 180143 |
| Gloves (Water Proof Cryo) | |
| Mid-Arm, 14.0 in. to 15.0 in. (35.6 cm to 38.1 cm) | |

| Description | Model No. |
|-------------|-----------|
|-------------|-----------|

| | |
|--|---------|
| Small | 189441 |
| Medium | 189442 |
| Large | 189443 |
| Elbow-Length, 18.0 in. to 20.0 in. (45.7 cm to 50.8 cm) | |
| Medium | 189445 |
| Large | 189446 |
| Extra-Large | 189447 |
| Shoulder-Length, 28.0 in. (71.1 cm) | |
| Medium | 189448 |
| Large | 189449 |
| Extra-Large | 189450 |
| Aprons | |
| Small, 36.0 in. W (91.4 cm) | 189451 |
| Medium, 42.0 in. W (106.7 cm) | 189452 |
| Large, 48.0 in. W (121.9 cm) | 189453 |
| Cryo Marker Pens | |
| <i>Fine tip, fast-drying, non-smearing, permanent ink; recommended for all Cryogenic vials at -200C (-328F).</i> | |
| Black, blue, green, and red, set of 4 | 4000221 |
| Black, set of 4 | 4000222 |
| LN₂ Transfer Hoses and Phase Separator | |
| 4.0 ft. (1.2 m) Flexible Metal Hose, 1/2 in., 45° flare, swivel ends | 4000400 |
| 6.0 ft. (1.8 m) Flexible Metal Hose, 1/2 in., 45° flare, swivel ends | 4000401 |
| Phase Separator, 1.3 in. (3.3 cm) diameter x 3.0 in. (7.6 cm) long x 1/4 in. FPT | 4000571 |
| Low-Level Alarm | |
| Low-Level Alarm (90-240) with sensor for any standard-sized LN ₂ container, includes dry contacts for remote alarm* | 8130 |
| Sensaphone® Telephone Dialing Systems | |
| 4 pre-programmed numbers, 120V 60 Hz | 400047 |
| 4 pre-programmed numbers, 220V 50 Hz* | 400182 |
| 8 pre-programmed numbers, 120V 60 Hz | 400134 |
| 8 pre-programmed numbers, 220V 50 Hz* | 400183 |
| T-Valve Assembly | |
| T-Valve assembly with fittings, used to connect two transfer hoses to a supply tank | 4000290 |

*Not CE marked

wireless, tireless

with Thermo Scientific Smart-Vue wireless monitoring

Smart-Vue™ protects the quality of your samples 24/7 by continuously monitoring equipment conditions and will remotely notify you if conditions for sample integrity are compromised. In addition, Smart-Vue's data logging capabilities assist with compliance to FDA, GxP and other regulatory requirements.

- Wireless monitoring, alerting you remotely in the event of a power or mechanical failure
- Alert systems including real-time and visual alarms on the module
- Configurable data-logging, transmission cycles and upper/lower limits
- On-board single parameter module memory for up to 3,000 readings
- Automatic alarms for out-of-bounds conditions and technical problems
- Easy-to-read LCD display with the latest reading, alerts, signal strength and battery level
- Fully integrated with Smart-Vue client/server software suite
- 3.6V Lithium, replaceable battery (3,600 mA)
- Mounting kit with plastic holder, magnet, screws, cable ties, plastic cable holders and Velcro®
- Type: CE EN 300-220-1, FCC, EN12830, IC (Industry Canada), WPF (India), CMIT (China)

> Ordering Information

| Model No. | SV201-100-LSB |
|---------------|------------------------------|
| SV201-100-LSB | Package for 915 MHz regions* |
| SV201-101-LSB | Package for 868 MHz regions* |
| SV201-102-LSB | Package for 867 MHz regions* |
| SV201-103-LSB | Package for 434 MHz regions* |

* Smart-Vue for cryogenic storage includes wireless radio module system, external three-wire PT100 temperature probe; Range: -200°C to +50°C, calibrated at -196°C, -80°C and 0°C. Package consists of module, external sensor, 3.6V lithium battery, mounting holder with Velcro, magnet and hardware, sensor mounting kit.



keep track of your samples

with Thermo Scientific Matrix and Nunc 2D storage tubes

When your workflow includes semi-automated and fully-automated platforms for high throughput, Thermo Scientific™ tubes allow robust storage and tracking of sample volumes ranging from 70 µL to 12 mL in 384-, 96-, 48- and 24-place arrays. We have storage formats available for temperatures down to VPLN, and multiple sealing options including ScrewTop caps and septa seals. Solid, one-piece construction means there are no labels to fall off and medical grade, class VI resin tubes are supplied free of RNase, DNase, endotoxins and cytotoxins and SAL down to 10^{-6} .

- **100% leak tested** to ensure tube integrity and sample security
- **Designed for automated systems** including liquid handling, decappers and other automated platforms
- **Rack base and tube design** prevents the tube from spinning in the rack when decapping whether single tube hand decapping or, multi channel automated decapping
- **Available in Latch Racks**, specially-designed, stackable racks with a microplate footprint

Thermo Scientific Nunc CryoBank tubes

- Nunc CryoBank storage tubes are ideal for users who need locking tubes that are not going to fall out during frequent movement and use without a rack lid. Trust Nunc storage tubes for ultra low temperature storage down to the vapor phase of liquid nitrogen.
- Screw Cap with integrated gasket ensures a tight seal every time and compatible with storage across a range of temperatures.
- ScrewTop can be resealed numerous times with no effect on sealing integrity and can be stored down to the vapor phase of liquid nitrogen
- Laser-etched 2D barcode on the base of every tube ensures secure sample tracking with the highest contrast code available for reading, even with some frost on the tubes

For more information, visit

www.thermoscientific.com/samplestorage



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