## thermo scientific



# Thermo Scientific cryopreservation storage equipment

Indefinite sample storage. Infinite possibilities.









Thermo Scientific<sup>™</sup> solutions for cryopreservation sample preparation and storage offer scientists outstanding temperature performance, low operating costs, and integrated control features.

Extended hold times—Unlike mechanical systems, our liquid nitrogen (LN<sub>2</sub>) storage solutions are designed to offer consistent temperatures, even when electricity is lost. Samples remain protected much longer during power outages than with alternative technologies. With cryo storage tanks, the need to obtain backup storage and relocate samples is dramatically reduced.

Low power consumption—Because most of our 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<sub>2</sub> storage depends on the cooling power of naturally sourced nitrogen gas, there are no halogenated hydrocarbon refrigerants used and no greenhouse gas concerns.







## Sample preparation

Controlled-rate freezers prepare your samples prior to cryogenic storage, ensuring maximum viability.

## Sample storage auto-fill LN<sub>2</sub>

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<sub>2</sub> dewars

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

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## **Dependable** sample preparation

#### CryoMed Controlled-Rate Freezer

Meet your application needs with complete, one-piece Thermo Scientific™ CryoMed™ Controlled-Rate Freezers.

## User-friendly operation with enhanced data traceability

- Intuitive touchscreen display allows for easy setup, operation, and review of a freezing run
- Six preset freezing profiles and space for up to 14 user-defined, custom freeze profiles
- Integrated touchscreen UI logs usage and events to support 21 CFR Part 11 requirements
- User security: three levels of user accessibility
- USB data export of .pdf file run logs supports 21 CFR Part 11
- "Run last" feature allows the same profile to be run consecutively with the touch of a button
- PC interface software provides remote operation capabilities, run review, and custom profile creation

## Reliable temperature performance for high-throughput usage

- Dual solenoid valves are designed to balance LN<sub>2</sub> injection volume for precise temperature control and accelerated freezing
- Preventative maintenance indicator for LN<sub>2</sub> solenoid replacement limits downtime
- Consistent temperature control and uniformity achieved via an air-handling system and liquid nitrogen injection ring
- Environmentally friendly insulating foam
- Type 304 stainless steel with exterior powder-coat finish
- Compatible with VHP cleaning techniques

Warranty varies by region. Check with your local representative for more information.

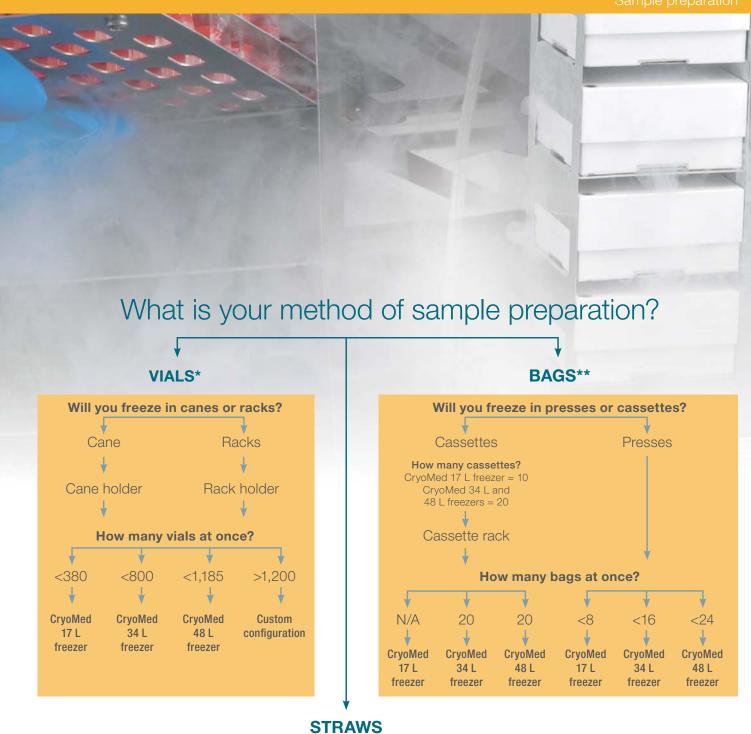
#### Real-time run monitoring for sample protection

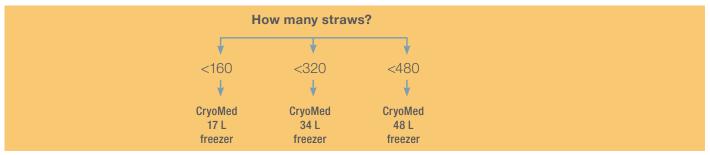
 Chamber and sample temperatures are monitored by Type T thermocouples, eliminating lag time and providing real-time responsiveness

 Standard alarms alert users of thermocouple failures, heater malfunction, high/low temperature limits, temperature tracking, power failure, and completion of run

- Remote alarm contacts
- · Optional thermal printer







<sup>\*</sup> Assumes 1.2/2.0 mL vials.

<sup>\*\*</sup> Assumes 250 mL bag.

#### **CryoMed Controlled-Rate Freezers (general purpose)**

					,					
Electrical	Plug type	Chamber volume	Printer/ No printer	Temp.	Exterior dimensions W x H x D in. (cm)	Interior dimensions W x H x D in. (cm)	Product weight lbs (kg)	LN <sub>2</sub> and utility connection	Cat. No.	
120 V/60 Hz	NEMA 5-15P						154 lbs. (69.8 kg)		TSCM17XA	
220-230 V/ 50-60Hz	CEE 7/7	17 L (0.6 cu. ft.)			37.3 x 21.7 x 24.3 (94.7 x 55.1 x 61)	7 x 12 x 13 (17.8 x 30.5 x 33)			TSCM17XV	
100 V/ 50–60 Hz	NEMA 5-15P	(0.0 ca. 11.)			(94.7 × 00.1 × 01)	(17.0 × 00.0 × 00)	(09.0 kg)		TSCM17XL	
120 V/60 Hz	NEMA 5-15P		]						TSCM34XA	
220-230 V/ 50-60 Hz	CEE 7/7	34 L (1.2 cu. ft.)	No thermal printer		43.3 x 21.7 x 24.3 (109.9 x 55.1 x 61)	13 x 12 x 13 (33 x 30.5 x 33)	174 lbs. (78.9 kg)		TSCM34XV	
100 V/ 50-60 Hz	NEMA 5-15P	(1.2 Gu. 11.)	printer		(109.9 x 00.1 x 01)	(00 x 00.3 x 00)	(10.9 kg)	- All models	TSCM34XL	
120 V/60 Hz	NEMA 5-15P						191 lbs. (86.6 kg)	require 22 psi	TSCM48XA	
220-230 V/ 50-60 Hz	CEE 7/7	48.1 L (1.7 cu. ft.)		+50°C	49.3 x 21.7 x 24.3 (125.2 x 55.1 x 61)	19 x 12 x 13 (48.3 x 30.5 x 33)		(1.5 bar) low pressure supply	TSCM48XV	
100 V/ 50–60 Hz	NEMA 5-15P	(1.7 Cu. 1t.)						tank and are supplied with	TSCM48XL	
120 V/60 Hz	NEMA 5-15P				to -180°C	3			one 6-foot	TSCM17PA
220-230 V/ 50-60 Hz	CEE 7/7	17 L (0.6 cu. ft.)		-160 C	37.3 x 21.7 x 24.3 (94.7 x 55.1 x 61)	7 x 12 x 13 (17.8 x 30.5 x 33)	155 lbs. (70.3 kg)	braided stainless steel hose with .5" x 45 degree flare connectors	TSCM17PV	
100 V/ 50–60 Hz	NEMA 5-15P	(0.0 Cu. 11.)				(17.6 x 50.5 x 55)			TSCM17PL	
120 V/60 Hz	NEMA 5-15P							on each end	TSCM34PA	
220-230 V/ 50-60 Hz	CEE 7/7	34 L (1.2 cu. ft.)	Built-in thermal		43.3 x 21.7 x 24.3 (109.9 x 55.1 x 61)	13 x 12 x 13 (33 x 30.5 x 33)	175 lbs. (79.3 kg)		TSCM34PV	
100 V/ 50–60 Hz	NEMA 5-15P	(1.2 Cu. II.)	printer		(109.9 x 55.1 x 61)	(33 x 30.3 x 33)	(79.3 kg)		TSCM34PL	
120 V/60 Hz	NEMA 5-15P		1					1	TSCM48PA	
220-230 V/ 50-60 Hz	CEE 7/7	48.1 L (1.7 cu. ft.)			49.3 x 21.7 x 24.3 (125.2 x 55.1 x 61)	19 x 12 x 13 (48.3 x 30.5 x 33)	192 lbs.		TSCM48PV	
100 V/ 50–60 Hz	NEMA 5-15P	(1.7 Gu. 11.)			(120.2 x 00.1 x 01)	(+0.3 x 30.3 x 33)	(87 kg)		TSCM48PL	

#### CryoMed Controlled-Rate Freezers (medical device)\*\*

			,		,		Product			
Electrical	Plug type	Chamber volume	Printer/ No printer	Temp. range	Exterior dimensions W x H x D in. (cm)	Interior dimensions W x H x D in. (cm)	weight lbs (kg)	LN <sub>2</sub> and utility connection	Cat. No.	
120 V/60 Hz	NEMA 5-15P								TSCM17MA	
220-230 V/ 50-60 Hz	CEE 7/7	17 L (0.6 cu. ft.)			37.3 x 21.7 x 24.3 (94.7 x 55.1 x 61)	7 x 12 x 13 (17.8 x 30.5 x 33)	154 lbs. (69.8 kg)		TSCM17MV	
100 V/ 50-60 Hz	NEMA 5-15P	(			(6 1.1 × 66.1 × 61)	(	(0010119)	All models require 22 psi	TSCM17ML	
120 V/60 Hz	NEMA 5-15P		No thermal						TSCM34MA	
220 V/50 Hz	CEE 7/7	34 L (1.2 cu. ft.)	printer		43.3 x 21.7 x 24.3 (109.9 x 55.1 x 61)	13 x 12 x 13 (33 x 30.5 x 33)	174 lbs. (78.9 kg)		TSCM34MV	
100 V/60 Hz	NEMA 5-15P	(112 001 111)							TSCM34ML	
120 V/60 Hz	NEMA 5-15P					40.0 . 04.7 . 04.0			(1.5 bar) low pressure supply	TSCM48MA
220 V/50 Hz	CEE 7/7	48.1 L (1.7 cu. ft.)		+50°C	49.3 x 21.7 x 24.3 (125.2 x 55.1 x 61)	19 x 12 x 13 (48.3 x 30.5 x 33)	191 lbs. (86.6 kg) 155 lbs. (70.3 kg)	tank and are supplied with one 6-foot braided stainless	TSCM48MV	
100 V/60 Hz	NEMA 5-15P	( oa)		to	(12012 / 0011 / 01)				TSCM48ML	
120 V/60 Hz	NEMA 5-15P			-180°C		7 x 12 x 13 (17.8 x 30.5 x 33)			TSCM17EA	
220 V/50 Hz	CEE 7/7	17 L (0.6 cu. ft.)			37.3 x 21.7 x 24.3 (94.7 x 55.1 x 61)			steel hose with .5" x 45 degree	TSCM17EV	
100 V/60 Hz	NEMA 5-15P	(0.0 00.11.)			(6 1.17 × 66.17 × 61)	(11.0 x 00.0 x 00)	(10.0 kg)	flare connectors	TSCM17EL	
120 V/60 Hz	NEMA 5-15P		Built-in					on each end	TSCM34EA	
220 V/50 Hz	CEE 7/7	34 L (1.2 cu. ft.)	thermal		43.3 x 21.7 x 24.3 (109.9 x 55.1 x 61)	13 x 12 x 13 (33 x 30.5 x 33)	175 lbs. (79.3 kg)		TSCM34EV	
100 V/60 Hz	NEMA 5-15P	(1.2 ca. 11.)	printer		(.55.5 × 55.1 × 51)	(30 % 00.0 % 00)	(. o.o (g)		TSCM34EL	
120 V/60 Hz	NEMA 5-15P								TSCM48EA	
220 V/50 Hz	CEE 7/7	48.1 L (1.7 cu. ft.)			49.3 x 21.7 x 24.3 (125.2 x 55.1 x 61)	19 x 12 x 13 (48.3 x 30.5 x 33)	192 lbs. (87 kg)		TSCM48EV	
100 V/60 Hz	NEMA 5-15P	(1.7 CU. IT.)			(120.2 % 00.1 % 01)				TSCM48EL	

<sup>\*\*</sup> FDA listed Class II medical device, 510K exempt.

#### **CryoMed freezing racks and holders**

	description	Dimensions H x W x D in. (cm)	Storage	CryoMed freezer 17 L	CryoMed freezer 34 L	CryoMed freezer 48 L	CryoMed freezer for IVF 17 L	CryoMed freezer for IVF 34 L
	4000294		Racks per chamber	4	8	12	4*	8*
	Straw rack for .25/.5 mL straws—	11.3 x 3 x 5.25 (28.7 x 7.6 x 13.3)	Straws per rack	40	40	40	40	40
	holds 40 straws		Total # straws per chamber	160	320	480	160*	320*
	4000303		Racks per chamber	N/A	1	1 large and 1 small	N/A	1*
		11 x 12 x 12	Canes per rack	N/A	162	162 and 77	N/A	162*
<u>y</u>	Cane freezing rack—large	(28 x 30.5 x 30.5)	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		Racks per chamber	1	N/A	1 large and 1 small	1*	N/A
97	Cane freezing rack—small	11 x 6 x 12 (28 x 15.2 x 30.5)	Canes per rack	77	N/A	162 and 77	77*	N/A
3			Vials (2 mL) per cane	5	N/A	5	5*	N/A
			Total # vials per chamber	385	N/A	1,195	385*	N/A
(in recommon)	4000701		Racks per chamber	5	N/A	5 large and 5 small	5*	N/A
	1.2/2 mL freezing rack—small (order qty 5 each	1.1 x 6 x 12 (2.8 x 15.2 x 30.5)	Vials per rack	76	N/A	161 and 76	76*	N/A
-	when ordering with 4000702 rack holder)		Total # vials per chamber	380	N/A	1,185	380*	N/A
	4000702		Rack holders per chamber	1	N/A	1 large and 1 small	1*	N/A
		9.8 x 6.2 x 12.4		_				N/A
	Small rack holder for 4000701 racks	(24.9 x 15.7 x 31.5)	Racks per rack holder	5	N/A	5 and 5	5*	N/A
			Total # racks per chamber	5	N/A	10	5*	N/A
	4000703		Racks per chamber	N/A	5	5 large and 5 small	N/A	5*
	1.2/2 mL freezing rack—large (order qty 5 each	1.1 x 12 x 12 (2.8 x 30.5 x 30.5)	Vials per rack	N/A	161	161 and 76	N/A	161*
	when ordering with 4000704 rack holder)		Total # vials per chamber	N/A	805	1,185	N/A	805*

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

#### CryoMed freezing racks and holders

		Dimensions		CryoMed freezer	CryoMed freezer	CryoMed freezer	CryoMed freezer for IVF	CryoMed freezer for IV
at. No. and	description	H x W x D in. (cm)	Storage	17 L	34 L	48 L	17 L	34 L
	4000704	9.8 x 12.2 x 12.4	Rack holders per chamber	N/A	1	1 large and 1 small	N/A	1*
100	Large rack	(24.9 x 31 x 31.5)	Racks per rack holder	N/A	5	5 and 5	N/A	5*
	holder for 4000703 racks		Total # racks per chamber	N/A	5	10	N/A	5*
	4000705		Racks per chamber	3	N/A	3 large and 3 small	3*	N/A
	4 or 5 mL freezing rack—small	2.6 x 6 x 12 (6.6 x 15.2 x 30.5)	Vials per rack	76	N/A	161 and 76	76*	N/A
	(order qty 3 each when ordering with 4000706 rack holder)	(6.6 × 16.2 × 66.6)	Total # vials per chamber	228	N/A	711	228*	N/A
A	4000706		Rack holders per chamber	1	N/A	1 large and 1 small	1*	N/A
F	Small rack	8.1 x 6.2 x 12.4 (20.6 x 15.7 x 31.5)	Racks per rack holder	3	N/A	3 and 3	3*	N/A N/A
	holder for 4000705 racks		Total # racks per chamber	3	N/A	6	3*	N/A
	4000707		Racks per chamber	N/A	3	3 large and 3 small	N/A	3*
	4 or 5 mL freezing rack—large	8.1 x 12.2 x 12.4 (20.6 x 31 x 31.5)	Vials per rack	N/A	161	161 and 76	N/A	161*
	(order qty 3 each when ordering with 4000708 rack holder)		Total # vials per chamber	N/A	483	711	N/A	483*
	4000708	8.1 x 12.2 x 12.4	Rack holders per chamber	N/A	1	1 large and 1 small	N/A	1*
9	Large rack	(20.6 x 31 x 31.5)	Racks per rack holder	N/A	3	3 and 3	N/A	3*
	holder for 4000707 racks		Total # racks per chamber	N/A	3	6	N/A	3*
	4000310	10.5 0.0 10.0	Rack holders per chamber	1	2	3	1*	2*
	Two level skin rack;	10.5 x 6.2 x 12.6 (26.7 x 15.7 x 32)	Skin packets per rack	48	48	48	48	48
	holds skin packets measuring 5 x 7 in.	(======================================	Total # skin packets per chamber	48	96	144	48*	96*
	4000312	5.2 x 6.2 x 12.6	Rack holders per chamber	2	4	6	2*	4*
	One level skin rack;	(13.2 x 15.7 x 32)	Skin packets per rack	24	24	24	24	24
	holds skin packets measuring 5 x 7 in.	,	Total # skin packets per chamber	48	96	144	48*	96*
	4000340		Rack holders per chamber	3	6	9	3*	6*
	Cord blood freezing	11 x 4 x 5 (28 x 10.2 x 12.7)	Canisters per rack	10	10	10	10	10
	rack for 50 mL canisters (4000610)	(20 x 10.2 x 12.1)	Total # canisters per chamber	30	60	90	30*	60*
	4000340		Rack holders per chamber	3	6	9	3*	6*
	Cord blood freezing	11 x 4 x 5	Canisters per rack	10	10	10	10	10
	rack for 25 mL canisters (1950831)	(28 x 10.2 x 12.7)	Total # canisters per chamber	30	60	90	30*	60*
	185089	44.0 5.5 = 5.5	Rack holders per chamber	N/A	2	2	N/A	2*
	Adjustable freezing	11.6 x 5.5 to 7.5 x 8.2 (29.5 x 14 to 19 x 20.8)	Canisters per rack	N/A	10	10	N/A	10*
	Adjustable freezing rack for canisters	(20.0 \ 14 (0 18 x 20.0)	Total # canisters per chamber	N/A	20	20	N/A	20*

 $<sup>^{\</sup>star}$  These accessories can only be used when top loading cane, vial, and straw holders are not in use.

#### **CryoMed freezing presses**

	d description	Dimensions H x W x D in. (cm)	Storage	CryoMed freezer 17 L	CryoMed freezer 34 L	CryoMed freezer 48 L	CryoMed freezer for IVF 17 L	CryoMed freezer for IVF 34 L
0 0	4000314		Presses per chamber	4	8	12	4*	8*
	Bag press for 250 mL	5.9 x 9	Bags per rack	2	2	2	2	2
9 9	bag (Fenwal <sup>™</sup> 4R5461 or OriGen CryoSure <sup>™</sup> 250)	(15 x 22.9)	Total # - bags per chamber	8	16	24	8*	16*
2	4000316		Presses per chamber	N/A	4	8	N/A	4*
2 000	Bag press for 200 mL	8 x 8.5	Bags per rack	N/A	2	2	N/A	2*
1	bag (Gambro™ DF- 200 or CryoMacs™ 50 and 250)	(20.3 x 21.6)	Total # - bags per chamber	N/A	8	16	N/A	8*
	4000317		Presses per chamber	N/A	4	8	N/A	4*
	Bag press for Delmed <sup>™</sup>	8.8 x 12 (22.4 x 30.5)	Bags per rack	N/A	4	4	N/A	4*
	2030-2		Total # - bags per chamber	N/A	16	32	N/A	16*
6 8	4000318		Presses per chamber	N/A	4	8	N/A	4*
	Bag press for 250 mL bag	9 x 12	Bags per rack	N/A	4	4	N/A	4*
9. 9.	(Fenwal 4R5461 or OriGen CryoSure 250)	(22.9 x 30.5)	Total # - bags per chamber	N/A	16	32	N/A	16*
	4000320		Presses per chamber	N/A	4	8	N/A	4*
e e	Bag press for 200 mL	9 x 12	Bags per rack	N/A	4	4	N/A	4*
Par	bag (Gambro DF-200 or equivalent)	(22.9 x 30.5)	Total # - bags per chamber	N/A	16	32	N/A	16*
-	4000321		Presses per chamber	N/A	4	8	N/A	4*
\$ 50° a	Bag press for 700 mL	8 x 12	Bags per rack	N/A	2	2	N/A	2*
-	bag (Gambro DF-700 or equivalent)	(20.3 x 30.5)	Total # - bags per chamber	N/A	8	16	N/A	8*
0 -	4000555		Presses per chamber	4	8	12	4*	8*
TI	Bag press for 500 mL	6 x 10.3	Bags per rack	2	2	2	2	2
9	bag (Fenwal 4R5462 or CryoMacs™ 500 and 750	(15.2 x 26.2)	Total # - bags per chamber	8	16	24	4*	16*

 $<sup>^{\</sup>star}$  These accessories can only be used when top loading cane, vial, and straw holders are not in use.

#### CryoMed sample sensors\*

Cat. No. and desc	ription	CryoMed freezer 17 L	CryoMed freezer 34 L	CryoMed freezer 48 L		
	Thermocouple sensor for 1.2/2 mL vials	4000385				
	Thermocouple sensor for 4/5 mL vials	4000386				
	Thermocouple sensor ribbon type for bags	4000393				
4000393	Thermocouple sensor .02 sheath for straws		4000384			

<sup>\*</sup> NOTE: Front load CryoMed sensor includes a 2 mL sample sensor (Cat. No. 4000385). The IVF chamber includes a vial sensor (Cat. No. 4000403) and a straw sensor (Cat. No. 4000402).

#### CryoMed canisters for freezing racks

Cat. No. ar	d description		Dimensions H x W x D in. (cm)
- 1	1950831 (Pall MEDSEPTM 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)
	<b>4000356</b> (Gambro DF-200 or CryoMACS 50 and 250)	Swing arm canister for 200 mL bag	6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2)
1950831	<b>4000357</b> (Gambro DF-700, OriGen CS 1000 or CryoMACS 750 and 1000)	Swing arm canister for 700 mL bag	6.5 x 12.1 x 0.8 (16.5 x 30.7 x 2)
	<b>4000335</b> (Fenwal 4R5461, OriGen CS 25 or CryoMACS 50 and 250)	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	<b>4000333</b> (Gambro DF-700, OriGen CS 1000 or CryoMACS 750 and 1000)	Sliding canister for 700 mL bag	6.5 x 11.8 x 0.8 (16.5 x 30 x 2)

#### **Printer paper**

Cat. No. and	description
4000566	Thermal printer paper (5 rolls per pack)

#### Quality services available (Must be ordered with equipment)

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

## LN<sub>2</sub> cryo storage selector guide

#### **VAPOR OR LIQUID PHASE STORAGE?**

CryoPlus 1

system CryoPlus 2

system CryoPlus 3

system CryoPlus 4

system

Locator 6+

Locator Jr+

Locator 8+

system Locator 4+

system

system

system

system BioCane 47

svstem BioCane 34

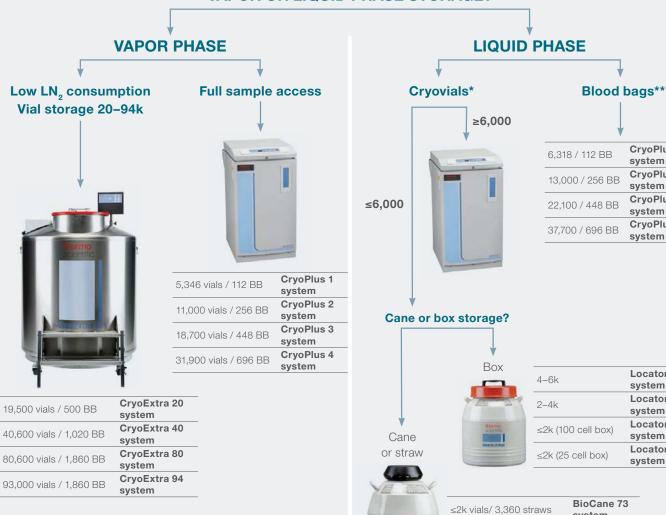
system BioCane 20

system

≤1.5k vials/ 2.500

≤700vials/ 1,200 straws

≤120 vials/ 300 straws



<sup>\*</sup> Based on 2.0 mL vial.

<sup>\*\*</sup> Based on 250 mL blood bag.

## Reliable long-term storage solution

#### CryoPlus sample storage systems

Thermo Scientific™ CryoPlus™ systems provide the perfect combination of liquid nitrogen storage reliability and microprocessor technology. Storage capacities of up to 39,000 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 unit's microprocessor controller for programming
- All lids incorporate proprietary foamed-in-place, high-density urethane insulation with dedicated vent; 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 Thermo Scientific<sup>™</sup> Sensaphone<sup>™</sup> Telephone Dialing System
- Counterbalanced UL 61010 third edition—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<sub>2</sub> transfer hose

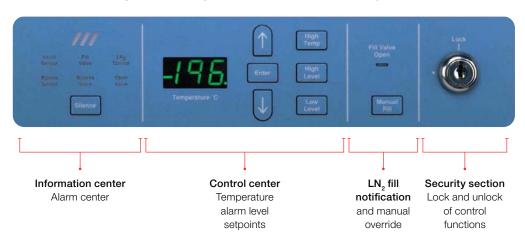
#### For maximum product security, CryoPlus systems incorporate three different solutions

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

## A complete sample storage 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 bypass assembly delivers warm nitrogen to atmosphere until the control probe reaches set temperature.
   The bypass 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 unit is connected to a manifold system to prevent LN<sub>2</sub> source alarms.

### CryoPlus system information panel



#### CryoPlus sample storage systems

Or you la			0 5				I					
Model	Cat. No.	LN <sub>2</sub> 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 <sub>2</sub> and utility connection		
CryoPlus 1	7400	90	6,318 <sup>1</sup>	115v/60 Hz	NEMA 5-15P	16	41 x 21.5 x 26	260 lbs/				
system	7401	90	(8,450 <sup>2,3</sup> )	208-230v/50 Hz	CEE 7/7	(40.6)	(104.1 x 54.6 x 66)	117.9kg		All models require		
CryoPlus 2	7402	200	13,500 <sup>2</sup>	115v/60 Hz	NEMA 5-15P	24	41 x 28.5 x 34	480 lbs/	1	22 psi low pressure		
system	7403	200	(22,815 <sup>2,3</sup> )	208-230v/50 Hz	CEE 7/7	(61)	(104.1 x 72.4 x 86.4)	217.7 kg	CFDA,	supply tank and are		
CryoPlus 3	7404	0.40	23,000 <sup>2</sup>	115v/60 Hz	NEMA 5-15P	31	41 x 34.5 x 41.5	550 lbs/	cULus and CE	supplied with (1) 0.5 in		
system	7405	340	(38,870 <sup>2,3</sup> ) 208-230	208-230v/50 Hz	CEE 7/7 (78.7)	(78.7)	(104.1 x 87.6 x 105.4)	(104.1 x 87.6 x 105.4)	(78.7) (104.1 x 87.6 x 105.4)	249 kg	and OL	45° flare stainless stee
CryoPlus 4	7406	550	39,000 <sup>2</sup>	115v/60 Hz	NEMA 5-15P	39.5	47 x 43.5 x 50	1070 lbs/	1	flexible transfer hose		
system	7407	552	(65,910 <sup>2,3</sup> )	208-230v/50 Hz	CEE 7/7	(110.3)	(119.4 x 110.5 x 127)	484.3 kg				

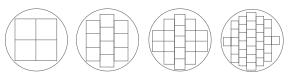
<sup>1</sup> Using arrowhead racks no. 4000044.

#### Thermo Scientific™ CryoPlus™ vapor phase starter kits

Model	Cat. No.	LN <sub>2</sub> capacity (liters)	Electrical	Description		
CryoPlus 1 Vapor Phase Starter Kit	7400RAKHGBR	00	120V 50/60Hz	Package includes CryoPlus 1 (model 7400) and a hot gas bypass option, 4 storage rack (rack 4000001), and a 3.5" riser, UL		
	7401RAKHGBR	90	230V 50/60Hz	Package includes CryoPlus 1 (model 7401) and a hot gas bypass option, 4 storage rack (rack 4000001), and a 3.5" riser, CE		
CryoPlus 2 Vapor Phase	7402RAKHGBR	200	120V 50/60Hz	Package includes CryoPlus 2 (model 7402) and a hot gas bypass option, 10 storage rack (rack 4000001), and a 3.5" riser, UL		
Starter Kit	7403RAKHGBR	200	230V 50/60Hz	Package includes CryoPlus 2 (model 7403) and a hot gas bypass option, 10 storage rack (rack 4000001), and a 3.5" riser, CE		
CryoPlus 3 Vapor Phase	7404RAKHGBR	240	120V 50/60Hz	Package includes CryoPlus 3 (model 7404) and a hot gas bypass option, 17 storage rack (rack 4000001), and a 3.5" riser, UL		
Starter Kit	7405RAKHGBR	340	230V 50/60Hz	Package includes CryoPlus 3 (model 7405) and a hot gas bypass option, 17 storage rack (rack 4000001), and a 3.5" riser, CE		
CryoPlus 4 Vapor Phase	7406RAKHGBR	552	120V 50/60Hz	Package includes CryoPlus 4 (model 7406) and a hot gas bypass option, 29 storage rack (rack 4000001), and a 3.5" riser, UL		
Starter Kit	7407RAKHGBR	552	230V 50/60Hz	Package includes CryoPlus 4 (model 7407) and a hot gas bypass option, 29 storage rack (rack 4000001), and a 3.5" riser, CE		

 $<sup>2\</sup>mbox{ Using vertical racks no. }4000012\mbox{ and dense storage tube boxes.}$ 

<sup>3</sup> Using Thermo Scientific™ Nunc™ Cryobank™ dense storage boxes (196-cell) and 1 mL Cryobank tubes.



#### CryoPlus rack selection guide

Cat. No. and description		Dimensions H x W x D in. (cm)	Storage	CryoPlus 1 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system
Square racks	for liquid phase storage						
	4000006*		Racks per vessel	4	10	17	29
	Rack includes cardboard boxes	27.4 x 5.5 x 5.63	Boxes per rack	13	13	13	13
	and cardboard dividers for  1.5/2 mL vials	(69.6 x 14 x 14.3)	Vials per box	100	100	100	100
	1.5/2 ITIL VIAIS		Vials per vessel	5,200	13,000	22,100	37,700
	4000007		Racks per vessel	4	10	17	29
	Deale is alleged at a interest at a l	27.4 x 5.5 x 5.63	Boxes per rack	13	13	13	13
	Rack includes stainless steel boxes and cardboard dividers for	(69.6 x 14 x 14.3)	Vials per box	100	100	100	100
	1.5/2 mL vials		Vials per vessel	5,200	13,000	22,100	37,700
FE	4000042		Racks per vessel	4	10	17	29
H	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)	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	25.4 x 5.5 x 5.63 (64.5 x 14 x 14.3)	Racks per vessel	4	10	17	29
	Dool in all along any all and all lands		Boxes per rack	8	8	8	8
	Rack includes cardboard boxes and cardboard dividers for		Vials per box	100	100	100	100
	4 mL vials		Vials per vessel	3,200	8,000	13,600	23,200
	4000009		Racks per vessel	4	10	17	29
		25.4 x 5.5 x 5.63	Boxes per rack	8	8	8	8
	Rack includes stainless steel boxes and cardboard dividers for	(64.5 x 14 x 14.3)	Vials per box	100	100	100	100
	4 mL vials		Vials per vessel	3,200	8,000	13,600	23,200
	4000010		Racks per vessel	4	10	17	29
	Deal Seal describer at	26.6 x 5.5 x 5.63	Boxes per rack	7	7	7	7
	Rack includes cardboard boxes and cardboard dividers for	(67.6 x 14 x 14.3)	Vials per box	100	100	100	100
	5 mL vials		Vials per vessel	2,800	7,000	11,900	20,300

<sup>\*</sup> Rack no. 4000006 will not accommodate polycarbonate boxes; use rack no. 4000042 instead.

#### **CryoPlus rack selection**

Cat. No. and description		Dimensions H x W x D in. (cm)	Storage	CryoPlus 1 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system
Square racks f	or vapor phase storage						
	4000001		Racks per vessel	4	10	17	29
		23.9 x 5.5 x 5.63	Boxes per rack	11	11	11	11
	Rack includes cardboard boxes and cardboard dividers for	(60.7 x 14 x 14.3)	Vials per box	100	100	100	100
	1.5/2 mL vials		Vials per vessel	4,400	11,000	18,700	31,900
	4000002		Racks per vessel	4	10	17	29
		23.9 x 5.5 x 5.63	Boxes per rack	11	11	11	11
	Rack includes stainless steel boxes for 1.5/2 mL vials	(60.7 x 14 x 14.3)	Vials per box	100	100	100	100
			Vials per vessel	4,400	11,000	18,700	31,900
	4000003		Racks per vessel	4	10	17	29
		22.3 x 5.5 x 5.63	Boxes per rack	7	7	7	7
	Rack includes cardboard boxes and cardboard dividers for 4 mL vials	(56.6 x 14 x 14.3)	Vials per box	100	100	100	100
			Vials per vessel	2,800	7,000	11,900	20,300
	4000004	22.3 × 5.5 × 5.63 (56.6 × 14 × 14.3)	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 5.63	Racks per vessel	4	10	17	29
			Boxes per rack	6	6	6	6
	Rack includes cardboard boxes and cardboard dividers for	(57.9 x 14 x 14.3)	Vials per box	100	100	100	100
	5 mL vials		Vials per vessel	2,400	6,000	10,200	17,400
pecialty racks	<b>3</b>			I			
11-11	4000379		Racks per vessel	4	10	17	29
		23.9 x 5.5 x 5.63	Canisters per rack	8	8	8	8
	SUC-1 rack for cane storage (includes canisters #4000176)	(60.7 x 14 x 14.3)	Canes per canister	25	25	25	25
			Canes per vessel	800	2,000	3,400	5,800
latform risers	required for racks in vapor phas	e storage					
	3.5" riser for use with 4000001, 40	00002, and 4000379	racks	4000060	4000060	4000063	4000066
	4" riser for use with 4000005 racks	3		4000056	4000062	4000065	4000068
	5" riser for use with 4000003 and 4000004 racks			4000061	4000061	4000064	4000067



#### Arrowhead racks for liquid phase storage

Cat. No. and d	escription	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1 system
===	4000044		Racks per vessel	6
		28.1 x 7.8 x 7.5	Boxes per rack	13
	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	(71.4 x 19.8 x 19.1)	Vials per box	81
			Vials per vessel	6,318
	4000112		Racks per vessel	6
		26 x 7.8 x 7.5	Boxes per rack	12
	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	(66 x 19.8 x 19.1)	Vials per box	81
			Vials per vessel	5,832
10	4000113		Racks per vessel	6
		26 x 7.8 x 7.5	Boxes per rack	12
	Rack includes stainless steel boxes and cardboard dividers for 1.5/2 mL vials	(66 x 19.8 x 19.1)	Vials per box	81
			Vials per vessel	5,832
	4000104		Racks per vessel	6
		25.4 x 7.8 x 7.5	Boxes per rack	8
	Rack includes cardboard boxes and cardboard dividers for 4 mL vials	(64.5x 19.8 x 19.1)	Vials per box	81
7			Vials per vessel	3,888
10	4000105		Racks per vessel	6
		25.4 x 7.8 x 7.5	Boxes per rack	8
	Rack includes stainless steel boxes and cardboard dividers for 4 mL vials	(64.5x 19.8 x 19.1)	Vials per box	81
10			Vials per vessel	3,888
=6	4000043	8 4 1	Racks per vessel	6
		26.5 x 7.8 x 7.5	Boxes per rack	7
	Rack includes cardboard boxes and cardboard dividers for 5 mL vials	(67.3 x 19.8 x 19)	Vials per box	81
			Vials per vessel	3,402



#### Arrowhead racks for vapor phase storage

Cat. No. and de	scription	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1 system
-6	4000110		Racks per vessel	6
		23.8 x 7.8 x 7.5	Boxes per rack	11
	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	(60.5 x 19.8 x 19.1)	Vials per box	81
7			Vials per vessel	5,346
11	4000111		Racks per vessel	6
		23.8 x 7.8 x 7.5	Boxes per rack	11
	Rack includes stainless steel boxes and cardboard dividers for 1.5/2 mL vials	(60.5 x 19.8 x 19.1)	Vials per box	81
			Vials per vessel	5,346
	4000108		Racks per vessel	6
		21.6 x 7.8 x 7.5	Boxes per rack	10
	Rack includes cardboard boxes and cardboard dividers for 2 mL vials	(54.9 x 19.8 x 19.1)	Vials per box	81
3			Vials per vessel	4,860

#### Platform risers required for racks in vapor phase storage

	Description of riser and racks for intended use	CryoPlus 1 system
	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

	Cat. 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
A	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
- THE	Cell dividers	
	4000181	81-cell divider for use with all arrowhead boxes









#### Vertical racks for liquid phase storage

Cat. No. and description		Dimensions H x W x D in. (cm)	Storage	CryoPlus 1 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system
Vertical rack for	r liquid phase storage						
	4000012		Racks per vessel	10	27	46	78
	Deal deal along with a said by	27.6 x 2.3 x 5.7	Boxes per rack	5	5	5	5
	Rack includes cardboard boxes and cardboard dividers for	(70.1 x 5.8 x 14.5)	Vials per box	100	100	100	100
	1.5/2 mL vials		Vials per vessel	5,000	13,500	23,000	39,000
Vertical rack for	r vapor phase storage						
117	4000011	22.2 × 2.3 × 5.7 (56.4 × 5.8 × 14.5)	Racks per vessel	10	27	46	78
			Boxes per rack	4	4	4	4
	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials		Vials per box	100	100	100	100
	1.5/2 ML VIAIS		Vials per vessel	4,000	10,800	18,400	31,200
Platform risers	required for racks in vapor phas	e storage					
	Description of riser and racks f	for intended use					
	5 in. riser for use with 4000011 racks			4000061	4000061	4000064	4000067

#### **Boxes and dividers**

	Cat. No.	Description
	4000014	Cardboard box with 100-cell divider for use with 1.5/2 mL vials (does have drain hole)
PART .	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)

#### Lid locking pins

9							
Cat. No.	Description						
1890632	Factory-installed lid-locking pins (allows customers to securely lock the lid in the open position as a secondary user-safety feature)*						
1890633	Certified technician (field-installed) lid-locking pins (allows customers to securely lock the lid in the open position as a secondary user-safety feature)						

<sup>\*</sup> Lid-locking pins are not available as factory-installed items when a CryoPlus vapor-phase starter SKU is ordered.

#### Frames and canisters for liquid phase storage

Cat. No. an	d description	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system
D	4000670		Frames per vessel	28	72	124	204
H		27.4 x 0.6 x 4.6	Canisters per frame	7	7	7	7
	Frame for 4000610 canister	(69.6 x 1.5 x 11.7)	Canisters per vessel	196	504	868	1,428
Ü	1900585		Frames per vessel	34	100	184	314
В		27.4 x 0.6 x 3.8	Canisters per frame	7	7	7	7
	Frame for 1950831 canister	(69.6 x 1.5 x 9.7)	Canisters per vessel	238	700	1,288	2,198
n	4000371	23.7 × 0.6 × 6.5 (60.2 × 1.5 × 16.5)	Frames per vessel	28	68	108	186
			Canisters per frame	4	4	4	4
3	Frame for 4000335 canister		Canisters per vessel	112	272	432	744
100	4000372		Frames per vessel	22	50	90	154
H		23.8 x 0.7 x 8.2	Canisters per frame	4	4	4	4
B	Frame for 4000336 canister	(60.5 x 1.8 x 20.8)	Canisters per vessel	88	200	360	616
Pilito	4000368		Frames per vessel	19	46	72	126
1-1		26.4 × 0.9 × 6.1	Canisters per frame	4	4	4	4
B	F ( 10000000 )	(67.1 x 2.3 x 15.5)	Canisters per vessel	76	184	288	504
m	4000369		Frames per vessel	10	28	48	84
		26.4 x 1 x 10	Canisters per frame	4	4	4	4
3	Frame for 4000333 and 4000357 canisters	(67.1 x 2.5 x 25.4)	Canisters per vessel	40	112	192	336

#### Frames and canisters for vapor phase storage

Cat. No. a	nd description	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system
П	4000660		Frames per vessel	28	72	124	204
		23.5 x 0.6 x 4.6	Canisters per frame	6	6	6	6
	Frame for 4000610 canister	(59.7 x 1.5 x 11.7)	Canisters per vessel	168	432	744	1,224
17	1900584		Frames per vessel	34	100	184	314
		23.5 × 0.6 × 3.8 (59.7 × 1.5 × 9.7)	Canisters per frame	6	6	6	6
B	Frame for 1950831 canister		Canisters per vessel	204	600	1,104	1,884
11	4000371		Frames per vessel	28	68	108	186
d		23.7 x 0.6 x 6.5	Canisters per frame	4	4	4	4
1	Frame for 4000335 canister	(60.2 x 1.5 x 16.5)	Canisters per vessel	112	272	432	744
F	4000372		Frames per vessel	22	50	90	154
		23.8 x 0.7 x 8.2	Canisters per frame	4	4	4	4
1	Frame for 4000336 canister	(60.5 x 1.8 x 20.8)	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 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system	
	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 divid	ers					
	Description of platform divider and frames for intended use	CryoPlus 1 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system	
	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						
	Cat. No. and description	Dimensions H	I x W x D in. (cr	n)		
	1950831 Swing arm canister for 25 mL bag (OriGen CS 25 or equivalent)	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 OriGen CS 50)	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 OriGen CS 250, CryoMACS 50 and 250	5.5 x 7.6 x 0.4 (14 x 19.3 x 1)				
	4000336 Sliding canister for 500 mL bag (Fenwal 4R5462 or OriGen CS 500)	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 CryoMACS 250)	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 CryoMACS 500 and 750 and OriGen CS 750 and CS 1000)	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 CryoMACS 500 and 750 and OriGen CS 750 and CS 1000)	6.5 x 12.1 x 0.8 (16.5 x 30.7 x 2)				









#### Mini square racks for liquid phase storage

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

#### Mini boxes for liquid phase storage

	Cat. 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









#### Racks for Thermo Scientific™ Matrix™ 2D tubes

Cat. No. and	l description	Dimensions H x W x D in. (cm)	Storage	CryoPlus 1 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system
Liquid phas	e						
Ħ	1950836		Racks per vessel	7	16	30	51
	Rack for Matrix 2D plates	27 x 5.313 x 3.65 (68.6 x 13.5 x 9.3)	Plates per rack	18	18	18	18
	measuring 1.082 in. to 1.394 in. tall	(00.0 × 10.0 × 0.0)	Plates per vessel	126	288	900	918
=	1950839		Racks Per vessel	7	16	30	51
	Rack for Matrix 2D plates	27.15 x 5.313 x 3.65 (69 x 13.5 x 9.3)	Plates per rack	12	12	12	12
	measuring 1.55 in. to 2.15 in. tall	(09 X 13.3 X 9.3)	Plates per vessel	84	192	360	612
=:	1950840		Racks per vessel	7	16	30	51
	Rack for Matrix 2D plates	27.5 x 5.313 x 3.65 (69.9 x 13.5 x 9.3)	Plates per rack	11	11	11	11
	measuring 2.3 in. tall	(00.0 × 10.0 × 0.0)	Plates per vessel	77	176	330	561
<b>41</b> 2.	1950841		Racks per vessel	7	16	30	51
-	Rack for Matrix 2D plates	27.5 x 5.313 x 3.65 (69.9 x 13.5 x 9.3)	Plates per rack	7	7	7	7
With the second	measuring 3.78 in. tall	(09.9 x 13.5 x 9.5)	Plates per vessel	49	112	210	357
Vapor phase							
11.8	1950832		Racks per vessel	7	16	30	51
	Rack for Matrix 2D plates	22.5 x 5.313 x 3.65 (57.2 x 13.5 x 9.3)	Plates per rack	15	15	15	15
	measuring 1.082 in. to 1.394 in. tall		Plates per vessel	105	240	450	765
<b>a</b> :	1950833		Racks per vessel	7	16	30	51
	Rack for Matrix 2D plates	22.6 x 5.313 x 3.65 (57.4 x 13.5 x 9.3)	Plates per rack	10	10	10	10
	measuring 1.55 in. to 2.15 in. tall		Plates per vessel	70	160	300	510
3:	1950834		Racks per vessel	7	16	30	51
	Rack for Matrix 2D plates	22.5 x 5.313 x 3.65 (57.2 x 13.5 x 9.3)	Plates per rack	9	9	9	9
1	measuring 2.3 in. tall		Plates per vessel	63	144	270	459
1.	1950835		Racks per vessel	7	16	30	51
	Rack for Matrix 2D plates	19.65 x 5.313 x 3.65 (49.9 x 13.5 x 9.3)	Plates per rack	5	5	5	5
	measuring 3.78 in. tall		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 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system
	5 in. riser for use with 1950832, 1950833, 1950834, and 1950835 racks	4000061	4000061	4000064	4000067

#### **Boxes and dividers**

Cat. 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 divide	rs
4000013	100-cell divider for use in the 4000014, 4000015, 4000238, and 4000239 boxes

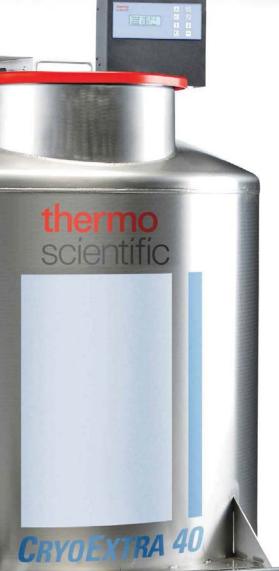
#### Other accessories for CryoPlus systems

Cat. No. and	description	CryoPlus 1 system	CryoPlus 2 system	CryoPlus 3 system	CryoPlus 4 system
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)		201	175	
	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)		201	280	
	Replacement felt tip pen		245	231	
	Replacement circular chart paper		197	064	
Hot gas bypa	ss valve assembly				
B. or	Factory installed 120 volt, 50/60 Hz		195	021	
	Field installed (QI) 120 volt, 50/60 Hz		195	700	
	Factory installed 220 volt, 50/60 Hz		195	023	
	Field installed (QI) 220 volt, 50/60 Hz		195	701	
Thermal temp	perature sleeve (27" tall for improved temperature uniformity)				
	Factory installed	Sta	andard, factor	y-installed op	tion
	Customer installed/retrofit	1950706	1950707	1950708	1950709
Thermal data	printed				
1	120V, 60 Hz Printer with cable assembly and RS-232 connector kit		4000	0565	
	220V, 50 Hz Printer with cable assembly and RS-232 connector kit		4000	0665	
	Thermal printer paper (5 rolls/package)		4000	0566	
RJ-11 Remote	e Alarm Cable Kit				
	Used to connect remote alarm to equipment		400	142	

#### Quality services available (must be ordered with equipment)

260049	Certification of compliance (unit specific)
260045	Temperature mapping
260043	Certificate of conformance

## High-efficiency storage



CryoExtra cryogenic storage

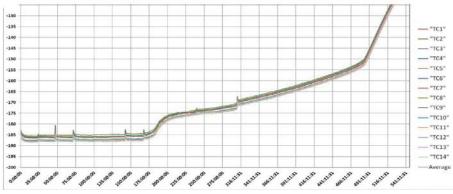
Thermo Scientific™ CryoExtra™ 8100 series high-efficiency storage solutions provide outstanding sample protection for scientific research, with uniform cryogenic temperatures throughout the vessel. Automated temperature monitoring and microprocessor-based LN₂ level control provide peace of mind for valuable samples. Ease of use is enabled 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
- 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 plug sets available



Microprocessor-based controller



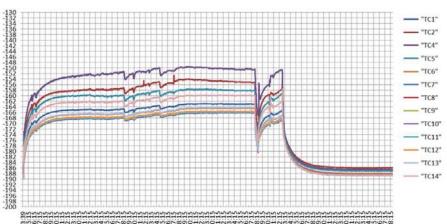


Figure 1. No  $\mathrm{LN_2}$  resupply test result (Cat. No. CE8140). The insulative properties of the CE8140 are demonstrated through a no  $\mathrm{LN_2}$  re-supply test. The CE8140 is filled with  $\mathrm{LN_2}$  to the high fill setpoint, and the  $\mathrm{LN_2}$  is removed. The temperature is then monitored using 16 sensors, measuring 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.

# Figure 2. Lid open test result (Cat. No. 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, the CryoExtra system accepts both vertical and horizontal racks. These 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 is achieved due to the vacuum-insulated stainless steel vessel.

#### Stable lid open temperature

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

#### **Advanced temperature monitoring controller**

A microprocessor controller monitors temperature using thermocouples accurate to +/- 1°C. Other features include 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  $\mathrm{LN}_2$  levels to help ensure proper levels. Self-diagnostics help ensure reliable sensor functioning. Monitor features include current temperature display, high-temperature alarm,  $\mathrm{LN}_2$  level and alarms, sensor fail alarm, and filling status.

#### Hot gas bypass

This feature 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

#### CryoExtra systems

#### Selection guide

	CryoExtra 20 system	CryoExtra 40 system	CryoExtra 80 system	CryoExtra 94 system
LN <sub>2</sub> 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 capa	city (combination of squa	are 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*	Cat. 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 liameter in. (mm)	Weight (full)	Regulatory listings	LN <sub>2</sub> and utility connection
CryoExtra 20 system	CE8120	19,500 (30,420¹)		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)	1,340 lbs/ 608 kg		All models require 22 psi (1.5 bar) low
CryoExtra 40 system	CE8140	40,600 (61,516¹)	100-230V	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)	2,140 lbs/ 971 kg	cULus	pressure supply tank and are
CryoExtra 80 system	CE8180	80,600 (131,820¹)	50/60 Hz	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)	4,830 lbs/ 2191 kg	and CE	supplied with (1) 0.5 in. 45° flare
CryoExtra 94 system	CE8194	93,000 (152,100¹)		NEMA 5-15	34.2 86.9)	73.19 x 60 x 60 (185.9 x 152.4 x 152.4)	25 (635)	54.75 (1391)	4,875 lbs/ 2211 kg		stainless steel flexible transfer hose

 $<sup>^{\</sup>star}$  Using Nunc dense storage boxes (196-cell) and 1 mL Cryobank tubes.

#### CryoExtra Cryogenic Storage (general purpose with battery back-up system)\*

Model*	Cat. 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 <sub>2</sub> and utility connection						
CryoExtra 20 BB	CE8120BB	19,500 (30,420¹)			34.5 (87.7)	65 x 32 x 32 (165.1 x 81.3 x 81.3)	12.5 (317)	28.2 (731)	1,340 lbs/ 608 kg		All models require 22 psi (1.5 bar) low						
CryoExtra 40 BB	CE8140BB	40,600 (61,516¹)	100–230V 50/60 Hz							CEE	30.8 (78.2)	63.25 x 42 x 42 (160.7 x 106.6 x 106.6)	17.5 (445)	38.7 (983)	2,140 lbs/ 971 kg	cULus	pressure supply tank and are
CryoExtra 80 BB	CE8180BB	80,600 (131,820¹)								7/7	29.2 (74.2)	68.19 x 60 x 60 (173.3 x 152.4 x 152.4)	25 (635)	54.75 (1391)	4,830 lbs/ 2191 kg	and CE	supplied with (1) 0.5 in. 45° flare
CryoExtra 94 BB	CE8194BB	93,000 (152,100¹)			34.2 (86.9)	73.19 x 60 x 60 (185.9 x 152.4 x 152.4)	25 (635)	54.75 (1391)	4,875 lbs/ 2211 kg		stainless steel flexible transfer hose						

<sup>\*</sup> General purpose models with built-in battery back-up system are regional offerings only available to customers in the EU EEMEA region and China.

<sup>1</sup> Using Nunc Dense storage boxes (196-cell) and 1 mL CryoBank tubes.

Cat. No. and c	description	Dimensions H x W x D in. (cm)	Storage	CryoExtra 20 system	CryoExtra 40 system	CryoExtra 80 system	CryoExtra 94 system
Square racks							
#=	1950683		Racks per vessel	12	N/A	N/A	60
	Rack includes cardboard	32.5 x 5.5 x 5.63	Boxes per rack	15	N/A	N/A	15
	boxes and dividers for	(82.6 x 14 x 14.3)	Vials per box	100	N/A	N/A	100
111	1.5/2 mL vials		Vials per vessel	18,000	N/A	N/A	90,000
Ed	1950696		Racks per vessel	12	26	60	60
	Rack includes cardboard	28.4 x 5.5 x 5.63	Boxes per rack	13	13	13	13
	boxes and cardboard	(72.1 x 14 x 14.3)	Vials per box	100	100	100	100
H	dividers for 1.5/2 mL vials		Vials per vessel	15,600	33,800	78,000	78,000
•••	4000007		Racks Per vessel	12	26	60	60
9339999	Rack includes stainless	27.4 x 5.5 x 5.63	Boxes per rack	13	13	13	13
	steel boxes and cardboard	(69.6 x 14 x 14.3)	Vials per box	13	13	13	13
	dividers for 1.5/2 mL vials		Vials per vessel	15,600	33,800	78,000	78,000
Est	1950866		Racks per vessel	12	26	N/A	60
13	Rack includes cardboard	30.6 x 5.5 x 5.63	Boxes per rack	14	14	N/A	14
	boxes and cardboard	(77.7 x 14 x 14.3)	Vials per box	100	100	N/A	100
#1	dividers for 1.5/2 mL vials		Vials per vessel	16,800	36,400	N/A	84,000
	4000008		Racks per vessel	12	26	60	60
	Rack includes cardboard	25.4 x 5.5 x 5.63	Boxes per rack	8	8	8	8
	boxes and cardboard	(64.5 x 14 x 14.3)	Vials per box	100	100	100	100
	dividers for 4 mL vials		Vials per vessel	9,600	20,800	48,000	48,000
	4000009		Racks per vessel	12	26	60	60
	Rack includes stainless	25.4 x 5.5 x 5.63	Boxes per rack	8	8	8	8
	steel boxes and cardboard	(64.5 x 14 x 14.3)	Vials per box	100	100	100	100
	dividers for 4 mL vials		Vials per vessel	9,600	20,800	48,000	48,000
	4000010		Racks per vessel	12	26	60	60
+=	Rack includes cardboard	26.6 x 5.5 x 5.63	Boxes per rack	7	7	7	7
	boxes and cardboard	(67.6 x 14 x 14.3)	Vials per box	100	100	100	100
	dividers for 5 mL vials		Vials per vessel	8,400	18,200	42,000	42,000
Specialty racl	ks						
HITT	4000379*		Racks per vessel	12	26	60	60
	SUC-1 rack for cane	23.9 x 5.5 x 5.63	Canisters per rack	8	8	8	8
TIT	storage (includes canisters	(60.7 x 14 x 16)	Canes per canister	25	25	25	25
	#4000176)		Canes per vessel	2,400	5,200	12,000	12,000

<sup>\*</sup> Each canister will hold 25 canes without Thermo Scientific™ Nalgene™ CryoSleeve™ vial holders or 16 canes with CryoSleeve vial holders.

#### **Boxes and dividers**

boxes and dividers						
Cat. 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					

Cat. No. and d	Cat. No. and description		Storage	CryoExtra 20 system	CryoExtra 40 system	CryoExtra 80 system	CryoExtra 94 system
Vertical racks							
	4000012		Racks per vessel	36	70	156	156
		27.6 x 2.3 x 5.7	Boxes per rack	5	5	5	5
+	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	(70.1 x 5.8 x 14.5)	Vials per box	100	100	100	100
	dividers for 1.5/2 file viais		Vials per vessel	18,000	35,000	78,000	78,000
	1950694		Racks per vessel	36	N/A	N/A	156
		32.8 x 2.3 x 5.7	Boxes per rack	6	N/A	N/A	6
	Rack includes cardboard boxes and cardboard dividers for 1.5/2 mL vials	(83.3 x 5.8 x 14.5)	Vials per box	100	N/A	N/A	100
	dividers for 1.3/2 ffic vidis		Vials per vessel	19,500	N/A	N/A	93,000



Cat. No. and o	lescription	Dimensions H x W x D in. (cm)	CryoExtra 20 system	CryoExtra 40 system	CryoExtra 80 system	CryoExtra 94 system	
Frames and ca			Storage				
13	1900585		Frames per vessel	191	376	768	768
3		27 x 0.7 x 3.4	Canisters per frame	7	7	7	7
H	Frame for 1950831 canister	(68.6 x 1.8 x 8.6)	Canisters per vessel	1,337	2,632	5,376	5,376
R	1950873		Frames per vessel	191	N/A	N/A	768
B		30.8 x 0.7 x 3.4 (78.2 x 1.8 x 8.6)	Canisters per frame	8	N/A	N/A	8
Η	Frame for 1950831 canister	(76.2 x 1.6 x 6.0)	Canisters per vessel	1,528	N/A	N/A	6,144
R	4000670		Frames per vessel	112	219	440	440
A	F ( 4000040'-l	27.4 x 0.6 x 4.6 (69.6 x 1.5 x 11.7)	Canisters per frame	7	7	7	7
3	Frame for 4000610 canister	(09.0 × 1.0 × 11.7)	Canisters per vessel	784	1,533	3,080	3,080
B	1950687		Frames per vessel	112	N/A	N/A	440
B	5 ( 4000040 ) .	31.2 x 0.6 x 3.8 (79.2 x 1.5 x 9.7)	Canisters per frame	8	N/A	N/A	8
	Frame for 4000610 canister	(19.2 x 1.5 x 9.1)	Canisters per vessel	896	N/A	N/A	3,520
0	1950688		Frames per vessel	96	180	372	372
H	- ( (00000	29.6 x 0.7 x 6.5 (75.2 x 1.8 x 16.5)	Canisters per frame	5	5	5	5
1	Frame for 4000335 canister	(73.2 x 1.0 x 10.3)	Canisters per vessel	480	900	1,860	1,860
O	1950689		Frames per vessel	68	132	282	282
B		29.6 x 0.7 x 8.2	Canisters per frame	5	5	5	5
3	Frame for 4000336 canister	(75.2 x 1.8 x 20.8)	Canisters per vessel	340	660	1,410	1,410
n	4000368		Frames per vessel	64	117	240	240
	Frame for 4000332 and	26.4 x .9 x 6.1 (67.1 x 2.3 x 15.5)	Canisters per frame	4	4	4	4
	4000356 canisters		Canisters per vessel	256	468	960	960
D	1950692		Frames per vessel	64	N/A	N/A	240
H	Frame for 4000332 and	29.6 x 0.9 x 6.5	Canisters per frame	5	N/A	N/A	5
3	4000356 canisters	(75.2 x 2.3 x 16.5)	Canisters per vessel	320	N/A	N/A	1,200
Ĥ	4000369		Frames per vessel	36	70	142	142
Ħ	Frame for 4000333 and	26.4 x 1 x 10	Canisters per frame	4	4	4	4
1	4000357 canisters	(67.1 x 2.5 x 25.4)	Canisters per vessel	144	280	568	568
0	1950693		Frames per vessel	36	N/A	N/A	142
H	Frame for 4000333 and	32.9 x 1 x 10	Canisters per frame	5	N/A	N/A	5
	4000357 canisters	(83.6 x 2.5 x 25.4)	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)		Swing arm can equivalent)	ister for 25 mL b	oag (OriGen CS 2	25, or
	4000610	3.7 x 6.3 x 0.5 (9.4 x 16 x 1.3)		Swing arm canister for 50 mL bag (Fenwal 4R9951, or OriGen CS 50, or equivalent)			
	4000335	5.5 x 7.6 x 0.4 (14 x 19.3 x 1)			r for 250 mL bag S 50 and 250, o	g (Fenwal 4R546 er equivalent)	1, OriGen CS
	4000336	5.6 x 9.2 x 0.4 (14.2 x 23.4 x 1)		Sliding canister 500, or equival		g (Fenwal 4R546	2, OriGen CS
	4000332	6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2)		Sliding canister for 200 mL bag (Gambro DF-200 or equivalent)			
Á	4000356	6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2)			ister for 200 mL ), or equivalent)	. bag (Gambro D	F-200,
	4000333	6.5 x 11.8 x 0.8 (16.5 x 30 x 2)				g (Gambro DF-70 750, and CS 100	
1	4000357	6.5 x 12.1 x 0.8 (16.5 x 30.7 x 2)		Swing arm can	ister for 700 mL	bag (Gambro D OriGen CS 750,	=-700,

Cat. No. and d	Cat. No. and description		Storage	CryoExtra 20 system	CryoExtra 40 system	CryoExtra 80 system	CryoExtra 94 system
Mini square ra	acks for liquid phase storage	•					
(5-1)	1950685		Racks per vessel	4	12	8	8
	Rack includes cardboard	28.5 x 3.2 x 3.3	Boxes per rack	13	13	13	13
	boxes and cardboard	(72.4 x 8.1 x 8.4)	Vials per box	25	25	25	25
	dividers for 1.5/2 mL vials		Vials per vessel	1,300	3,900	2,600	2,600
	1950871		Racks per vessel	4	12	N/A	8
	Rack includes cardboard	30.7 x 3.2 x 3.3	Boxes per rack	14	14	N/A	14
	boxes and cardboard	(78 x 8.1 x 8.4)	Vials per box	25	25	N/A	25
	dividers for 1.5/2 mL vials		Vials per vessel	1,400	4,200	N/A	2,800
	1950686		Racks per vessel	4	N/A	N/A	8
	Rack includes cardboard	32.9 x 3.2 x 3.3	Boxes per rack	15	N/A	N/A	15
ALL DE LA COLONIA DE LA COLONI	boxes and cardboard	(83.6 x 8.1 x 8.4)	Vials per box	25	N/A	N/A	25
1950685	dividers for 1.5/2 mL vials		Vials per vessel	1,500	N/A	N/A	3,000

#### **Boxes and dividers**

Cat. No. and	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**

Cat No. and d	escription
20820733	2-tier step for the CryoExtra 20

#### Optional battery back-up

optional bat	Cat. No. and	•
	CE8100BB	Optional battery back-up for non-MDD units (MDD units include battery back-up)

Plates per vessel   20   40   96	
1950839   Racks per vessel   20   40   96	
1950839   Racks per vessel   20   40   96	96
1950839   Racks per vessel   20   40   96	18
Plates per rack   12   12   12   12   12   12   13   14   15   15   15   15   15   15   15	1,728
Rack for Matrix 2D plates Height: 1.55 to 2.15 in.   (69 x 13.5 x 9.3)   Plates per rack   12   12   12   12	96
Plates per vessel   240   480   1,152	12
Height: 2.3 in.  Plates per vessel 220 440 1,056	1,152
Height: 2.3 in.  Plates per vessel 220 440 1,056	96
Plates per vessel 220 440 1,056	11
mil	1,056
1950841 Racks per vessel 20 40 96	96
27.5 x 5.313 x 3.65 Rack for Matrix 2D plates (70 x 13.5 x 9.3) Plates per rack 7 7 7	7
Height: 3.78 in.  Plates per vessel 140 280 672	672
1950842 Racks per vessel 20 N/A N/A	96
1950842   Racks per vessel   20 N/A N/A   N/A	22
Height: 1.022 to 1.4 in.  Plates per vessel 440 N/A N/A	2,112
1950843 Racks per vessel 20 N/A N/A	96
Rack for Matrix 2D plates (80.5 x 13.5 x 9.3) Plates per rack 14 N/A N/A	14
Height: 1.55 to 2.15 in.  Plates per vessel 280 N/A N/A	1,344
1950844 Racks per vessel 20 N/A N/A	96
1950844   Racks per vessel   20 N/A N/A	13
Height: 2.3 in.  Plates per vessel 260 N/A N/A	1,248
1950845 Racks per vessel 20 N/A N/A	96
1950845   Racks per vessel   20   N/A   N/A	8
Height: 3.78 in.  Plates per vessel 160 N/A N/A	

## **Cost-effective** storage



#### BioCane canister and cane systems

Thermo Scientific<sup>TM</sup> BioCane<sup>TM</sup> 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  $LN_{\circ}$ .

- 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<sub>2</sub> evaporation
- Lockable lid and optional low-level alarm enhance sample security
- Available accessories
  - Roller baseCanes
  - Low-level alarmCryoSleeve holders

#### **BioCane storage systems**

	BioCane 20 system	BioCane 34 system	BioCane 47 system	BioCane 73 system
Cat. No.	CK509X2	CK509X3	CK509X4	CK509X6
LN <sub>2</sub> 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 <sup>1</sup> (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

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



#### **BioCane system accessories**

	BioCane 20 system	BioCane 34 system	BioCane 47 system	BioCane 73 system
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

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) Thermo Scientific™ Nalgene™ cryogenic boxes
   (larger racks available for 5.0 mL ampoules in Locator Jr.
   Pus, Locator 4 Plus, and Locator 6 Plus systems)
- Available accessories
  - Roller base
  - Polycarbonate boxes
  - Cryogenic vials
  - Cryo logbook
  - Thermo Scientific<sup>™</sup> CryoClaw<sup>™</sup> ampoule remover
  - Low-level alarm





#### **Locator Plus storage systems**

		,							1							
Cat. No.	Ultrasonic level monitor	LN <sub>2</sub> capacity (liters)	Rack per unit	Box capacity per rack	2 mL vials per box	2 mL vial capacity (full unit)	Static evaporation rate <sup>1</sup> (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		71	4	5	100	2,000	.85	8.5 (21.5)	22 x 26.9	91 lbs. /	cCSAus					
CY509106CN (China only)	standard								(55.8 x 68.3)	41.4 kg	and CE					
Locator 4 Plus																
CY50935-70	n/a										CE					
CY509108		121	121	121	121	121	4	10	100	4,000	.99	8.5 (21.5)	22 x 37.5	118 lbs. / 53.5 kg	cCSAus	
CY509108CN (China only)	standard									(55.8 x 95.3)	53.5 Kg	and CE				
Locator 6 Plus																
CY50985-70	n/a												CE			
CY509109		184	6	10	100	6.000	.99	8.5 (21.5	26 x 37.5	160 lbs. /	cCSAus					
CY509109CN (China only)	standard				100	0,000		0.0 (21.0	(66 x 95.3)	72.6 kg	and CE					
Locator 8 Plus																
CY50945-70	n/a										CE					
CY509111		121	8	10	25	2.000	.60	6 (15.2)	22 x 37.5	115 lbs. /	cCSAus					
CY509111CN (China only)	standard	121	121	121	121	121	121		10	25	2,000	.UU	0 (13.2)	(55.8 x 95.3)	52.2 kg	and CE

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

#### **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 vials, 100 vial per box, case of 10	CS509X24	CS509X24	CS509X24	N/A
Boxes, 2 in. height: 2 mL Nalgene vials, 25 vial per box, case of 80	N/A	N/A	N/A	CS509X3
Boxes, 2 in. height: 2 mL Nalgene vials, 81 vial per box, case of 40	CS509X4	CS509X4	CS509X4	N/A
Boxes, 2 in. height: 2 mL Nalgene vials, 81 vial per box, case of 20	CS509X5	CS509X5	CS509X5	N/A
Boxes, 4 in. height: 5 mL Nalgene vials, 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 ampoule remover	AY509X18	AY509X18	AY509X18	AY509X18
Replacement suction cups (2) for CryoClaw ampoule remover	AY509X19	AY509X19	AY509X19	AY509X19

## Simplified storage and retrieval

#### Locator rack and box systems

Thermo Scientific<sup>™</sup> Locator<sup>™</sup> 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 systems)

- Available accessories
  - Roller base
  - Polycarbonate boxes
  - Cryogenic vials
  - Cryo logbook
  - CryoClaw ampoule remover
  - Low-level alarm





#### **Locator storage systems**

Cat. No	Level monitor	LN <sub>2</sub> capacity (liters)	Rack per unit	Box capacity per rack	2 mL vials per box	2 mL vial capacity (full unit)	Static evaporation rate <sup>1</sup> (L/day)	Neck diameter in. (cm)	Exterior dimensions diameter x height in. (cm)	Shipping weight	Regulatory listings				
Locator Jr.															
CY50925	n/a										CE				
CY509105		60	4	4	100	1600	.85	8.5 (21.5)	22 x 24.5	90 lbs. /	cCSAus				
CY509105CN (China only)	standard												(55.8 x 62.2)	40.8 kg	and CE
Locator 4															
CY50935	n/a										CE				
CY509107		111	4	9	100	3600	.99	8.5 (21.5)	22 x 35.5	115 lbs. /	cCSAus				
CY509107CN (China only)	standard							0.0 (21.0)	(55.8 x 90.2)	52.2 kg	and CE				
Locator 8															
CY50945	n/a										CE				
CY509110		1111	8	9	25	1800	.60	6 (15.2)	22 x 35.5	117 lbs. /	cCSAus				
CY509110CN (China only)	standard							- ()	(55.8 x 90.2)	53.1 kg	and CE				

<sup>&</sup>lt;sup>1</sup> Static evaporation rates based on new vessel, no heat load, and no lid openings. Rates may vary due to ambient conditions and usage.

#### **Locator system accessories**

	Locator Jr. system	Locator 4 system	Locator 8 system
5.0 mL vial rack, does not include boxes	HR509X19A	HR509X20A	N/A
Boxes, 2 in. height: 1.0 and 1.5 mL Nalgene vials, 100 vial per box, case of 10	CS509X24	CS509X24	N/A
Boxes, 2 in. height: 2 mL Nalgene vials, 25 vial per box, case of 80	N/A	N/A	CS509X3
Boxes, 2 in. height: 2 mL Nalgene vials, 81 vial per box, case of 40	CS509X4	CS509X4	N/A
Boxes, 2 in. height: 2 mL Nalgene vials, 81 vial per box, case of 20	CS509X5	CS509X5	N/A
Boxes, 4 in. height: 5 mL Nalgene vials, 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 ampoule remover	AY509X18	AY509X18	AY509X18
Replacement suction cups (2) for CryoClaw ampoule remover	AY509X19	AY509X19	AY509X19

# **Convenient** LN<sub>2</sub> transfer

## Liquid nitrogen transfer vessels

Designed for storing and dispensing small amounts of liquid nitrogen, Thermo Scientific  $^{\text{T}}$  Thermo series vessels include 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 ensures 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 vessels can be fitted with an optional self-pressurized withdrawal device to easily dispense LN<sub>2</sub> without pouring
- Available accessories
  - Withdrawal device
  - 12 mL dipper
  - Roller base



#### Sample and LN<sub>2</sub> transportation





## LN, storage vessels

	Thermo 5	Thermo 10	Thermo 20	Thermo 30
Cat. No.	TY509X1	TY509X2	TY509X3	TY509X4
LN <sub>2</sub> capacity (liters)	5	10	20	32
Static evaporation rates¹ (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

<sup>1</sup> 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

# Safe sample shipping

## Arctic Express storage systems

Thermo Scientific™ 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 Arctic Express Dual shippers



#### Sample and LN<sub>a</sub> transportation





## Arctic Express LN<sub>2</sub> vapor shipping systems

Arctic Express Ein <sub>2</sub> va	Arctic Express Ein <sub>2</sub> vapor shipping systems				
Model	Arctic Express 5	Arctic Express 10	Arctic Express 20	Arctic Express IATA	
Cat. No.	CY50915	CY50905	CY50910	CY50920	
LN <sub>2</sub> 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	

## Arctic Express LN<sub>2</sub> vapor shipping systems

Model	Arctic Express Dual 10	Arctic Express Dual 19	Arctic Express Dual 28
Cat. No.	CK50920	CK50921	CK50922
LN <sub>2</sub> capacity (liters)	10	18.5	28
LN <sub>2</sub> 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



- Durable, corrosion-resistant stainless steel exterior
- Shallow wide-mouth design 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-Flask benchtop liquid nitrogen containers

Cat. No.	LN <sub>2</sub> 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

Cat. No.	Description
AY509X6	12 mL Dipper



 $<sup>^{\</sup>star}$  The shallow wide-mouth flasks do not have lids. Only the flasks with handles have lids.



# LN<sub>2</sub> supply tanks

## LN<sub>a</sub> supply tanks

2	LN <sub>2</sub> capacity		Static evaporation	Exterior dimensions	
Cat. No.	(liters)	Casters	rate (per day)	(diameter x height) in. (cm)	Shipping weight
8127	50	standard	4%	16 x 41	106 lba / 60 lca
8127CE*	50	Standard	470	(40.6 x 104.1)	136 lbs. / 62 kg
8120TF	180	2/0	2%	20 x 63.3	326 lbs. / 148 kg
8120CE*	100	n/a	∠%0	(50.8 x 161.3)	320 IDS. / 140 Kg
8121	230	standard	2%	26.0 x 54.8	425 lbs. / 193 kg
8121CE*	230	Standard	270	(66 x 139.2)	425 IDS. / 195 Kg

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

## LN, supply tank 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 x76.2 cm)	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		40004	401
4 ft. flexible braided stainless steel transfer hose with 1/2", 45 degree flare fittings on each end		40004	400
LN <sub>2</sub> fill phase separator		4000	571

<sup>\*</sup> Outside North America.

# Cryopreservation accessories



- 1 Cell dividers
- 2 Square box with hole
- 3 Rectangular cardboard box
- 4 Polycarbonate boxes
- 5 LN<sub>2</sub> measuring stick
- 6 CryoClaw ampoule remover
- 7 Cryo gloves
- 8 CryoSleeve holders with optional cane
- 9 Cryo markers
- 10 T-valve assembly
- 11 Phase separator
- 12 Tongs

- 13 Sensaphone dialing system
- 14 Low-level alarm with sensor
- 15 Flexible metal hose

Description	Cat. 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, ncludes 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
8.0 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 Constitution of the Constitution of t	4000040
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 aluminum cane for 9.2 mL and 10.0 mL goblets	4000216
CryoSleeve vial holders	
Polyvinyl sleeve, 0.6 in. (1.5 cm) interior diameter, 10.8 in. (27.4 cm) long, one case of 100	4000218
Fongs	
Transport vials from freezing racks to boxes	
Stainless steel cryo tongs	4000388

Claws  Retrieve fallen object in the LN <sub>2</sub> vessels  CryoClaw  Replacement suction cups for CryoClaw  Measuring stick  LN <sub>2</sub> Measuring Stick  Gloves (waterproof cryo)  Mid-arm, 14.0 in. to 15.0 in. (35.6 cm to 38.1 cm)	AY509X18 AY509X19 180143
CryoClaw  Replacement suction cups for CryoClaw  Measuring stick  LN <sub>2</sub> Measuring Stick  Gloves (waterproof cryo)	AY509X1
Replacement suction cups for CryoClaw  Measuring stick  LN <sub>2</sub> Measuring Stick  Gloves (waterproof cryo)	AY509X1
Measuring stick  LN <sub>2</sub> Measuring Stick  Gloves (waterproof cryo)	
LN <sub>2</sub> Measuring Stick  Gloves (waterproof cryo)	180143
Gloves (waterproof cryo)	180143
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 <sub>2</sub> 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 <sub>2</sub> container, includes dry contacts for remote alarm	8130
Sensaphone 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 <sub>2</sub> tank switcher	
For use with CryoExtra or CryoPlus systems. CryoPlus system requires hot gas bypass in order to use tank switcher.	CE8100T

# **Configure your cryopreservation**

Sample preparation and online storage solutions online





## Our suite of cryopreservation solutions

CryoPlus sample storage systems

CryoMed Controlled-Rate Freezers

CryoExtra cryogenic storage

BioCane canister and cane systems

Locator Plus and Locator rack and box systems

Liquid nitrogen transfer vessels

Arctic Express storage systems

Thermo-Flask benchtop liquid nitrogen containers

# thermo scientific



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