



CRYOGENICS



Selection Guide

BIO-CANE CRYOGENICS STORAGE SYSTEMS (CANISTER AND CANE)

	Product Description	*Storage Capacity (Vials 6/cane)	Static Holding Time (Days)	Static Evaporation Rate (Liters/Day)	Working LN2 Capacity (Liters)	Level Monitor Available	Page
<i>It's Practical and Economical!</i>	Bio-Cane 70	1872	117	0.60	70.7	No	6
	Bio-Cane 47	1512	121	0.39	47.4	No	6
	Bio-Cane 34	720	193	0.18	34.8	No	6
	Bio-Cane 20	180	227	0.09	20.5	No	6
	Bio-Cane 11	180	73	0.15	11	No	6

CRYOGENICS STORAGE SYSTEMS (RACK AND BOX)

<i>Keep Track of Your Samples – Easily</i>	Locator 4	3600	112	0.99	111	Yes	8
	Locator 8	1800	185	0.60	111	Yes	8
	Locator Jr.	1600	60	0.85	51	Yes	8
<i>Maximum Storage Capacity!</i>	Locator 4 Plus	4000	122	0.99	121	Yes	10
	Locator 6 Plus	6000	176	0.99	175	Yes	10
	Locator 8 Plus	2000	201	0.60	121	Yes	10
	Locator Jr. Plus	2000	74	0.85	61	Yes	10
<i>Automatically Monitors and Refills LN2</i>	Locator 7 Autofill	6000	22	1.4	31	Yes	12

THERMO FLASKS/DEWARS

	Product Description	Liquid Nitrogen Capacity (Liters)	Shipping Weight Lb. (kg)	Page
<i>Specialty Applications</i>	Thermo Cups	1 - 8	6 (2.7) - 14 (6.3)	18
	Plastic Wide Mouths	1	6 (2.7)	18
	Enameled Steel without lids and handles	0.2 - 3	4 (1.8) - 9 (4.1)	18
	Enameled Steel with lids and handles	1 - 10	6 (2.7) - 16 (7.3)	18
	Stainless Steel	1 - 7	6 (2.7) - 14 (6.3)	18
	Shallow Wide Mouths	20 ml - 1900 ml	4 (1.8) - 10 (14.5)	18

*Quantities are based on 1.2 ml vials without sleeves.



DRY SHIPPERS

	Product Description	Storage Capacity (2 ml Vials)	Static Holding Time (Days)	Shipping Case Included	Liquid Nitrogen Capacity (Liters)	Storage System	Shipping Weight Lb. (kg)	Page
<i>Ship Your Samples with Confidence!</i>	Arctic Express 5	9	7	Yes	1.5	Can/Cane	24 (10.9)	14
	Arctic Express 10	40	21	Yes	4.3	Can/Cane	29 (13.2)	14
	Arctic Express IATA Approved	350	14	Yes	5.9		29 (13.2)	15
	Product Description	Storage Capacity (1.2 ml Vials)	Static Holding Time Vapor Phase (Days)	Shipping Case Included	Liquid Nitrogen Capacity (Liters)		Shipping Weight Lb. (kg)	Page
<i>Ship Dry and Store in Liquid Nitrogen in the Same Vessel</i>	Arctic Express Dual 10	288	21	Yes	10		31.8 (14.4)	15
	Arctic Express Dual 19	396	21	Yes	18.5		45.3 (20.5)	15
	Arctic Express Dual 28	1440	24	Yes	28		48.3 (21.9)	15
	Arctic Express Dual 32	1260	30	No	32		45.0 (20.4)	15
	Arctic Express Dual 46	2700	21	No	46		55.0 (24.9)	15

LIQUID NITROGEN TRANSFER VESSELS

	Product Description	Liquid Nitrogen Capacity (Liters)	Static Holding Time (Days)	Static Evaporation Rate (Liters/Day)	Full Weight Lb. (kg)	Dispensing Options	Page
<i>General, Lightweight Aluminum, Liquid Nitrogen Transfer</i>	Thermo 5	5	33.3	0.15	17 (7.7)	Includes regulating valve	16
	Thermo 10	10	55.6	0.18	31 (14.1)	Withdrawal Device	16
	Thermo 20	21	116.7	0.18	56 (25.4)	Withdrawal Device	16
<i>Heavy Duty Stainless Steel Liquid Nitrogen Transfer</i>	Thermo 30	32	128	0.22	84 (38.1)	Withdrawal Device	16
	Thermo 35	35	23	2.0	140 (63.5)	Includes regulating valve Transfer hose/phase Separator optional	16
<i>Economical and Durable!</i>	Thermo 50	50	25	2.3	180 (81.6)	Transfer hose/phase Separator optional	16

Bio-Cane™ Canister & Cane Systems



Bio-Cane Storage Systems

It's Practical and Economical!

- Cost effective storage for cells, tissues and other biological samples
- 5 sizes available
- Priced right for your budget
- Safely store samples up to 7 months without replenishing LN₂
- Each vessel includes six canisters
- ★ 24 Month Warranty, 5 Year Vacuum Warranty

Product Description

- Available in five sizes to fit the requirements and space limitations of research or clinical laboratories.
- Super vacuum insulation, durable construction provide years of trouble-free service.
- Secure locking hasp prevents unauthorized entry.
- Uniform temperature environment for specimen storage.
- Every vessel includes six canisters to accommodate any combination of cryogenic vials, tubes or sample containers.

Additional Bio-Cane 20, 34, and 47 Features

- Polycarbonate lid withstands the years of rugged use.
- Color coded canister system for quick and easy inventory identification.
- To transport your Bio-Cane system easily, order an accessory cart.

ORDERING INFORMATION

Model #	LN ₂ Capacity (Liters)	Neck I.D. Inches (cm)	Canisters Included (each)	# of Canes per Canister	Canister Dimensions L x I.D. Inches (cm)	Vials* (5 per cane/6 per cane) 2.0 ml/1.2 ml	Static Holding Time (Days)	System Capacity Static Evaporation Rate (Liters/Day)	Outer Dimensions H x Dia. Inches (cm)
CK509X1	11	2 (5.0)	6	5	11.0 (27.9) x 1.5 (3.8)	150	73	0.15	21.6 (54.8) x 10.2 (25.9)
CK509X2	20.5	2 (5.0)	6	5	11.0 (27.9) x 1.5 (3.8)	150	227	0.09	25.7 (65.3) x 14.5 (36.8)
CK509X3	34.8	3.5 (8.8)	6	20	11.0 (27.9) x 2.8 (7.1)	630	193	0.18	26.6 (67.6) x 18.2 (46.2)
CK509X4	47.4	5 (12.7)	6	42	11.0 (27.9) x 4.0 (10.2)	1320	121	0.39	26.5 (67.3) x 20.0 (50.8)
CK509X5	70.7	6 (15.2)	6	52	11.0 (27.9) x 5.0 (12.7)	1560	117	0.60	27.3 (69.3) x 22.0 (55.9)

*Quantities are based on canes without sleeves.

ACCESSORIES

Model #	Description	Shipping Weight Lb. (kg)	Accessory Cart Model #
CK509X1	Bio-Cane 11	16 (7.3)	N/A
CK509X2	Bio-Cane 20	29 (13.2)	AY509X9
CK509X3	Bio-Cane 34	41 (18.6)	AY509X9
CK509X4	Bio-Cane 47	47 (21.3)	AY509X9
CK509X5	Bio-Cane 70	72 (32.7)	AY509X1

Bio-Cane™ Accessories



CryoClaw

CryoCane™ (A)

- Aluminum canes hold five 2.0 ml or six 1.2 ml standard cryovials for storage in Bio-Cane systems.

Cryogenic Vial Color Coders (B)

- Colorful polystyrene disks fit into top of standard Nalgene cryovials (1.2 or 2.0 ml).
- Provides quick identification of vials. Flat surface permits writing on top of vial.

CryoCane Coder (C)

- Unique, colorful aluminum tabs keep track of CryoCane inventory.
- Flat writing surface for additional identification.
- Conveniently packaged in quantities of 100.

CryoSleeve™ (D)

- Reusable polyvinyl chloride sleeve encloses a CryoCane for extra security.
- Will not become brittle during freezing or thawing.

Cryogenic Vials (E)

- Polypropylene vials have high density polyethylene closures which outperform other vials for storage in vapor phase liquid nitrogen.
- Screw closure has internal thread; vial has external thread, reducing potential contamination.
- Deep-skirted closure allows single-handed aseptic technique while minimizing exposure to vial contents.
- White marking area and fill line.
- Vials and closures preassembled and radiation-sterilized.
- Non-cytotoxic and non-pyrogenic.

CryoClaw™

- Removes vials and boxes that have fallen from racks and cans in cryogenic vessels.
- Removes vials from vessels having necks larger than two inches in diameter.
- Used for numerous applications around the lab from reaching overhead items to retrieving fallen objects between benches and behind instruments.
- Safely move radio-isotopes without touching the container.

ORDERING INFORMATION

Model #	Description
AY509X20	CryoCane(A), case/48, fits 1.2 & 2.0 ml vials, 286 mm length
AY509X27	Cryogenic Vials Closure Color Coders (B), pkg/100, White
AY509X28	Cryogenic Vials Closure Color Coders (B), pkg/100, Yellow
AY509X29	Cryogenic Vials Closure Color Coders (B), pkg/100, Blue
AY509X30	Cryogenic Vials Closure Color Coders (B), pkg/100, Green
AY509X31	Cryogenic Vials Closure Color Coders (B), pkg/100, Red
AY509X22	CryoCane Coders(C), case/100, White
AY509X23	CryoCane Coders(C), case/100, Yellow
AY509X24	CryoCane Coders(C), case/100, Blue
AY509X25	CryoCane Coders(C), case/100, Green
AY509X26	CryoCane Coders(C), case/100, Red
AY509X21	CryoSleeve(D), Case/100, 273 mm length
AY509X13	Cryogenic Vials(E), case/500, 1.2 ml, 13.5 mm O.D., 38.1mm H
AY509X12	Cryogenic Vials(E), case/500, 2.0 ml, 13.5 mm O.D., 48.3 mm H
AY509X18	CryoClaw
AY509X19	Replacement suction cups for CryoClaw
AY509X9	Wheeled Cart Accessory for Biocane 20, 34, 47 (5 inches high)
AY509X1	Wheeled Cart Accessory for Biocane 70

Locator® Rack and Box Systems



Locator Storage Systems

Product Description

- Locator systems available in three sizes with capacities up to 3600 vials.
- Unique hanging rack and gridded box design allows tracking and easy retrieval of samples.
- Suited for both manual and computerized inventory record-keeping methods.
- Advanced vacuum insulation minimizes liquid nitrogen evaporation and reduces operating costs.

Keep Track of Your Samples—Easily!

- Designed for long-term storage and easy sample retrieval
- Indexed rack and box system allows you to find the sample needed quickly and efficiently
- Compact size stores up to 3600 samples
- Available with or without ultrasonic level monitor
- Includes unique hanging rack
- ★ 36 Month Warranty

- Unbeatable temperature uniformity with advanced vacuum insulation, assures all samples are stored below -180°C. (Even when less than 2" (5 cm) of liquid nitrogen remains in the vessel.)
- Backed by Barnstead International's exclusive three-year warranty, Locator's durable construction provides years of trouble-free service.
- Compact size easily fits into any lab.
- Secure locking hasp prevents unauthorized entry.
- An optional liquid nitrogen level monitor safeguards your valuable samples.
- Two-inch box racks included with each Locator.

PRODUCT SPECIFICATIONS

Description	Locator Jr.	Locator 4	Locator 8
Height with Lid: Inches (cm)	26.5 (67.3)	37.5 (95.3)	37.5 (95.3)
Diameter: Inches (cm)	22 (55.8)	22 (55.8)	22 (55.8)
Neck Diameter: Inches (cm)	8.5 (21.5)	8.5 (21.5)	6 (15.2)
Working Liquid Nitrogen Capacity (Liters)	51	111	111
Consumption Rate (Liters/Day)	0.85	0.99	0.60
Static Holding Time (Days)	60	112	185
System Capacity (Vials)	1600	3600	1800
Racks Included With Vessel (2-inch box rack)	4	4	8
Boxes Per Rack	4	9	9
Box Capacity (Vials)	100	100	25
Box Dimensions Inches (cm)	5.25 x 5.25 (13.3 x 13.3)	5.25 x 5.25 (13.3 x 13.3)	3 x 3 (7.6 x 7.6)
Boxes Needed For System	16	36	72
*Shipping Weight: Lb. (kg)	90 (40.8)	115 (52.2)	117 (53.1)

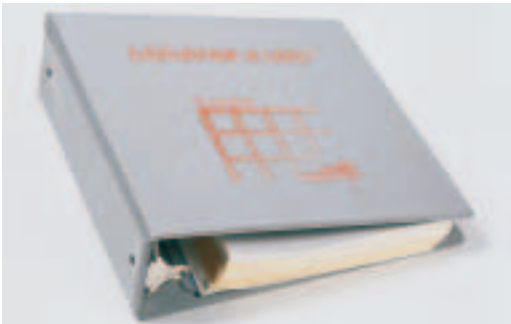
*Add 4 lbs. for units with level monitor.

ORDERING INFORMATION

Model #	Description
CY50925	Locator Jr. with 2-inch box racks
CY50935	Locator 4 with 2-inch box racks
CY50945	Locator 8 with 2-inch box racks
CY50955	Locator Jr. with level monitor/120 Volt
CY50965	Locator 4 with level monitor/120 Volt
CY50975	Locator 8 with level monitor/120 Volt
AY509X1	Wheeled Accessory Cart (5 inches high) For all Locators and Locator Plus (except Locator 6 Plus) and Biocane 70

240 Volt CE marked Level Monitors are available. Contact Barnstead International.

Locator® Accessories



Ultrasonic Level Monitor

- Safeguard irreplaceable biological specimens with the most advanced liquid nitrogen level monitor available.
- Unlike traditional monitoring devices, this ultrasonic device eliminates contact with liquid nitrogen reducing liquid nitrogen loss due to conduction.
- LED level indicator panel continuously displays liquid nitrogen volume in 1/8 increments.
- Remotable alarm notifies you of low liquid nitrogen levels even at times when no one is in the building.
- Audible and visual alarms provide early warning of low level conditions. Indicator light flashes when approximately 2" (5 cm) of liquid nitrogen remains in the vessel. An audible alarm sounds in unison with flashing low-level indicator light when level drops to about 1" (2.5 cm).

Locator Log

- Designed for quick, reliable sample identification storage and relocation.
- Three section format for Locator and Locator Plus systems recordkeeping.
 - Section 1: Serves as a helpful reminder for refilling vessels.
 - Section 2: Locates your samples by identification keys.
 - Section 3: Inventories samples and pinpoints exact location.

CryoClaw™

- Designed to remove vials and boxes that have fallen from racks and cans in cryogenic vessels having necks larger than two inches in diameter.
- Reach overhead items or retrieve fallen objects between benches and behind instruments.



ACCESSORIES

Model #	Description
AY509X1	Wheeled Accessory Cart, 5 inches high (12.7 cm) For all Locators (except Locator 6 Plus and Locator 7 Autofill) and Biocane 70
AY509X1-70	Wheeled Accessory Cart for Locator 6 Plus
CS509X24	Nalgene® System™ 100-vial box accommodates most internally threaded 1.0 and 1.5 ml vials (Case of 10) Size: 5.25 x 5.25 x 2.06 (13.34 x 13.34 x 5.23 cm)
CS509X3	2 ml Nalgene 25-vial box (Case of 80) -- 2" box
CS509X4	2 ml Nalgene 81-vial box (Case of 20) -- 2" box
CS509X5	2 ml Nalgene 81-vial box (Case of 20) -- 2" box
CS509X10	5 ml Nalgene 81-vial box (Each) -- 4" box
AY509X32	Nalgene System 100 Cryogenic Vials--1 ml (Case of 500)
AY509X33	Nalgene System 100 Cryogenic Vials--1.5 ml (Case of 500)
AY509X34	Nalgene System 100 Cryogenic Vial Holder (Qty. 1)
AY509X35	Nalgene System 100 Cryogenic Vial Holder (Pkg. of 4) Size: 4 x 7.75 x 0.8 (10.16 x 19.7 x 2.2 cm)
HR509X19A	Rack, 4-inch box, Locator Jr.
HR509X20A	Rack, 4-inch box, Locator 4

Model #	Description
HR509X15A	Rack, 2-inch box, Locator Jr.
HR509X2A	Rack, 2-inch box, Locator 4
HR509X1A	Rack, 2-inch box, Locator 8
LT509X5	Logbook, Locator Jr., 4, 6 or Jr. Plus
LT509X6	Logbook, Locator 8 & 8 Plus
AY509X18	CryoClaw
AY509X19	Replacement Suction Cups (2) for CryoClaw
CN509X1	Level monitor for Locator Jr. (240 Volt)
CN509X3'	Level monitor for Locator Jr. (120 Volt)
CN509X4	Level monitor for Locator 4 (240 Volt)
CN509X6'	Level monitor for Locator 4 (120 Volt)
CN509X7	Level monitor for Locator 8 (240 Volt)
CN509X9'	Level monitor for Locator 8 (120 Volt)
CN509X3-70'	Level monitor for Locator Jr Plus (120 Volt)
CN509X6-70'	Level monitor for Locator 4 Plus (120 Volt)
CN509X10-70	Level monitor for Locator 6 Plus (120 Volt)
CN509X9-70'	Level monitor for Locator 8 Plus (120 Volt)

'CSA

Locator® Plus Rack and Box Systems



Locator Plus Storage Systems

Maximum Capacity Storage Vessel!

- Indexed rack and box system allows sample retrieval quickly and efficiently
- Cost effective – maximum storage capacity combined with minimum liquid nitrogen consumption
- Compact size stores up to 6000 samples
- Available with or without ultrasonic level monitor
- ★ 36 Month Warranty



Product Description

- Locator Plus systems offer additional storage capacity compared to standard Locator systems -- maximum capacity from Locator 6 Plus.
- Locator Plus systems available in four sizes with capacities up to 6000 vials to meet your specific needs.
- Unique hanging rack and gridded box design allows for complete tracking and easy retrieval of samples.
- Suited for both manual and computerized inventory record-keeping methods.
- Vacuum insulation minimizes liquid nitrogen evaporation and reduces operating costs.
- Advanced vacuum insulation, assures all samples are stored below -180°C. (Even when less than 2" (5 cm) of liquid nitrogen remains in the vessel.)
- Backed by Barnstead International's exclusive three-year warranty, Locator Plus' durable construction provides years of trouble-free service.
- Compact size allows system to easily fit into any lab.
- Secure locking hasp prevents unauthorized entry.
- Two inch box racks included with each Locator Plus.

Ultrasonic Level Monitors

- Our liquid nitrogen level monitor is available to safeguard irreplaceable biological specimens.
- Our innovative level monitor design minimizes liquid nitrogen evaporation. Unlike traditional monitoring devices, this ultrasonic device eliminates contact with liquid nitrogen, reducing conduction and liquid nitrogen evaporation.
- LED level indicator panel continuously displays liquid nitrogen volume in 1/8 increments.
- Remotable alarm feature allows the system to notify you of low liquid nitrogen levels even at times when no one is in the building.
- In the event of low liquid nitrogen level, an audible alarm sounds continuously.

ORDERING INFORMATION

Locator Plus Cryogenic Vessels

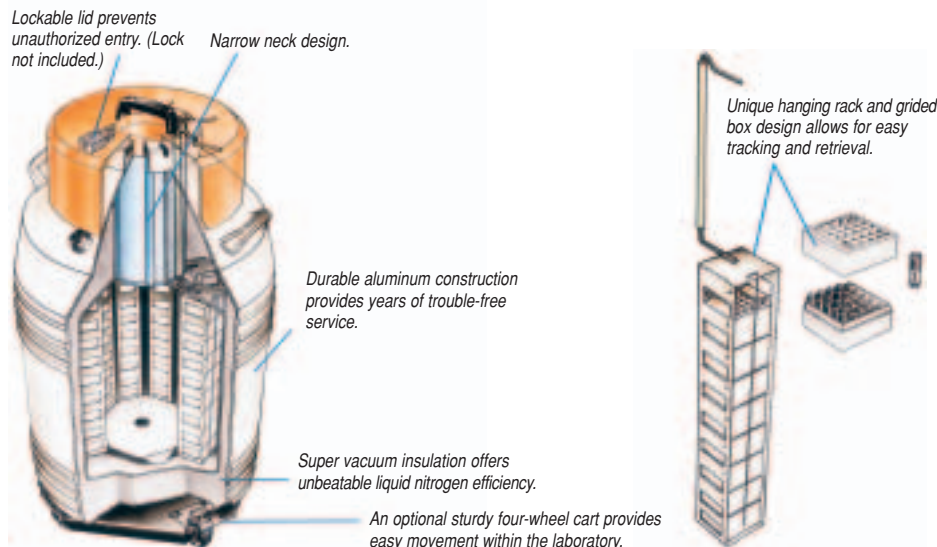
Model #	Description
CY50925-70	Locator Jr. Plus with 2-inch box racks
CY50935-70	Locator 4 Plus with 2-inch box racks
CY50985-70	Locator 6 Plus with 2-inch box racks
CY50945-70	Locator 8 Plus with 2-inch box racks
CY50955-70 ¹	Locator Jr. Plus with level monitor/120 Volt
CY50965-70 ¹	Locator 4 Plus with level monitor/120 Volt
CY50995-70	Locator 6 Plus with level monitor/120 Volt
CY50975-70 ¹	Locator 8 Plus with level monitor/120 Volt

¹ CSA

Locator Plus Level Monitors

Model #	Description
CN509X3-70 ¹	Level monitor for Locator Jr Plus (120V)
CN509X1-70	Level monitor for Locator Jr. Plus (240V)
CN509X6-70 ¹	Level monitor for Locator 4 Plus (120V)
CN509X4-70	Level monitor for Locator 4 Plus (240V)
CN509X10-70	Level monitor for Locator 6 Plus (120V)
CN509X11-70	Level monitor for Locator 6 Plus (240V)
CN509X9-70 ¹	Level monitor for Locator 8 Plus (120V)
CN509X7-70	Level monitor for Locator 8 Plus (240V)

Locator® Plus Rack and Box Systems



PRODUCT SPECIFICATIONS

	Locator Jr. Plus	Locator 4 Plus	Locator 6 Plus	Locator 8 Plus
Height with Lid: Inches (cm)	28.9 (73.3)	39.5 (100.3)	39.5 (100.3)	39.5 (100.3)
Diameter: Inches (cm)	22 (55.8)	22 (55.8)	26 (66)	22 (55.8)
Neck Diameter: Inches (cm)	8.5 (21.5)	8.5 (21.5)	8.5 (21.5)	6 (15.2)
Working Liquid Nitrogen Capacity (Liters)	61	121	175	121
Average Static Liquid Nitrogen Consumption Rate (Liters/Day)	0.85	0.99	0.99	0.60
Static Holding Time (Days)	74	122	176	201
System Capacity (Vials)	2000	4000	6000	2000
Racks Included With Vessel (2-inch box rack)	4	4	6	8
Boxes Per Rack	5	10	10	10
Box Capacity (Vials)	100	100	100	25
Box Dimensions: Inches (cm)	5.25 x 5.25 (13.3 x 13.3)	5.25 x 5.25 (13.3 x 13.3)	5.25 x 5.25 (13.3 x 13.3)	3 x 3 (7.6 x 7.6)
Boxes Needed For System	20	40	60	80
Shipping Weight: Lb. (kg)	91 (41.3)	118 (53.5)	160 (72.6)	115 (52.2)

ORDERING INFORMATION

Model #	Description	Model #	Description
AY509X1-70	Wheeled Accessory Cart (5 inches high) - Locator 6 Plus	HR509X19A-70	Rack, 4-inch box, Locator Jr. Plus
AY509X1	Wheeled Accessory Cart (5 inches high) - Locator Jr., Jr. Plus, 4, 4 Plus, 8 Plus and Bio-Cane™ 70	HR509X32A-70	Rack, 4-inch box, Locator 6 Plus
CS509X24	Nalgene® System™ 100 (10x10 array) vial box accommodates most internally threaded 1.0 and 1.5 ml vials (Case of 10)	HR509X20A-70	Rack, 4-inch box, Locator 4 Plus
CS509X3	2 ml Nalgene 25 (5x5 array) vial box (Case of 80)	AY509X32	Nalgene System 100 Cryogenic Vials—1 ml (Case of 500)
CS509X4	2 ml Nalgene 81 (9x9 array) vial box (Case of 40)	AY509X33	Nalgene System 100 Cryogenic Vials—1.5 ml (Case of 500)
CS509X5	2 ml Nalgene 81 (9x9 array) vial box (Case of 20)	AY509X35	Nalgene System 100 Cryogenic Vial Holder (Pkg of 4)
CS509X10	5 ml Nalgene 81 (9x9 array) vial box (Each)	LT509X5	Logbook, Locator 4, 6 or Jr. Plus
		LT509X6	Logbook, Locator 8 Plus
		AY509X18	CryoClaw
		AY509X19	Replacement Suction Cups (2) for CryoClaw

ACCESSORIES

Model #	Description	Model #	Description
HR509X15A-70	Rack, 2-inch box, Locator Jr. Plus	HR509X31A-70	Rack, 2-inch box, Locator 6 Plus
HR509X2A-70	Rack, 2-inch box, Locator 4 Plus	HR509X1A-70	Rack, 2-inch box, Locator 8 Plus

Locator® Autofill



Locator 7 Autofill

Product Description

LOCATOR 7 Autofill Controller

- LOCATOR 7 Autofill cryogenic storage vessel, designed to attach to your liquid nitrogen tank for automatic filling of aluminum cryogenic vessels with liquid nitrogen for vapor phase storage.
- The autofill controller minimizes manual checking and refilling vessels with liquid nitrogen on a daily basis which is critically important for vapor phase storage.
- Larger area in the bottom of the LOCATOR 7 cryogenic vessel permits maximum holding times of over 22 days in vapor phase.
- System allows cells to be stored unattended in the vapor phase of liquid nitrogen preventing contamination and leakage of liquid nitrogen into the vial.

Automatically Monitors and Refills Vessels with Liquid Nitrogen

- Provides safe storage of valuable cells
- Designed for vapor phase storage in liquid nitrogen
- Autofill controller features audible and visual low/high level alarms
- Stores up to 6000 samples
- ★ 36 month warranty on the LOCATOR vessel and two year warranty on autofill controller

- Autofill controller features audible and visual low/high level liquid nitrogen alarm that alerts end users to an empty cryogenic storage vessel or prevents vials from coming into contact with liquid nitrogen.
- Autofill system can be connected to central alarm warning system that triggers alarms and reports power failures.

LOCATOR 7 Cryogenic Vessel

- LOCATOR 7 Autofill system has a storage capacity of 6000 vials.
- Unique hanging rack system and gridded box design allows for complete tracking and easy retrieval of samples.
- Suited for both manual and computerized inventory record keeping methods.
- Advanced vacuum insulation minimizes liquid nitrogen evaporation and reduces operating costs.
- Unbeatable temperature uniformity with advanced vacuum insulation assures all samples are stored below -180°C. (Even when less than 2" [5 cm] of liquid nitrogen remains in the vessel.)
- Secure locking clasp prevents unauthorized entry.
- Compact size fits easily into any lab.

PRODUCT SPECIFICATIONS

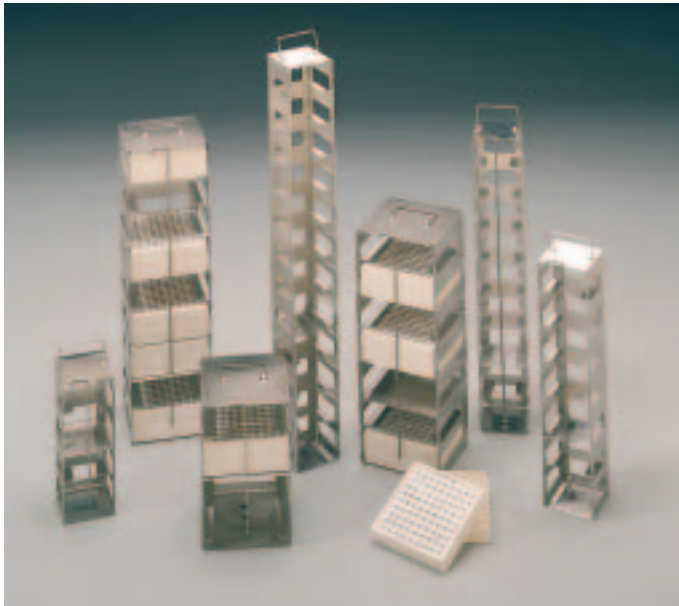
Height with Lid: Inches (cm)	44 (111.8)
Diameter: Inches (cm)	26 (66.0)
Neck Diameter: Inches (cm)	8.5 (21.5)
Liquid Nitrogen Capacity - Vapor Phase (Liters)	31
Average Static Liquid Nitrogen Consumption Rate - Vapor Phase (Liters/Day)	1.4
Static Holding Time - Vapor Phase (Days)	22
System Capacity (Cryovials)	6000
Racks Included with Vessel (2-inch Box Rack)	6
Boxes per Rack	10
Box Capacity (Cryovials)*	100 vials (10x10 array)
Box Dimensions: Inches (cm)	5.25 x 5.25 (13.3 x 13.3)
Boxes Needed for System	60
Liquid Nitrogen Level Alarm	Included
Autofill Controller	Included
Electrical	90-240 VAC, 40 VA, 47-63 Hz, 1 phase
Shipping Weight: Lb (kg)	175 (79.4)

*Based on Nalgene System 100 Cryogenic Vials

ORDERING INFORMATION

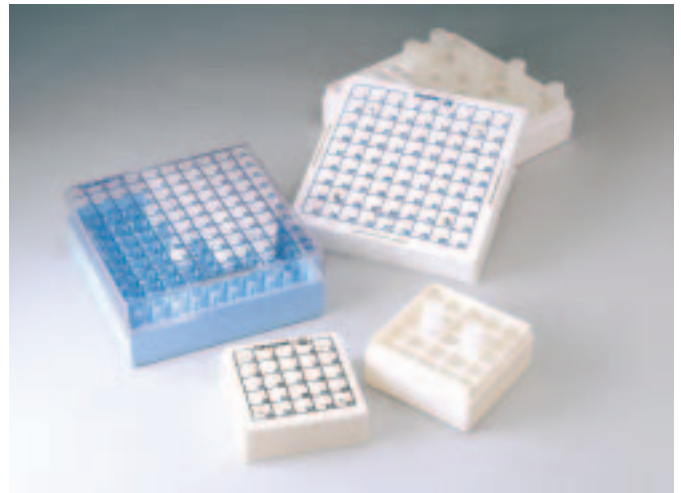
Model #	Description
CY50930-33	Locator 7 with 2" box racks, autofill controller and level monitor
CY509112	Locator 7 with 2" box racks
AY509X39-33	Autofill controller with level alarm (only for use with Locator 7 Cryogenic Storage Vessel)
CS509X24	Nalgene System 100 (10 x 10 array) cryovial box accommodates most internally threaded 1.0 and 1.5ml vials. (Case of 10) Size: 5.25 x 5.25 x 2.06 inches (13.34 x 13.34 x 5.23 cm)
CS509X3	2ml Nalgene 25 (5 x 5 array) cryovial box (Case of 80) - 2" box
CS509X4	2ml Nalgene 81 (9 x 9 array) cryovial box (Case of 40) - 2" box
CS509X5	2ml Nalgene 81 (9 x 9 array) cryovial box (Case of 20) - 2" box
CS509X10	5ml Nalgene 81 (9 x 9 array) cryovial box (Each) - 4" box
AY509X32	Nalgene System 100 Cryogenic vials - 1ml (Case of 500)
AY509X33	Nalgene System 100 Cryogenic vials - 1.5ml (Case of 500)
AY509X34	Nalgene System 100 Cryogenic vial holder (Qty. 1)
AY509X35	Nalgene System 100 Cryogenic vial holder (Pack of 4) Size: 4 x 7.75 x 0.8 inches (10.16 x 19.7 x 2.2 cm)
HR509X31A-70	Locator 7, 2" box rack for 1.0ml to 2.0ml vials
HR509X32A-70	Locator 7, 4" box rack for 5.0ml vials
AY509X18	Cryoclaw
LT509X5	Locator Logbook

Freezer Racks for Mechanical Freezers



Mechanical Freezer Racks

- Inventory system
- Choose from a variety of sizes
- Heavy-duty design minimizes damage to freezer interiors



Vial Storage Boxes

Mechanical Freezer Racks

- Vertical racks for chest-type freezers are available in 4, 7, 9 or 12-shelf sizes to accommodate 25, 81 or 100 vial boxes.
- Racks feature a unique locking rod to hold boxes securely. These racks allow quick retrieval of samples and fast return of rack into the freezer.
- Heavy-duty construction and unique unibody design prevents warping and bending due to temperature stress.
- Designed for use with standard 2" high cryogenic freezing boxes. No special boxes are required.
- Offers a unique inventory system for your mechanical freezer when used in conjunction with Nalgene® plastic CryoBoxes.

Cryovial Storage Boxes

- The unique numbered grid system and one-way lid provides easy vial identification.
- Durable plastic construction keeps vials secure in and out of liquid nitrogen.
- Choice of vial sizes and capacities maximize storage.

ORDERING INFORMATION

Model #	# of Shelves	Overall Dimensions Inches (cm)		
		W	H	D
Racks for 81- and 100-vial Boxes*				
HR509X8A	4	5.42 (13.8)	9.0 (22.9)	5.56 (14.1)
HR509X6A	7	5.42 (13.8)	15.55 (39.5)	5.56 (14.1)
HR509X10A	9	5.42 (13.8)	19.92 (50.6)	5.56 (14.1)
HR509X3A	12	5.42 (13.8)	26.5 (67.3)	5.56 (14.1)
Racks for 25-vial Boxes*				
HR509X7A	4	3.18 (8.1)	9.0 (22.9)	3.29 (8.4)
HR509X5A	7	3.18 (8.1)	15.55 (39.5)	3.29 (8.4)
HR509X9A	9	3.18 (8.1)	19.92 (50.6)	3.29 (8.4)
HR509X4A	12	3.18 (8.1)	26.5 (67.3)	3.29 (8.4)

Model #	Description
CryoBoxes and Vials	
CS509X4	Nalgene System 81(9x9 array) vial box accommodates most internally threaded 1.0 and 1.5 ml vials (Case of 40)
CS509X24	Nalgene System 100 (10x10 array) vial box accommodates most internally threaded 1.0 and 1.5 ml vials (Case of 10)
CS509X5	2 ml Nalgene 81 (9x9 array) vial box (Case of 20)
CS509X3	2 ml Nalgene 25 (5x5 array) vial box (Case of 80)
AY509X32	Nalgene System 100 Cryogenic Vials—1 ml (Case of 500)
AY509X33	Nalgene System 100 Cryogenic Vials—1.5 ml (Case of 500)
AY509X34	Nalgene System 100 Cryogenic Vial Holder (Pkg of 1)
AY509X35	Nalgene System 100 Cryogenic Vial Holder (Pkg of 4)

* When ordering racks it is important to measure the chamber height of your freezer and choose the rack height which allows for a minimum of 1" clearance between the top of the rack and the freezer lid.

Cryogenic Shipping Containers



Arctic Express™ Dry Shippers

Includes FREE Shipping Case

PRODUCT SPECIFICATIONS

	Arctic Express 5	Arctic Express 10
Model #	CY50915	CY50905
Vessel Volume (Liters)	5	10
Liquid Nitrogen Capacity (Liters)	1.5	4.3
Holding Time (Days)	8	21
Vial Capacity (2 ml Vials)	9	18
Vessel		
Height: Inches (cm)	13.5 (34.3)	19.4 (49.3)
Diameter: Inches (cm)	7.25 (18.4)	8.7 (22.1)
Neck Opening: Inches (cm)	1.4 (3.5)	2 (5)
Avg. Static Liquid Nitrogen Consumption Rate (Liters/day)	.19	.20
Shipping Case		
Height: Inches (cm)	22 (55.9)	27 (68.6)
Length: Inches (cm)	12 (30.5)	12 (30.5)
Width: Inches (cm)	12 (30.5)	12 (30.5)
Weight		
Empty: Lb. (kg)	6 (2.7)	13 (5.9)
Full: Lb. (kg)	8.8 (4.0)	20 (9.1)
Shipping: Lb. (kg)	24 (10.9)	29 (13.2)

Ship Your Samples with Confidence!

- Transport nonhazardous biological samples at cryogenic temperatures via air carriers
- 13 and 21 day liquid nitrogen holding times
- Canister safely holds biological materials in shipper
- No refrigerant lost by spillage when properly filled
- Includes durable shipping case that holds samples upright

Product Description

- Each dry shipper includes reusable “mushroom” shipping case to prevent damage and keep system upright during transportation.
- Unique material absorbs liquid nitrogen, prohibiting liquid nitrogen spillage. Samples remain at cryogenic temperatures.
- Material stored in the shipper is placed in a canister that is lowered into the shipper.
- Lightweight aluminum design and convenient pail-style handle permit easy transport.
- Durable construction and sturdy base allows dry shipper to withstand rough handling during shipping.
- 13 and 21 day liquid nitrogen holding times allow specimens to be shipped almost anywhere.
- Easily transported via most common carriers.
- Lockable lid prevents unauthorized entry.
- Two sizes available to fit your specific shipping requirements.

Dual and IATA Transport and Storage Systems



Arctic Express™ Dual Shippers



Arctic Express™ IATA-Approved Shippers

Ship Dry and Store in Liquid Nitrogen in the Same Vessel!

- Arctic Express™ Dual Shipper Storage System transports non-hazardous samples by common carrier
- IATA-approved shipper for air shipment of potentially infectious material
- ★ 36 Month Vacuum Warranty

Product Description

Dual Shippers

- Holding time of up to 26 days when used as a dry shipper; up to 125 days when used as a laboratory cryovessel
- Family of six cryovessels can be used as dry shippers or laboratory cryovessels.
- Color-coded can and cane system allows for easy retrieval of stored sample.
- Smaller models – Dual 10, 19 and 28 – come complete with reusable “mushroom” shipping case to prevent damage.
- Lockable lid prevents unauthorized entry.

IATA-Approved Shippers

- Unique design approved for worldwide shipment of infectious materials by UN and IATA.
- Two-week holding time ensures that precious samples arrive intact.
- Lockable cover with internal security compartment provides protection and sample isolation, and holds up to 384 2.0 ml cryovials.
- Cryovials must be wrapped in a fiber absorbent material to absorb sample if spillage occurs. Call customer service for information on absorbent material.
- Aluminum container with handle holds internal security compartment.
- Includes reusable “mushroom” shipping case to prevent damage.
- Number of vials held in IATA Shipper : 1.0 ml = 480; 2.0 ml = 384; 3.0 ml = 288; 4.0 ml = 288

PRODUCT SPECIFICATIONS

Model #	Dual 10 CK50920	Dual 19 CK50921	Dual 28 CK50922	Dual 32 CK50923	Dual 46 CK50925	IATA CY50920
Liquid Nitrogen Capacity (Liters)	10	18.5	28	32	46	5.9
Adsorbed Liquid Nitrogen Capacity (Liters)	3	3	8	7	8	N/A
Holding Time -- Laboratory (Days)	42	125	50	100	74	14
Holding Time -- Shipper (Days)	21	21	21	30	21	N/A
Sample Capacity (1.2 ml vials)	150	150	810	630	1320	966
Vessel						
Height: Inches (cm)	21.6 (54.9)	25.7 (65.3)	22 (55.9)	26.6 (67.6)	26.5 (67.3)	24 (61.0)
Diameter: Inches (cm)	10.2 (25.9)	14.5 (36.8)	18.2 (46.2)	18.2 (46.2)	20 (50.8)	15 (38.1)
Neck Opening: Inches (cm)	2.0 (5.08)	2.2 (5.6)	3.8 (9.7)	3.5 (8.9)	5.0 (12.7)	8.5 (21.6)
Shipping Weight: Lb. (kg)	31.8 (14.4)	45.3 (20.5)	48.3 (21.9)	52 (23.5)	55 (24.9)	29 (13.2)

Liquid Nitrogen Transfer Vessels



Liquid Nitrogen Transfer Vessels

Economical and Durable!

- Designed for storing and dispensing small amounts of liquid nitrogen
- Six models provide capacities from 5 to 50 L
- Compact, durable design saves space
- Full range of handling and dispensing accessories
- Transport carts permit easy and safe movement in the lab.



Accessory transfer hose and optional phase separator (AY509X7) for Thermo 35 and 50 saves liquid nitrogen and prevents splashing when dispensing liquid nitrogen.



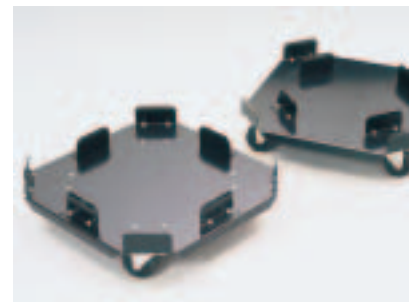
Accessory spout (AY509X8) attaches directly to Thermo 35 and 50 for dispensing.



Convenient pail-style handle and lightweight design make the Thermo 5 and 10 ideal for pouring into even the hardest-to-reach places.



Also available is an accessory dipper (AY509X6). This implement is ideal when 12 ml (or less) of liquid nitrogen is needed.



Accessory transport carts (AY509X9) are available for most Thermo dewars and cylinders.

Liquid Nitrogen Transfer Vessels







Thermo™ Dewars

- Designed to bring liquid nitrogen to Locator® Systems and other cryovessels.
- Thermo 5, 10, 20 and 30 lightweight aluminum dewars assure low-static evaporation rates.
- Compact Thermo 5 and 10 dewars feature a convenient pail-style 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 self-pressurized withdrawal accessory devices to easily dispense LN2 without need for pouring.

Thermo Cylinders

- Thermo 35 and 50 dewars' stainless-steel design is rugged.
- Ideal for liquid nitrogen purge and trap applications used.
- Low operating pressure and regulating valve allow for controlled rate, continuous feed, and intermittent feed requirements.
- Accessory stainless-steel transfer hoses directly link the cylinder to instruments, or bulk storage facilities.
- Optional phase separator attachment for transfer hose allows easy dispensing.
- Casters make maneuvering the unit easy.

PRODUCT SPECIFICATIONS

	Thermo 5 TY509X1	Thermo 10 TY509X2	Thermo 20 TY509X3	Thermo 30 TY509X4	Thermo 35 TY509X5	Thermo 50 TY509X6
						
Diameter: Inches (cm)	8.8 (22.4)	10.3 (26.2)	14.5 (36.8)	17 (43.2)	16 (40.6)	16 (40.6)
Height: Inches (cm)	18.2 (46.2)	21.5 (54.6)	24.7 (62.8)	24.1 (61.2)	35 (88.9)	41 (104.1)
Neck Diameter: Inches (cm)	2.2 (5.6)	2.2 (5.6)	2 (5)	2.5 (6.4)	16 (40.6)	16 (40.6)
Static Evaporation Rate (Liters/Day)	0.15	0.18	0.18	0.22	2.9	2.9
Static Holding Time (Days)	33.3	55.6	116.7	128	23	25
Liquid Nitrogen Capacity (Liters)	5	10	21	32	35	50
Relief Valve Setting (psi)	—	—	—	—	22	22
Shipping Weight: Lb. (kg)	12 (5.4)	14 (6.4)	24 (10.9)	30 (13.6)	88 (39.9)	98 (44.5)

ACCESSORIES

Model #	Description
AY509X5	Withdrawal device for Thermo 10
AY509X4	Withdrawal device for Thermo 20
AY509X3	Withdrawal device for Thermo 30
AY509X6	12 ml Dipper
AY509X8	Spout for Thermo 35 and 50
AY509X7	6-ft. transfer hose for Thermo 35 and 50
AY509X11	Phase separator for transfer hose
AY509X9	Adjustable Cart for Thermo 20, 30, 35 and 50

Benchtop Liquid Nitrogen Container



Storage/Transfer Vessels

Benchtop Storage!

- 26 models available with capacities from 200 ml to 10 L
- Lightweight design is ideal for everyday laboratory use



*Stainless Steel with
Lids and Handles*



Shallow Wide Mouth



Plastic Wide Mouth Flasks



*Enameled Steel without lids and
handles or with lids and handles*

Benchtop Liquid Nitrogen Container

Product Description

- Thermo-Flask® liquid nitrogen containers feature inner vessels of borosilicate glass evacuated to 1×10^{-5} mm Hg to provide maximum coolant retention.
- Available in stainless steel, enameled steel or plastic exteriors.
- Select models feature vented, clamped lids, carrying handles and rubber cushioned bases.

Stainless Steel Thermo-Flask Containers with Handle and Lid

- Durable, corrosion-resistant stainless steel exterior construction with carrying handle and vented lid secured by toggle clamps.
- Recommended for the safe transport of liquid nitrogen.

Shallow Wide Mouth Flasks

- Convenient dish-shaped design is also ideal for bench top use with crushed ice and dry ice/alcohol.
- Stainless steel jacket and cushioned base provide years of trouble-free use.
- Excellent for use as a cold trap.

Plastic Wide Mouth Flasks

- Low cost, with combined high efficiency.
- Rugged, shock-absorbing plastic exterior with carry handle and “push-fit” insulated lid.
- Vented lid prevents pressure build-up.
- Borosilicate glass inner vessel.

Enameled Steel Thermo-Flask Containers

- Safe storage of liquefied gases at an economical price.
- Enameled steel exteriors, borosilicate glass liners and cushioned bases.
- Models 2118-2121 include insulated lids and fold-down carrying handles.
- Ideal for cold traps.

ORDERING INFORMATION

Model #	Description	Capacity	Inside Diameter Inches (cm)	External Dimensions Inches (cm) (H x Dia.)	Shipping Weight Lb. (kg)
2110	Plastic Wide Mouth, glass lined	1.0 l	3.33 (8.5)	5.75 (14.6) x 8.75 (22.2)	6 (2.7)
2113	Enameled Steel, w/o lids and handles	0.2 l	1.62 (3.8)	2.75 (6.9) x 8.5 (21.6)	4 (1.8)
2114	Enameled Steel, w/o lids and handles	0.6 l	2.25 (5.7)	3.25 (8.3) x 13.75 (34.9)	5 (2.3)
2115	Enameled Steel, w/o lids and handles	0.7 l	2.62 (6.4)	3.75 (9.5) x 11.25 (28.6)	5 (2.3)
2116	Enameled Steel, w/o lids and handles	1.1 l	3 (7.6)	4.25 (10.8) x 11 (27.9)	6 (2.7)
2117	Enameled Steel, w/o lids and handles	1.5 l	3.5 (8.9)	5 (12.7) x 11.37 (29.2)	7 (3.2)
2131	Enameled Steel, w/o lids and handles	1.5 l	4 (10.2)	5.37 (13.9) x 11 (27.9)	7 (3.2)
2133	Enameled Steel, w/o lids and handles	2.0 l	4 (10.2)	5.37 (13.9) x 13 (33.1)	8 (3.6)
2135	Enameled Steel, w/o lids and handles	3.0 l	5.25 (13.3)	7 (17.8) x 11.37 (29.2)	9 (4.1)
2118	Enameled Steel, with lids and handles	1.0 l	3.5 (8.9)	4.62 (11.4) x 9 (22.9)	6 (2.7)
2119	Enameled Steel, with lids and handles	2.0 l	4.25 (10.8)	5.62 (13.9) x 10.5 (26.7)	8 (3.6)
2120	Enameled Steel, with lids and handles	4.5 l	6 (15.2)	7.25 (18.4) x 13.75 (34.9)	10 (4.5)
2121	Enameled Steel, with lids and handles	10.0 l	8 (20.3)	9.12 (23.3) x 17.12 (43.7)	16 (7.3)
2122	Stainless Steel, with lids and handles	1.0 l	3.33 (8.5)	4.62 (11.6) x 9 (22.9)	6 (2.7)
2123	Stainless Steel, with lids and handles	2.0 l	4.25 (10.8)	5.62 (13.9) x 10.5 (26.7)	8 (3.6)
2124	Stainless Steel, with lids and handles	4.5 l	6 (15.2)	7.25 (18.4) x 13.75 (34.9)	10 (4.5)
2125	Stainless Steel, with lids and handles	7.0 l	8 (20.3)	9.25 (23.5) x 13.25 (33.7)	14 (6.4)
2126	Shallow Wide Mouth	200 ml	3 (7.6)	4.12 (10.6) x 3 (7.6)	4 (1.8)
2127	Shallow Wide Mouth	300 ml	4 (10.2)	5.12 (13.2) x 3.5 (8.9)	6 (2.7)
2128	Shallow Wide Mouth	500 ml	4.5 (11.4)	6 (15.2) x 3.75 (9.5)	6 (2.7)
2129	Shallow Wide Mouth	1000 ml	5.37 (13.6)	7 (17.8) x 4.12 (10.7)	8 (3.6)
2130	Shallow Wide Mouth	1900 ml	6 (15.2)	7.25 (18.4) x 5.5 (14.0)	10 (4.5)