Thermo Scientific Cryopreservation Storage Equipment

Indefinite sample storage. Infinite possibilities.

Thermo Fisher
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 LN_2 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 LN_2 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 LN$_2$

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 39,000 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 LN$_2$ 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

LN$_2$ Freezing System Components

- Dual solenoid valves increase LN$_2$ 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****

VIALS

Will you freeze in canes or racks?

cane   racks

cane holder   rack holder

How many vials at once?

<380	<800	<1185	>1200
CryoMed 0.6 cu. ft.	CryoMed 1.2 cu. ft.	CryoMed 1.7 cu. ft.	Custom Configuration

BAGS

Will you freeze in presses or cassettes?

cassettes   presses

How many cassettes?
CryoMed 0.6 cu. ft = 10
CryoMed 1.2 and
1.7 cu. ft. = 20

cassette rack

How many bags at once?

N/A	20	20	<8	<16	<24
CryoMed 0.6 cu. ft.	CryoMed 1.2 cu. ft.	CryoMed 1.7 cu. ft.	CryoMed 0.6 cu. ft.	CryoMed 1.2 cu. ft.	CryoMed 1.7 cu. ft.

STRAWS

Will you freeze in straw racks or in IVF holders?

How many straws?

<160	<320	<480
CryoMed 0.6 cu. ft.	CryoMed 1.2 cu. ft.	CryoMed 1.7 cu. ft.

How many IVF holders?

<72	<120
CryoMed IVF 0.6 cu. ft.	CryoMed IVF 1.2 cu. ft

*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

Model No. & Description	Dimensions H x W x D in. (cm)	Storage	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.
4000294 Straw rack for .25/.5 mL straws - holds 40 straws	11.3 x 3 x 5.25 (28.7 x 7.6 x 13.3)	Racks per chamber	4	8	12	4*	8*
		Straws per rack	40	40	40	40	40
		Total # straws per chamber	160	320	480	160*	320*
4000303 Cane freezing rack - large	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*
		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 Cane freezing rack - small	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
		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 1.2/2 mL freezing rack - small	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
		Vials per rack	76	N/A	161 & 76	76*	N/A
		Total # vials per chamber	380	N/A	1,185	380*	N/A
4000702 Small rack holder for 4000701 racks	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
		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 1.2/2 mL freezing rack - large	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*
		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

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

› CryoMed Freezing Presses

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

Model No. & Description		Storage	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.
	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 Sleeve plug	Plugs per chamber	N/A	N/A	N/A	18	30

*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*

Model No. & Description		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.
	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*	
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 *(Pall/MedSep 25 mL, OriGen CS 25, or equivalent)*	Swing arm canister for 25 mL bag	3.6 x 3.9 x 0.4 (9.14 x 9.4 x 1)
	4000610 *(Fenwal 4R9951, OriGen CS 50 or equivalent)*	Swing arm canister for 50 mL bag	3.7 x 6.3 x 0.5 (9.4 x 16 x 1.3)
	4000356 *(Gambro DF-200 or equivalent)*	Swing arm canister for 200 mL bag	6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2)
1950831	**4000357** *(Gambro DF-700, OriGen CS 1000 or equivalent)*	Swing arm canister for 700 mL bag	6.5 x 12.1 x 0.8 (16.5 x 30.7 x 2)
	4000335 *(Fenwal 4R5461, OriGen CS 25 or equivalent)*	Sliding canister for 250 mL bag	5.5 x 7.6 x 0.4 (14 x 19.3 x 1)
	4000336 *(Fenwal 4R5462, OriGen CS 500 or equivalent)*	Sliding canister for 500 mL bag	5.6 x 9.2 x 0.4 (14.2 x 23.4 x 1)
	4000332 *(Gambro DF-200 or equivalent)*	Sliding canister for 200 mL bag	6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2)
4000333	**4000333** *(Gambro DF-700, OriGen CS 1000 or equivalent)*	Sliding canister for 700 mL bag	6.5 x 11.8 x 0.8 (16.5 x 30 x 2)

❯ 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 consists of PC software (version 3.0) compatible with Windows XP, 7, 8, and 10 and includes a USB adapter with supporting software.

❯ Quality Services Available
(Must be ordered with equipment)

260049	Certification of Compliance (Unit Specific)
260045	Temperature Mapping
260043	Certificate of Conformance

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

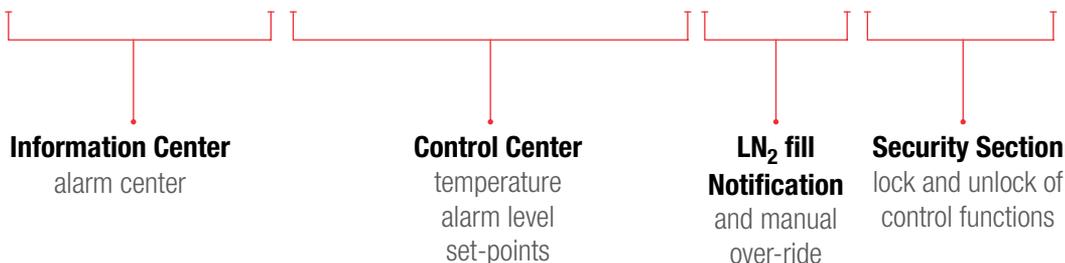- All models come standard with LN$_2$ transfer hose

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 LN$_2$ source alarms.

CryoPlus Information Panel

Information Center
alarm center

Control Center
temperature
alarm level
set-points

LN$_2$ 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 1.2-2.0 mL (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[2,3])	115v/60 Hz	NEMA 5-15P	16 (40.6)	41 x 21.5 x 26 (104.1 x 54.6 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. 45º flare stainless steel flexible transfer hose
	7401			208-230v/50 Hz	CEE 7/7					
CryoPlus 2	7402	200	13,500[2] (22,815[2,3])	115v/60 Hz	NEMA 5-15P	24 (61)	41 x 28.5 x 34 (104.1 x 72.4 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[2,3])	115v/60 Hz	NEMA 5-15P	31 (78.7)	41 x 34.5 x 41.5 (104.1 x 87.6 x 105.4)	550 lbs/ 249 kg		
	7405			208-230v/50 Hz	CEE 7/7					
CryoPlus 4	7406	552	39,000[2] (65,910[2,3])	115v/60 Hz	NEMA 5-15P	39.5 (110.3)	47 x 43.5 x 50 (119.4 x 110.5 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 and dense storage tube boxes.
[3] Using Nunc Dense storage boxes (196-cell) and 1 mL Cryobank tubes.

› Thermo Scientific CryoPlus Vapor Phase Starter Kits

Model	Model No.	LN$_2$ Capacity (liters)	Electrical	Description
CryoPlus 1 Vapor Phase Starter Kit	7400RAKHGBR	90	120V 50/60Hz	Package includes CryoPlus 1 (model 7400) and a hot gas bypass option, 4 storage rack and a 3.5" riser, UL
	7401RAKHGBR		230V 50/60Hz	Package includes CryoPlus 1 (model 7401) and a hot gas bypass option, 4 storage rack and a 3.5" riser, CE
CryoPlus 2 Vapor Phase Starter Kit	7402RAKHGBR	200	120V 50/60Hz	Package includes CryoPlus 2 (model 7402) and a hot gas bypass option, 10 storage rack and a 3.5" riser, UL
	7403RAKHGBR		230V 50/60Hz	Package includes CryoPlus 2 (model 7403) and a hot gas bypass option, 10 storage rack and a 3.5" riser, CE
CryoPlus 3 Vapor Phase Starter Kit	7404RAKHGBR	340	120V 50/60Hz	Package includes CryoPlus 3 (model 7404) and a hot gas bypass option, 17 storage rack and a 3.5" riser, UL
	7405RAKHGBR		230V 50/60Hz	Package includes CryoPlus 3 (model 7405) and a hot gas bypass option, 17 storage rack and a 3.5" riser, CE
CryoPlus 4 Vapor Phase Starter Kit	7406RAKHGBR	552	120V 50/60Hz	Package includes CryoPlus 4 (model 7406) and a hot gas bypass option, 29 storage rack and a 3.5" riser, UL
	7407RAKHGBR		230V 50/60Hz	Package includes CryoPlus 4 (model 7407) and a hot gas bypass option, 29 storage rack and a 3.5" riser, CE
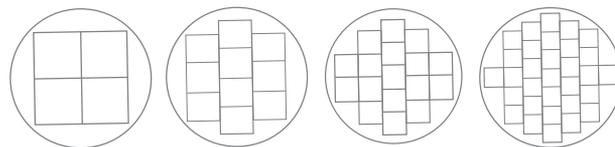
❯ **CryoPlus Rack Selection Guide**

Model No. & Description	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1	CryoPlus 2	CryoPlus 3	CryoPlus 4
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 5.63 (69.6 x 14 x 14.3)	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 5.63 (69.6 x 14 x 14.3)	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 5.63 (66 x 14 x 14.3)	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 5.63 (64.5 x 14 x 14.3)	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 5.63 (64.5 x 14 x 14.3)	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 5.63 (67.6 x 14 x 14.3)	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

Model No. & Description	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1	CryoPlus 2	CryoPlus 3	CryoPlus 4
Square Racks for Vapor Phase Storage						
4000001 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	23.9 x 5.5 x 5.63 (60.7 x 14 x 14.3)	Racks per vessel	4	10	17	29
		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 Rack includes stainless steel boxes for 1.5/2 mL vials	23.9 x 5.5 x 5.63 (60.7 x 14 x 14.3)	Racks per vessel	4	10	17	29
		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 Rack includes cardboard boxes and cardboard dividers for 4 mL vials	22.3 x 5.5 x 5.63 (56.6 x 14 x 14.3)	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
4000004 Rack includes stainless steel boxes and cardboard dividers for 4 mL vials	22.3 x 5.5 x 5.63 (56.6 x 14 x 14.3)	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
4000005 Rack includes cardboard boxes and cardboard dividers for 5 mL vials	22.8 x 5.5 x 5.63 (57.9 x 14 x 14.3)	Racks per vessel	4	10	17	29
		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 SUC-1 rack for cane storage (includes canisters #4000176)	23.9 x 5.5 x 5.63 (60.7 x 14 x 14.3)	Racks per vessel	4	10	17	29
		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

› Arrowhead Racks for Liquid Phase Storage

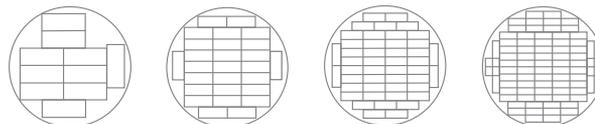|	Model No. & Description	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1
	4000044	28.1 x 7.8 x 7.5 (71.4 x 19.8 x 19.1)	Racks per vessel	6
			Boxes per rack	13
	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials		Vials per box	81
			Vials per vessel	6,318
	4000112	26 x 7.8 x 7.5 (66 x 19.8 x 19.1)	Racks per vessel	6
			Boxes per rack	12
	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials		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
			Boxes per rack	12
	Rack includes stainless steel boxes and cardboard dividers for 1.5/2 mL vials		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
			Boxes per rack	8
	Rack includes cardboard boxes and cardboard dividers for 4 mL vials		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
			Boxes per rack	8
	Rack includes stainless steel boxes and cardboard dividers for 4 mL vials		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
			Boxes per rack	7
	Rack includes cardboard boxes and cardboard dividers for 5 mL vials		Vials per box	81
			Vials per vessel	3,402
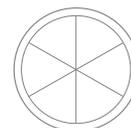
Arrowhead Racks for Vapor Phase Storage

	Model No. & Description	Dimensions H x W x D in. (cm)	Storage		CryoPlus 1
	4000110		Racks per vessel		6
		23.8 x 7.8 x 7.5 (60.5 x 19.8 x 19.1)	Boxes per rack		11
	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials		Vials per box		81
			Vials per vessel		5,346
	4000111		Racks per vessel		6
		23.8 x 7.8 x 7.5 (60.5 x 19.8 x 19.1)	Boxes per rack		11
	Rack includes stainless steel boxes and cardboard dividers for 1.5/2 mL vials		Vials per box		81
			Vials per vessel		5,346
	4000108		Racks per vessel		6
		21.6 x 7.8 x 7.5 (54.9 x 19.8 x 19.1)	Boxes per rack		10
	Rack includes cardboard boxes and cardboard dividers for 2 mL vials		Vials per box		81
			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

❯ Vertical 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
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 Frame for 4000610 canister	27.4 x 0.6 x 4.6 (69.6 x 1.5 x 11.7)	Frames per vessel	28	72	124	204
		Canisters per frame	7	7	7	7
		Canisters per vessel	196	504	868	1,428
1900585 Frame for 1950831 canister	27.4 x 0.6 x 3.8 (69.6 x 1.5 x 9.7)	Frames per vessel	34	100	184	314
		Canisters per frame	7	7	7	7
		Canisters per vessel	238	700	1,288	2,198
4000371 Frame for 4000335 canister	23.7 x 0.6 x 6.5 (60.2 x 1.5 x 16.5)	Frames per vessel	28	68	108	186
		Canisters per frame	4	4	4	4
		Canisters per vessel	112	272	432	744
4000372 Frame for 4000336 canister	23.8 x 0.7 x 8.2 (60.5 x 1.8 x 20.8)	Frames per vessel	22	50	90	154
		Canisters per frame	4	4	4	4
		Canisters per vessel	88	200	360	616
4000368 Frame for 4000332 and 4000356 canisters	26.4 x 0.9 x 6.1 (67.1 x 2.3 x 15.5)	Frames per vessel	19	46	72	126
		Canisters per frame	4	4	4	4
		Canisters per vessel	76	184	288	504
4000369 Frame for 4000333 and 4000357 canisters	26.4 x 1 x 10 (67.1 x 2.5 x 25.4)	Frames per vessel	10	28	48	84
		Canisters per frame	4	4	4	4
		Canisters per vessel	40	112	192	336

› 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 Frame for 4000610 canister	23.5 x 0.6 x 4.6 (59.7 x 1.5 x 11.7)	Frames per vessel	28	72	124	204
		Canisters per frame	6	6	6	6
		Canisters per vessel	168	432	744	1,224
1900584 Frame for 1950831 canister	23.5 x 0.6 x 3.8 (59.7 x 1.5 x 9.7)	Frames per vessel	34	100	184	314
		Canisters per frame	6	6	6	6
		Canisters per vessel	204	600	1,104	1,884
4000371 Frame for 4000335 canister	23.7 x 0.6 x 6.5 (60.2 x 1.5 x 16.5)	Frames per vessel	28	68	108	186
		Canisters per frame	4	4	4	4
		Canisters per vessel	112	272	432	744
4000372 Frame for 4000336 canister	23.8 x 0.7 x 8.2 (60.5 x 1.8 x 20.8)	Frames per vessel	22	50	90	154
		Canisters per frame	4	4	4	4
		Canisters per vessel	88	200	360	616

❯ 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 25 mL frames: 1900584 and 1900585	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	N/A	4000047	4000052
	Platform divider for use with 4000369 frames	N/A	N/A	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)
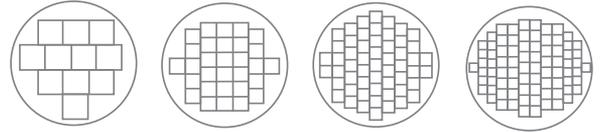
› Mini Square Racks for Liquid Phase Storage

Model No. & Description	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1	CryoPlus 2	CryoPlus 3	CryoPlus 4
4000260		Racks per vessel	11	30	55	92
Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	26.2 x 3.3 x 3.4 (66.5 x 8.4 x 8.6)	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
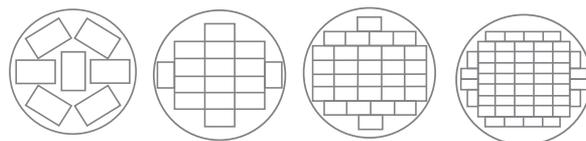
	Model No.	Description
Boxes	189470	Mini cardboard box - 2.75 in. x 2.75 in. x 2 in. for use with 25-cell divider for use with 1.5/2 mL vials
Cell Dividers	189387	25-cell divider for use in the 189470 box

LN$_2$ Cryo Storage Selector Guide

VAPOR OR LIQUID PHASE STORAGE?

VAPOR PHASE

**Low LN$_2$ 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**
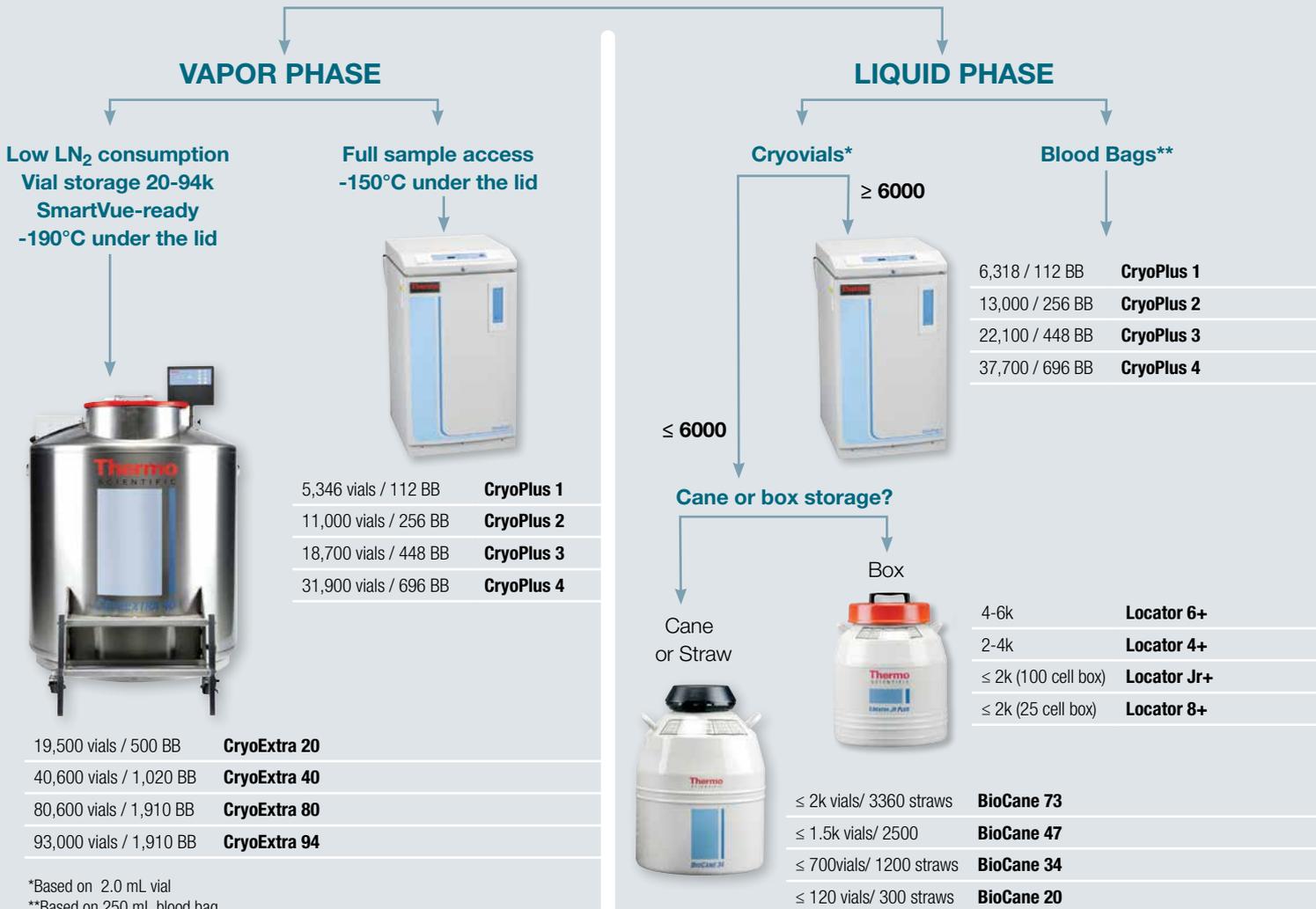
*Based on 2.0 mL vial
**Based on 250 mL blood bag

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

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

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

❯ 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 Rack for Matrix 2D plates measuring 1.082 in. to 1.394 in. tall	27 x 5.313 x 3.65 (68.6 x 13.5 x 9.3)	Racks per vessel	7	16	30	51
			Plates per rack	18	18	18	18
			Plates per vessel	126	288	900	918
	1950839 Rack for Matrix 2D plates measuring 1.55 in. to 2.15 in. tall	27.15 x 5.313 x 3.65 (69 x 13.5 x 9.3)	Racks Per vessel	7	16	30	51
			Plates per rack	12	12	12	12
			Plates per vessel	84	192	360	612
	1950840 Rack for Matrix 2D plates measuring 2.3 in. tall	27.5 x 5.313 x 3.65 (69.9 x 13.5 x 9.3)	Racks per vessel	7	16	30	51
			Plates per rack	11	11	11	11
			Plates per vessel	77	176	330	561
	1950841 Rack for Matrix 2D plates measuring 3.78 in. tall	27.5 x 5.313 x 3.65 (69.9 x 13.5 x 9.3)	Racks per vessel	7	16	30	51
			Plates per rack	7	7	7	7
			Plates per vessel	49	112	210	357
Vapor Phase							
	1950832 Rack for Matrix 2D plates measuring 1.082 in. to 1.394 in. tall	22.5 x 5.313 x 3.65 (57.2 x 13.5 x 9.3)	Racks per vessel	7	16	30	51
			Plates per rack	15	15	15	15
			Plates per vessel	105	240	450	765
	1950833 Rack for Matrix 2D plates measuring 1.55 in. to 2.15 in. tall	22.6 x 5.313 x 3.65 (57.4 x 13.5 x 9.3)	Racks per vessel	7	16	30	51
			Plates per rack	10	10	10	10
			Plates per vessel	70	160	300	510
	1950834 Rack for Matrix 2D plates measuring 2.3 in. tall	22.5 x 5.313 x 3.65 (57.2 x 13.5 x 9.3)	Racks per vessel	7	16	30	51
			Plates per rack	9	9	9	9
			Plates per vessel	63	144	270	459
	1950835 Rack for Matrix 2D plates measuring 3.78 in. tall	19.65 x 5.313 x 3.65 (49.9 x 13.5 x 9.3)	Racks per vessel	7	16	30	51
			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

Model No. & Description		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 (27" Tall for Improved Temperature Uniformity)					
	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			
	220V, 50 Hz Printer with cable assembly and RS-232 connector kit	4000665			
	Thermal printer paper (5 rolls/package)	4000566			
RJ-11 Remote Alarm Cable Kit					
	Used to connect remote alarm to equipment	400142			

❯ Quality Services Available (Must be ordered with equipment)

|	
260049	Certification of Compliance (Unit Specific)
260045	Temperature Mapping
260043	Certificate of Conformance

high-efficiency storage
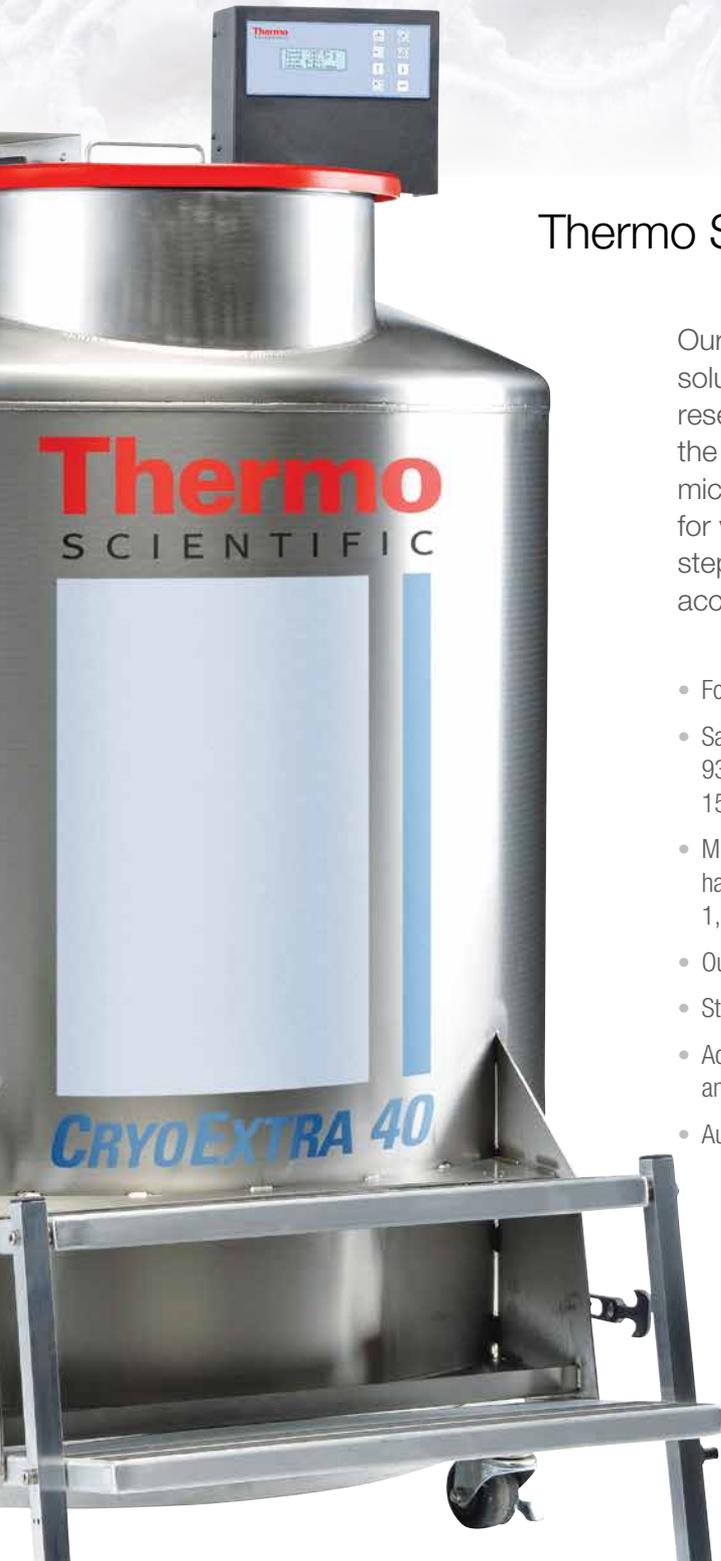
Thermo Scientific CryoExtra Cryogenic Storage

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 LN$_2$ 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.
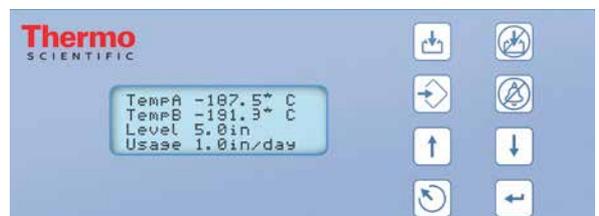
Microprocessor-based controller
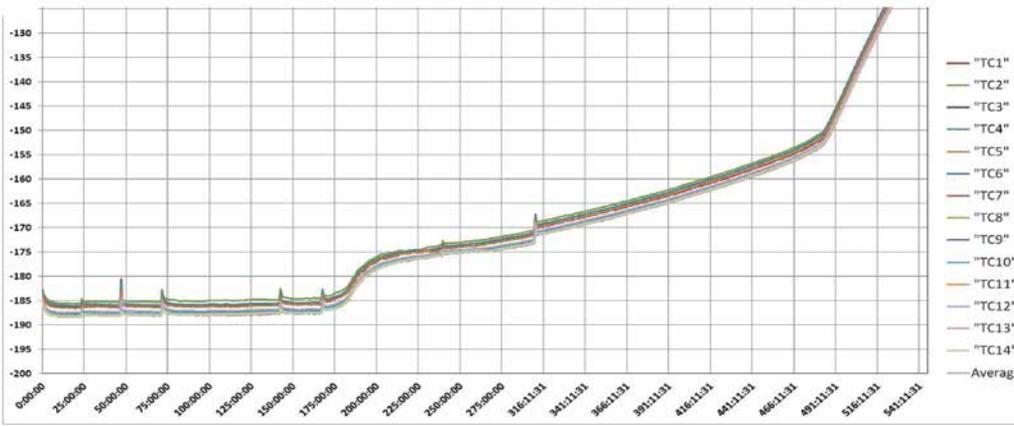
No LN$_2$ Re-Supply Test Result (Model CE8140)

The insulative properties of the CE8140 are demonstrated through a no LN$_2$ re-supply test. The CE8140 is filled with LN$_2$ to the high fill set point and then, the LN$_2$ is removed. The temperature is then monitored using 16 sensors, monitoring how long it takes to reach two benchmark temperatures: -185ºC and -135ºC. As shown in the figure, the CE8140 was able to keep the average internal temperature below -185ºC for seven days. The tank was also able to keep the temperature below -135ºC for 21 days.
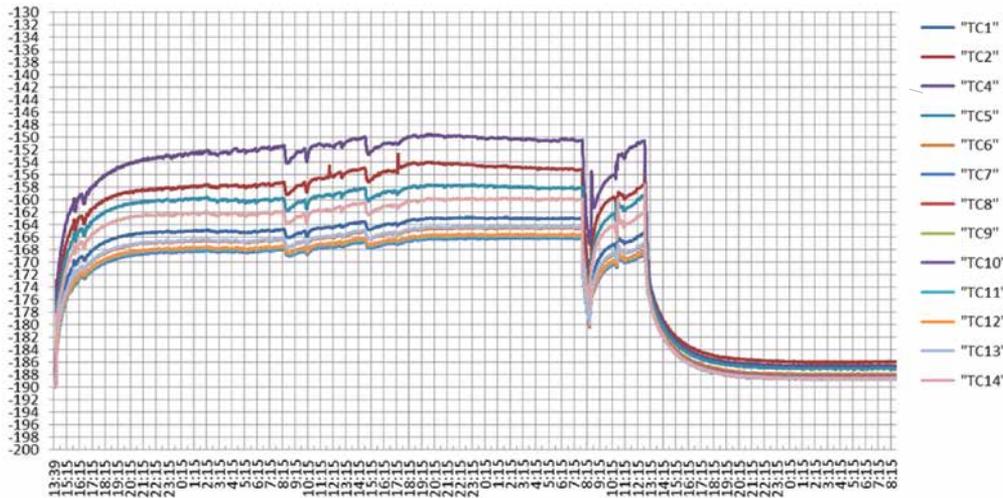
Lid Open Test Result (Model CE8140)

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 -150ºC 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 -185ºC.

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 +/- 1°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 LN$_2$ levels to ensure proper levels. Self diagnostics ensure reliable sensor functioning. Monitor features: current temperature display, high temperature alarm, LN$_2$ 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) 25 mL	1,528 (191)	2,632 (376)	5,376 (768)	6,144 (768)
Blood bag capacity (frames) 50 mL, Fenwal 4R9951	896 (112)	1,533 (219)	3,080 (440)	3,520 (440)
Blood bag capacity (frames) 250 mL, Fenwal 4R9953	480 (96)	900 (188)	1,860 (372)	1,860 (372)
Blood bag capacity (frames) 500 mL, Fenwal 4R9955	340 (68)	660 (132)	1,410 (282)	1,410 (282)
Blood bag capacity (frames) 500 mL, Gambro DF-200	320 (64)	468 (117)	960 (240)	1,200 (240)
Blood bag capacity (frames) 700 mL, Gambro DF-700	180 (36)	280 (70)	568 (142)	710 (142)
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[1])	100-230V 50/60 Hz	NEMA 5-15	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. 45º flare stainless steel flexible transfer hose
CryoExtra 40	CE8140	40,600 (61,516[1])		NEMA 5-15	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[1])		NEMA 5-15	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[1])		NEMA 5-15	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		

[1] Using Nunc Dense storage boxes (196-cell) and 1 mL CryoBank tubes.

› 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[1])	100-230V 50/60 Hz	EU	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. 45º flare stainless steel flexible transfer hose
CryoExtra 40 MDD	CE8140M	40,600 (61,516[1])		EU	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[1])		EU	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[1])		EU	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.
 [1] Using Nunc Dense storage boxes (196-cell) and 1 mL CryoBank tubes.

❯ CryoExtra Rack Selection

Square Racks

Model No. & Description	Dimensions H x W x D in. (cm)	Storage	CryoExtra 20	CryoExtra 40	CryoExtra 80	CryoExtra 94
1950683 Rack includes cardboard boxes and dividers for 1.5/2 mL vials	32.5 x 5.5 x 5.63 (82.6 x 14 x 14.3)	Racks per vessel	12	N/A	N/A	60
		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 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	28.4 x 5.5 x 5.63 (72.1 x 14 x 14.3)	Racks per vessel	12	26	60	60
		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 Rack includes stainless steel boxes and cardboard dividers for 1.5/2 mL vials	27.4 x 5.5 x 5.63 (69.6 x 14 x 14.3)	Racks Per vessel	12	26	60	60
		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 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	30.6 x 5.5 x 5.63 (77.7 x 14 x 14.3)	Racks per vessel	12	26	N/A	60
		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 Rack includes cardboard boxes and cardboard dividers for 4 mL vials	25.4 x 5.5 x 5.63 (64.5 x 14 x 14.3)	Racks per vessel	12	26	60	60
		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 Rack includes stainless steel boxes and cardboard dividers for 4 mL vials	25.4 x 5.5 x 5.63 (64.5 x 14 x 14.3)	Racks per vessel	12	26	60	60
		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 Rack includes cardboard boxes and cardboard dividers for 5 mL vials	26.6 x 5.5 x 5.63 (67.6 x 14 x 14.3)	Racks per vessel	12	26	60	60
		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

Model No. & Description	Dimensions H x W x D in. (cm)	Storage	CryoExtra 20	CryoExtra 40	CryoExtra 80	CryoExtra 94
4000379 SUC-1 rack for cane storage (includes canisters #4000176)	23.9 x 5.5 x 5.63 (60.7 x 14 x 16)	Racks per vessel	12	26	60	60
		Canisters per rack	8	8	8	8
		Canes per canister	25	25	25	25
		Canes per vessel	2,400	5,200	12,000	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 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	36	70	156	156
		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 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	32.8 x 2.3 x 5.7 (83.3 x 5.8 x 14.5)	Racks per vessel	36	N/A	N/A	156
		Boxes per rack	6	N/A	N/A	6
		Vials per box	100	N/A	N/A	100
		Vials per vessel	21,600	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 Frame for 1950831 canister	27 x 0.7 x 3.4 (68.6 x 1.8 x 8.6)	Frames per vessel	191	376	768	768
		Canisters per frame	7	7	7	7
		Canisters per vessel	1,337	2,632	5,376	5,376
1950873 Frame for 1950831 canister	30.8 x 0.7 x 3.4 (78.2 x 1.8 x 8.6)	Frames per vessel	191	N/A	N/A	768
		Canisters per frame	8	N/A	N/A	8
		Canisters per vessel	1,528	N/A	N/A	6,144
4000670 Frame for 4000610 canister	27.4 x 0.6 x 4.6 (69.6 x 1.5 x 11.7)	Frames per vessel	112	219	440	440
		Canisters per frame	7	7	7	7
		Canisters per vessel	784	1,533	3,080	3,080
1950687 Frame for 4000610 canister	31.2 x 0.6 x 3.8 (79.2 x 1.5 x 9.7)	Frames per vessel	112	N/A	N/A	440
		Canisters per frame	8	N/A	N/A	8
		Canisters per vessel	896	N/A	N/A	3,520
1950688 Frame for 4000335 canister	29.6 x 0.7 x 6.5 (75.2 x 1.8 x 16.5)	Frames per vessel	96	180	372	372
		Canisters per frame	5	5	5	5
		Canisters per vessel	480	900	1,860	1,860
1950689 Frame for 4000336 canister	29.6 x 0.7 x 8.2 (75.2 x 1.8 x 20.8)	Frames per vessel	68	132	282	282
		Canisters per frame	5	5	5	5
		Canisters per vessel	340	660	1,410	1,410
4000368 Frame for 4000332 and 4000356 canisters	26.4 x .9 x 6.1 (67.1 x 2.3 x 15.5)	Frames per vessel	64	117	240	240
		Canisters per frame	4	4	4	4
		Canisters per vessel	256	468	960	960
1950692 Frame for 4000332 and 4000356 canisters	29.6 x 0.9 x 6.5 (75.2 x 2.3 x 16.5)	Frames per vessel	64	N/A	N/A	240
		Canisters per frame	5	N/A	N/A	5
		Canisters per vessel	320	N/A	N/A	1,200
4000369 Frame for 4000333 and 4000357 canisters	26.4 x 1 x 10 (67.1 x 2.5 x 25.4)	Frames per vessel	36	70	142	142
		Canisters per frame	4	4	4	4
		Canisters per vessel	144	280	568	568
1950693 Frame for 4000333 and 4000357 canisters	32.9 x 1 x 10 (83.6 x 2.5 x 25.4)	Frames per vessel	36	N/A	N/A	142
		Canisters per frame	5	N/A	N/A	5
		Canisters per vessel	180	N/A	N/A	710
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 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	28.5 x 3.2 x 3.3 (72.4 x 8.1 x 8.4)	Racks per vessel	4	12	8	8
		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 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	30.7 x 3.2 x 3.3 (78 x 8.1 x 8.4)	Racks per vessel	4	12	N/A	8
		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 Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	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
		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

❯ Additional Accessories

Model No. & Description	
20820733	2-tier step for the CryoExtra 20

❯ Optional Battery Back-up

Model No. & Description	
CE8100BB	Optional battery back-up for non-MDD units (MDD units include battery back-up)

❯ 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 Rack for Matrix 2D plates Height: 1.082 to 1.394 in.	27 x 5.313 x 3.65 (68.6 x 13.5 x 9.3)	Racks per vessel	20	40	96	96
		Plates per rack	18	18	18	18
		Plates per vessel	360	720	1,728	1,728
1950839 Rack for Matrix 2D plates Height: 1.55 to 2.15 in.	27.15 x 5.313 x 3.65 (69 x 13.5 x 9.3)	Racks per vessel	20	40	96	96
		Plates per rack	12	12	12	12
		Plates per vessel	240	480	1,152	1,152
1950840 Rack for Matrix 2D plates Height: 2.3 in.	27.5 x 5.313 x 3.65 (70 x 13.5 x 9.3)	Racks per vessel	20	40	96	96
		Plates per rack	11	11	11	11
		Plates per vessel	320	440	1,056	1,056
1950841 Rack for Matrix 2D plates Height: 3.78 in.	27.5 x 5.313 x 3.65 (70 x 13.5 x 9.3)	Racks per vessel	20	40	96	96
		Plates per rack	7	7	7	7
		Plates per vessel	140	280	672	672
1950842 Rack for Matrix 2D plates Height: 1.022 to 1.4 in.	33 x 5.313 x 3.65 (83.8 x 13.5 x 9.3)	Racks per vessel	20	N/A	N/A	96
		Plates per rack	22	N/A	N/A	22
		Plates per vessel	440	N/A	N/A	2,112
1950843 Rack for Matrix 2D plates Height: 1.55 to 2.15 in.	31.7 x 5.313 x 3.65 (80.5 x 13.5 x 9.3)	Racks per vessel	20	N/A	N/A	96
		Plates per rack	14	N/A	N/A	14
		Plates per vessel	280	N/A	N/A	1,344
1950844 Rack for Matrix 2D plates Height: 2.3 in.	32.5 x 5.313 x 3.65 (82.5 x 13.5 x 9.3)	Racks per vessel	20	N/A	N/A	96
		Plates per rack	13	N/A	N/A	13
		Plates per vessel	260	N/A	N/A	1,248
1950845 Rack for Matrix 2D plates Height: 3.78 in.	31.4 x 5.313 x 3.65 (79.7 x 13.5 x 9.3)	Racks per vessel	20	N/A	N/A	96
		Plates per rack	8	N/A	N/A	8
		Plates per vessel	160	N/A	N/A	768

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 LN$_2$.

- 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 LN$_2$ evaporation
- Lockable lid and optional low level alarm enhance sample security
- Available accessories
  - Roller base
  - Low level alarm
  - Canes
  - 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
Canister dimensions: in. (cm)	11 x 1.5 Dia. (27.9 x 3.8)	11 x 2.8 Dia. (27.9 x 7.1)	11 x 4 Dia. (27.9 x 10.2)	11 x 4 Dia. (27.9 x 10.2)
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 evaporation rate[1] (liters/day)	.1	.18	.4	.6
Neck diameter: in. (cm)	2 (5.1)	3.5 (8.8)	5 (12.7)	6 (15.2)
Exterior dimensions Diameter x height: in. (cm)	14.5 x 25.7 (36.8 x 65.3)	18.2 x 26.6 (47.2 x 67.6)	20 x 26.5 (50.8 x 67.3)	22 x 27.3 (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

[1] Static evaporation rates based on new vessel, no heat load, and no lid openings. Rates may vary due to ambient conditions and usage.

> **Quality Services Available (Must be ordered with equipment)**

260045	Temperature Mapping
260043	Certificate of Conformance

> ## 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

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 Evaporation Rate[1] (L/day)	Neck Diameter in. (cm)	Exterior Dimensions Diameter x Height in. (cm)	Shipping Weight	Regulatory Listings
Locator Jr PLUS											
CY50925-70	n/a										CE
CY509106	standard	71	4	5	100	2000	.85	8.5 (21.5)	22 x 26.9 (55.8 x 68.3)	91 lbs. / 41.4 kg	cCSAus and CE
CY509106CN (China Only)											
Locator 4 PLUS											
CY50935-70	n/a										CE
CY509108	standard	121	4	10	100	4000	.99	8.5 (21.5)	22 x 37.5 (55.8 x 95.3)	118 lbs. / 53.5 kg	cCSAus and CE
CY509108CN (China Only)											
Locator 6 PLUS											
CY50985-70	n/a										CE
CY509109	standard	184	6	10	100	6000	.99	8.5 (21.5	26 x 37.5 (66 x 95.3)	160 lbs. / 72.6 kg	cCSAus and CE
CY509109CN (China Only)											
Locator 8 PLUS											
CY50945-70	n/a										CE
CY509111	standard	121	8	10	25	2000	.60	6 (15.2)	22 x 37.5 (55.8 x 95.3)	115 lbs. / 52.2 kg	cCSAus and CE
CY509111CN (China Only)											

[1] Static evaporation rates based on new vessel, no heat load, and no lid openings. Rates may vary due to ambient conditions and usage.

› 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)	**AY509X1**	**AY509X1**	**AY509X1-70**	**AY509X1**
Customer installed level monitor 100-240V	**CN509X16-70**	**CN509X17-70**	**CN509X15**	**CN509X7-70**
Log book	**1950338**	**1950338**	**1950338**	**1950338**
CryoClaw	**AY509X18**	**AY509X18**	**AY509X18**	**AY509X18**
Replacement suction cups (2) for CryoClaw	**AY509X19**	**AY509X19**	**AY509X19**	**AY509X19**

› Quality Services Available (Must be ordered with equipment)

260045	Temperature Mapping
260043	Certificate of Conformance

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	2 mL vials Per Box	2 mL Vial Capacity (full unit)	Static Evaporation Rate[1] (L/day)	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	.85	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	.99	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	.60	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)											

[1] Static evaporation rates based on new vessel, no heat load, and no lid openings. Rates may vary due to ambient conditions and usage.

› Thermo Scientific Locator Accessories

	Locator Jr.	Locator 4	Locator 8
5.0 mL vial Rack , does not include boxes	HR509X19A	HR509X20A	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)	AY509X1	AY509X1	AY509X1
Customer installed level monitor 100-240V	CN509X16	CN509X17	CN509X7
Log book	1950338	1950338	1950338
CryoClaw	AY509X18	AY509X18	AY509X18
Replacement suction cups (2) for CryoClaw	AY509X19	AY509X19	AY509X19

› Quality Services Available (Must be ordered with equipment)

| 260045	Temperature Mapping
260043	Certificate of Conformance

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 LN$_2$ without pouring

- Available accessories
  - Withdrawal device
  - 12 mL dipper
  - Roller base

convenient LN$_2$ transfer
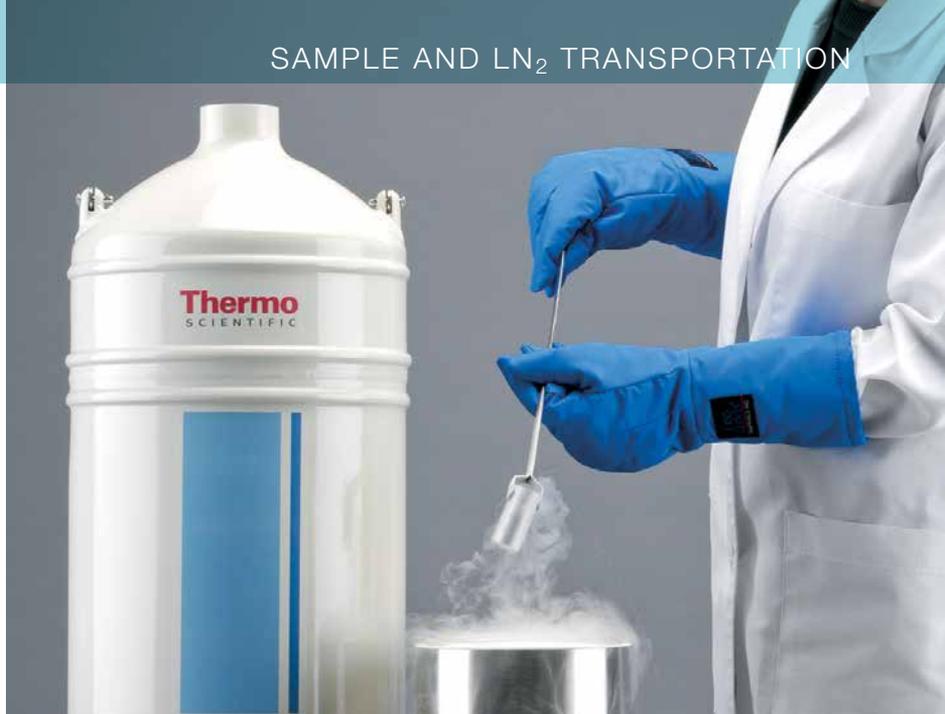
❯ Thermo Scientific LN$_2$ Storage Vessels

	Thermo 5	Thermo 10	Thermo 20	Thermo 30
Model No.	TY509X1	TY509X2	TY509X3	TY509X4
LN$_2$ capacity (liters)	5	10	20	32
Static evaporation rates[1] (liters per day)	.15	.18	.18	.22
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 kig	30 lbs. / 13.6 kg

[1] Static evaporation rates based on new vessel, no heat load, and no lid openings. Rates may vary due to ambient conditions and usage.

❯ Accessories

Description	Thermo 5	Thermo 10	Thermo 20	Thermo 30
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 LN$_2$ 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
2 mL 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

❯ Thermo Scientific Arctic Express LN$_2$ 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
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

❯ Quality Services Available (Must be ordered with equipment)

260043	Certificate of Conformance

Thermo Scientific Thermo-Flask Benchtop Liquid Nitrogen Containers

Our Thermo-Flask liquid nitrogen containers feature inner vessels of borosilicate glass evacuated to 1x10^{-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
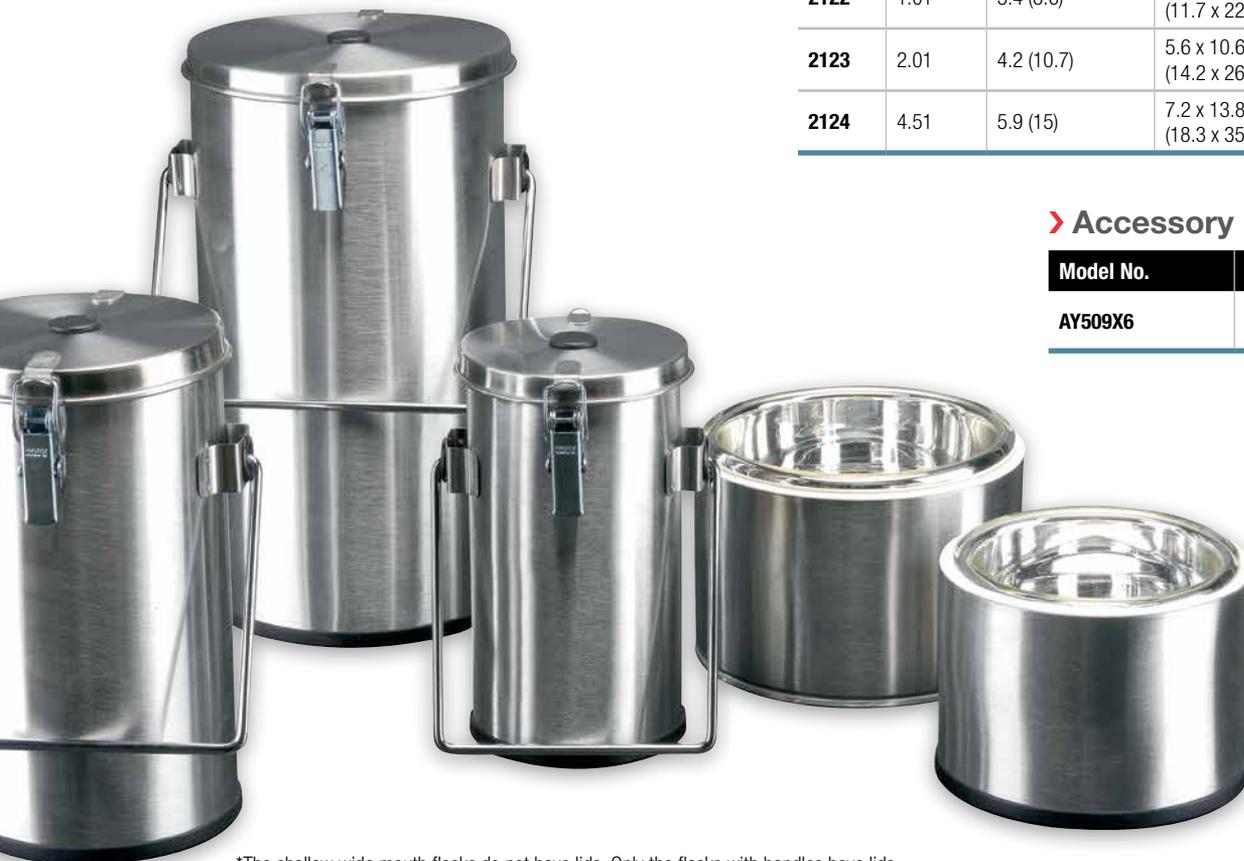
*The shallow wide mouth flasks do not have lids. Only the flasks with handles have lids.

Thermo Scientific LN$_2$ Supply Tanks

All of our stainless steel LN$_2$ supply tanks are rated at 22 psi (1.5 bar).

❯ Thermo Scientific LN$_2$ 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 LN$_2$ Supply Tanks Accessories

Description	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 x76.2cm)	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 Nalgene 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	AY509X13
2.0 mL, self-standing, round interior bottom, silicone washer, case of 500	AY509X12
5.0 mL, round bottom, silicone washer, one case of 500	4000208
Cryo Vial Color Coding Caps	
Nalgene 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 Nalgene polycarbonate box with 100-cell divider, includes a numerical grid system printed on the cover	820010
2.0 in. (5.1 cm) high Nalgene polycarbonate box with 81-cell divider, includes a numerical grid system printed on the cover	820011
3.0 in. (5.1 cm) high Nalgene polycarbonate box with 81-cell divider, includes a numerical grid system printed on the cover	820013
Pack of 12 multiple colored 2" (5 cm) high fiberboard boxes. Dividers sold separately. No drain holes, for vapor-phase only.	1950878
Pack of 12 pink 2" (5 cm) high fiberboard boxes. Dividers sold separately. No drain holes, for vapor-phase only.	1950879
Pack of 12 red 2" (5 cm) high fiberboard boxes. Dividers sold separately. No drain holes, for vapor-phase only.	1950880
Pack of 12 yellow 2" (5 cm) high fiberboard boxes. Dividers sold separately. No drain holes, for vapor-phase only.	1950881
Pack of 12 green 2" (5 cm) high fiberboard boxes. Dividers sold separately. No drain holes, for vapor-phase only.	1950882
Pack of 12 blue 2" (5 cm) high fiberboard boxes. Dividers sold separately. No drain holes, for vapor-phase only.	1950883
Pack of 12 black 2" (5 cm) high fiberboard boxes. Dividers sold separately. No drain holes, for vapor-phase only.	1950884
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

Description	Model No.
Tongs	
Transport vials from freezing racks to boxes	
Stainless steel cryo tongs	4000388
Claws	
Retrieve fallen object in the LN$_2$ 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)	
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	
Fine tip, fast-drying, non-smearing, permanent ink; recommended for all Cryogenic vials at -200C (-328F).	
Black, blue, green, and red, set of 4	4000221
Black, set of 4	4000222
LN$_2$ 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
LN$_2$ Tank Switcher	
For use with CryoExtra or CryoPlus. CryoPlus requires hot gas by-pass in order to use tank switcher.	CE8100TS

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: -200ºC to +50ºC, calibrated at -196ºC, -80ºC and 0ºC. 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
thermofisher.com

Configure your cryopreservation
sample preparation and storage solution online
Visit **coldstorageselector.thermofisher.com**

CryoMed Controlled-Rate Freezers	CryoPlus Sample Storage System	CryoExtra Cryogenic Storage	Locator PLUS

Thermo Scientific

CryoPlus Sample Storage Systems

CryoMed Controlled-Rate Freezers

CryoExtra Cryogenic Storage

BioCane Canister and Cane Systems

Locator PLUS
Rack and Box Systems

Locator Rack and Box Systems

Liquid Nitrogen Transfer Vessels

Arctic Express Storage Systems

Thermo-Flask Benchtop Liquid Nitrogen Containers

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Switzerland +41 44 454 12 22
UK/Ireland +44 870 609 9203
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Other Asian countries +852 2885 4613
Countries Not Listed +49 6184 90 6000

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