

CRYOSCience

by Taylor-Wharton™

LABS Series



The LABS Series is designed to provide near LN2 Temperatures at the top of the Inventory System and all racks are in vapor. The LABS can also be used in full liquid storage. The LABS Series features the intuitive Kryos Control.

Features

- Near LN2 Temperature at Top Rack
  - Easy - Grip aluminum turn - table
  - Hinged & Lockable Lid with Sealed Coating
  - Integrated single stainless steel folding step
- Turntable Pivot - Easier Movement
  - Efficient Inventory Design - Maximized for 100 Cell Racks
  - Flat Table Top - Convenient Work Surface
  - Kryos Control with battery backup option

Models		20K	38K	40K	80K	94KX
Dimensions						
External Operating Height (Top of Step to Lid Opening)	- in.	42	44	42	42	40
	-mm.	1067	1118	1067	1067	1016
Step Height (1)	- in.	11	11.5	11	11/17	11/22
	-mm.	279	292	279	279/432	279/559
Height, Floor to Opening	- in.	53	56	53	53	62
	-mm.	1346	1422	1346	1346	1575
Usable Height Internal	- in.	30	30	30	30	35.3
	-mm.	762	762	762	762	897
Outside Diameter	- in.	34	42	45	59.5	59.5
	-mm.	864	1067	1143	1511	1511
Internal Working Diameter	- in.	29.5	37.8	40.5	55	55
	-mm.	750	959	1029	1397	1397
Neck Opening	- in.	13	18	18	24.5	24.5
	-mm.	330	457	457	622	622
Capacity						
Total LN2 Capacity	- L.	407	626	606	1350	1630
	- L.	46	72	76	150	300
Power Supply (2)	- VAC	16.5	16.5	16.5	16.5	16.5
Weight Empty	- lb.	650	930	920	1550	1700
	-kg.	295	422	417	703	771
Maximum Gross Weight (3)	- lb.	1375	2050	2000	3956	4600
	-kg.	624	930	907	1794	2086
Inventory Control System Specifications						
No. 100/81 Cell Racks		14	26	30	58	60
	No. Shelves/Rack	13	13	13	13	15
No. 25 Cell Racks		4	12	8	12	12
	No. Shelves/Rack	13	13	13	13	15
Vial Capacity, 2 ml (4)		19500	37700	41600	79300	94500
Bag 25ml (7 Level Rack) (5)		1624	2688	3108	5999	6856
Bag 4R9951 - 50ml (5 Level Rack) (5)		924	1582	1876	3381	3864
Bag 4R9953 - 250ml (5 Level Rack) (6)		500	900	990	1920	2304
Bag 4R9955 - 500ml (5 Level Rack) (6)		420	690	830	1610	1932



(1) Model LABS94KX has an independent two stage stainless step. Optional two stage step (17" high) on LABS80K.

(2) This is the power supply for the standard battery backup version. The Kryos version (No Battery) uses a 24 VAC power supply. For power outlets other than 110 VAC contact Taylor-Wharton Customer Service.

(3) Includes the empty weight and total LN2 capacity weight.

(4) 2 ml vial size; 12.5 mm O.D. internal thread.

(5) Model LABS94KX, 8 Level Rack

(6) Model LABS94KX, 6 Level Rack





K Series



The K series cryogenic system offer reliable liquid nitrogen storage with controllable temperatures between (-100°C to -196°C). Combined with the safety of the automatic alarms and the easy access to stored product, the unique Temperature Gradient Suppression System greatly improves vapor phase temperature storage and recovery.

Features

- Temperature Control
- Temperature Monitor
- Vaper or Liquid Storage
- Intuitive touch controls
- Stainless steel vacuum vessel
- Modular design
- Durable powder coated cabinet
- Caster mounted
- Superior vacuum performance



Models	3K	10K	24K	38K
Static Holding Time days (1)	19	33	52	74
Working Time days (2)	12	N/A	N/A	N/A
Liquid Nitrogen Capacity - liters	48	165	365	590
Weight Empty	- lbs. 42.0 - kg. 19.1	245 111	405 184	565 256
Weight Full	- lbs. 125 - kg. 56.7	537 243	1046 474	1616 733
Neck Diameter	- in. 14.0 - mm. 356	21.0 533	31.0 787	39.0 991
Overall Height	- in. 29.7 - mm. 754	44.0 1118	44.0 1118	49.0 1245
Overall Diameter	- in. 15.4 - mm. 391	23.1x30.5(3) 587x775	34.0x38.5(3) 864x965	42.0 (4) 1067
Usable height - Internal	- in. 19.2 - mm. 488	29.0 737	29.0 737	29.0 737
Internal Diameter	- in. 14.0 - mm. 356	21.0 (5) 533	31.0 (5) 787	39.0 (5) 991
Capacity	3K	10K	24K	38K
2 ml Plastic Vials (6)	3024	10400	24050	38350
Number of 100/81 Cell Racks	N/A	7	17	28
Number of 25 Cell Racks	N/A	4	6	6
Number of shelves	N/A	13	13	13
Box Size - shape	Triangle	Square	Square	
Size in.	6.75x6.87 (7)	5x5 (8)	3x3 (8)	
Size mm.	171x175	127x127	76x76	
Vials per box	56	100	25	
Blood Bag Capacity				
Fenwal #4R5461 - 9953	N/A	235	535	870
Fenwal #4R5462 - 9955	N/A	185	475	680
Fenwal #4R5451 - 9951	N/A	343	805	1407
Stericon #RCM91D	N/A	235	360	560
Chartmed #7005-2	N/A	105	216	536
Gambro #DF700	N/A	88	200	320
Gambro #DF200	N/A	192	496	496
0.50cc straws, 10 per goblet, 2-13mm goblets per can, Two tier turn-table inventory control system	N/A	44000	59400	114000
Roller Base	R018-8C00	N/A	N/A	N/A

(1) Evaporation rate and static holding time are nominal. Actual rate may be affected by the nature of the contents, atmospheric conditions, container history, and manufacturing tolerances.  
(2) Work time is an arbitrary, reference-only value to estimate container performance under the actual operating conditions.  
(3) Maximum required clearance (with lid open) for the 10K is 69.0 (1753 mm); 24K is 76.0 in. (1930mm). Depth with lid open for 10K is 34.0 (864 mm); 24K is 48.5 (1232 mm)  
(4) Maximum depth 55.0 in (1397mm). Maximum height 90.0 in. (2286 mm) with lid open.  
(5) Temperature Gradient Suppression System reduces internal diameter by approx. 1/4 in. (6.4 mm)  
(6) 2.0 ml vial size: 12.5 mm O.D. internal thread (7) 6-9-2  
(8) The 10K/24K/38K containers utilize both the 5 in. x 5 in. (127 mm x 127 mm) 100/81 cell box and the 3 in. x 3 in. (76 mm x 76 mm) 25 cell box



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LS Series



The Taylor-Wharton Laboratory Systems (LS) are uniquely designed for large vial capacity in convenient box-type storage racks. They provide maximum holding times. This means lower per vial operating costs and fewer refills. The new LS6000 with the Auto Tend Controller with Temperature readout provides automatic filling and alarm features.

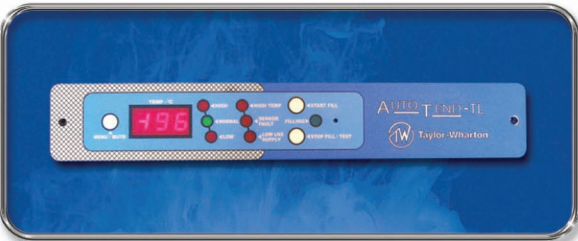
Models		LS750	LS3000	LS4800	LS6000	LS6000AT
Static Holding Time days <sup>(1)</sup>		130	106	153	194	194
Working Time days <sup>(2)</sup>		80	66	96	120	120
Evaporation Rate <sup>(1)</sup> liters/days		0.27	0.76	0.85	0.84	0.84
Liquid Nitrogen Capacity - liters		35	81	130	165	165
Weight Empty	- lbs.	39	70	90	121	121
	- kg.	17.7	31.8	40.9	55.0	55.0
Weight Full <sup>(3)</sup>	- lbs.	101.3	214.2	312.4	410.0	410.0
	- kg.	46.0	97.4	146.1	186.4	186.4
Neck Diameter	- in.	4.7	8.5	8.5	8.5	8.5
	- mm.	119	216	216	216	216
Overall Height	- in.	26.8	28.8	35.1	39.0	39.0
	- mm.	681	731	892	991	991
Overall Diameter	- in.	18.8	26.9	26.9	26.9	26.9
	- mm.	478	683	683	683	683
Number of Racks		6	6	6	6	6
Number of Shelves/Rack		5	5	8	10	10
2 ml vial capacity <sup>(4)</sup>		750	3000	4800	6000	6000
Box Size - Shape Size in. Size mm. Vials per box <sup>(5)</sup>		Square	Square	Square	Square	Square
		3.0 x 3.0	5.0 x 5.0	5.0 x 5.0	5.0 x 5.0	5.0 x 5.0
		76x76	127x127	127x127	127x127	127x127
		25	100	100	100	100
Roller Base		R033-8C00	R05K-8C00	R05K-8C00	R05K-8C00	R05K-8C00
Cryo-Sentry Level Alarm		R036-8C30	RS30-8C40	R05K-8C26	RS60-8C40	N/A
Auto Tend Controller Kit		N/A	N/A	N/A	RS60-8C86	N/A



Features

- LS 6000 available with Auto Tend Controller with temperature read out.
- LS6000-AT, vapor phase, -190°C at top of rack
- New Rugged Construction – ribbed high strength aluminum body, magnifomed necktube design, and more durable paint system.
- Convenient Storage Systems – rack index location ring and internal location spider, computer compatible box storage is ideal for simple inventory management
- Superior vacuum performance with super insulation provides maximum holding times.
- Security – Accessory low-level alarm is available with remote monitor capability. • Lockable lids
- Mobility - Roller bases are available

(1) Evaporation rate and static holding time are nominal. Actual rate may be affected by the nature of the contents, atmospheric conditions, container history, and manufacturing tolerances.  
(2) Work time is an arbitrary, reference-only value to estimate container performance under the actual operating conditions.  
(3) Without canisters or racks.  
(4) 2.0 ml vial size: 12.5 mm O.D. internal thread. (5) 81 cell boxes available.



The AutoTend-TL Controller

The AutoTend Controller offers simplicity in form and function. This Control is available on both the K and the LS Series.

Automatic liquid level control with Temperature readout and a limited number of alarms complement this economical solution for your Cryostorage requirements.



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HC Series



The High Capacity (HC) series of refrigerators are designed for storing large quantities of a variety of materials at cryogenic temperatures. Temperatures generally range between -196°C (-320°F) at the liquid surface, and -190°C (-310°F) at the canister top.

Models		HCL12	HC20	HC34	HC35	VHC35
Static Holding Time days (1)		60	87	200	130	130
Working Time days (2)		37	54	125	81	81
Evaporation Rate (1) liters/days		0.20	0.23	0.17	0.27	0.27
Liquid Nitrogen Capacity - liters		12	20	34	35	35
Weight Empty	- lbs. - kg.	21.6 9.8	26.4 12.0	35.38 16.1	39 17.7	37.9 17.2
Weight Full (3)	- lbs. - kg.	43.0 19.5	62.0 28.2	95.9 43.6	101.3 46.0	100.2 45.5
Neck Diameter	- in. - mm.	3.6 91	3.6 91	3.6 91	4.7 119	4.7 119
Overall Height	- in. - mm.	19.0 482	24.25 615	26.31 668	26.8 681	26.8 681
Overall Diameter	- in. - mm.	15.6 396	15.6 396	18.8 478	18.8 478	18.8 478
Number of Canisters		6	6	6	10	6 (4)
Canister Dimensions	- in. - mm.	2.75x5 70x127	2.75x11 70x279	2.75x11 70x279	2.64x11 67x279	3.7x11 94x279
Number of 1.2 ml & 2.0 ml vials (5/cane)		NA	570	570	850	1050
Number of 1.2 ml & 2.0 ml vials (6/cane)		NA	684	684	1020	1260
Number of 1/2 cc straws - (10 per cane)		NA	1850	1850	2800	3000
Number of 1/2 cc straws - Bulk ( 1 level)		2940	NA	NA	NA	NA
Number of 1/2 cc straws - Bulk (2 levels)		NA	5880	5880	9800	9900
7th Canister		NA	NA	NA	NA	R036-9C27
Roller Base		R018-8C00	R018-8C00	R033-8C00	R033-8C00	R033-8C00
Cryo-Sentry Level Alarm		N/A	R034-8C15	R034-8C15	R037-8C15	R036-8C30

Features

- Large storage capacity
- New Rugged Construction – ribbed high strength aluminum body, magniformed necktube design, and more durable paint
- Versatile storage system - convenient canister numbered index location ring and internal spider
- Superior vacuum performance with super insulation provides maximum holding times
- Security - Optional low-level alarm is available with remote monitor and lockable lid.
- Mobility - Roller bases are available for all models

(1) Evaporation rate and static holding time are nominal. Actual rate may be affected by the nature of the contents, atmospheric conditions, container history, and manufacturing tolerances.  
(2) Work time is an arbitrary, reference-only value to estimate container performance under the actual operating conditions.  
(3) Without canisters or racks.  
(4) Optional 7th canister available to increase storage capacity by 23%.





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XT Series



The Extended Time Series (XT) of cryogenic refrigerators are designed for long-term storage of a variety of materials at cryogenic temperatures. This series also offers a low profile model (XTL), with 5" canisters.

Models		XTL3	XTL8	XT10	XT20	XT34
Static Holding Time days (1)		27	80	100	230	340
Working Time days (2)		17	50	62	140	212
Evaporation Rate (1) liters/days		0.11	0.10	0.10	0.09	0.10
Liquid Nitrogen Capacity - liters		3	8	10	20.7	34
Weight Empty	- lbs.	7.2	19.6	16.5	26	34.75
	- kg.	3.3	8.9	7.5	11.8	15.8
Weight Full (3)	- lbs.	12.5	33.8	34.3	62.8	95.3
	- kg.	5.7	15.4	15.6	28.6	43.3
Neck Diameter	- in.	2.0	2.0	2.0	2.0	2.0
	- mm.	51	51	51	51	51
Overall Height	- in.	17.2	19	23.8	25.8	26.3
	- mm.	437	483	597	655	668
Overall Diameter	- in.	7.6	15.6	11.4	15.6	18.8
	- mm.	193	396	290	396	478
Number of Canisters		6	6	6	6	6
Canister Dimensions (4)	- in.	1.5x5	1.5x5	1.5x11	1.5x11	1.5x11
	- mm.	38x127	38x127	38x279	38x279	38x279
Number of 1.2 ml & 2.0 ml vials (5/cane)		NA	NA	150	150	150
Number of 1.2 ml & 2.0 ml vials (6/cane)		NA	NA	180	180	180
Number of 1/2 cc straws (10/cane)		NA	NA	540	540	540
Number of 1.2 cc straws - Bulk ( 1 level)		750	750	NA	NA	NA
Number of 1/2 cc straws - Bulk ( 2 levels)		NA	NA	1500	1500	1500
Roller Base		N/A	R018-8C00	N/A	R018-8C00	R033-8C00
Low-Level Alarm		N/A	N/A	N/A	R033-8C15	R033-8C15

Features

- New Rugged Construction – ribbed high strength aluminum body, magniformed necktube design, and more durable paint
- Versatile storage system - convenient canister numbered index location ring and internal spider
- Superior vacuum performance with super insulation provides maximum holding times
- Security - Accessory low-level alarm is available with remote monitor capability
- Mobility - Roller bases are available for some models
- Lockable lids

(1) Evaporation rate and static holding time are nominal. Actual rate may be affected by the nature of the contents, atmospheric conditions, container history, and manufacturing tolerances.  
(2) Work time is an arbitrary, reference-only value to estimate container performance under the actual operating conditions.  
(3) Without canisters.  
(4) Canisters also available in 5.0 in. (127 mm) height for 10 XT, 20XT and 34XT.





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CX & CXR Series

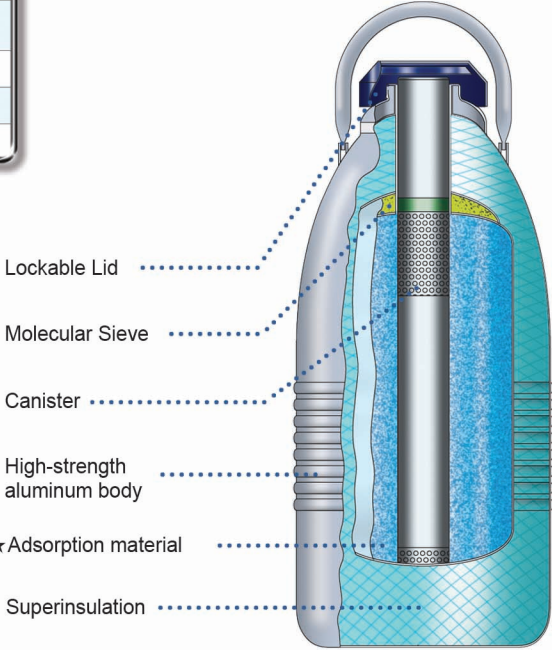


Cryo Express (CX) and Cryo Express with replaceable adsorbent (CXR) “dry shippers” are designed to safely transport a variety of materials at cryogenic temperatures. The unique adsorbent material prevents a liquid spill if the unit is tipped over. Storage temperature inside the shipping cavity remains at approximately -190°C until the liquid nitrogen evaporates from the adsorbent material.

Models		CX100	CXR100	CXR500
Static Holding Time days (1)		22	16	11
Working Time days (2)		17	11	7
Evaporation Rate (1) liters/days		0.19	0.23	0.64
Liquid Nitrogen Adsorbed - liters		4.1	3.7	7
Weight Empty	- lbs.	11.7	11.7	30
	- kg.	5.3	5.3	13.6
Weight Full (3)	- lbs.	19	18.3	42.5
	- kg.	8.6	8.3	19.3
Neck Diameter	- in.	2.78	3.58	8.5
	- mm.	71	91	216
Overall Height	- in.	18.4	19.4	26.9
	- mm.	467	493	683
Overall Diameter	- in.	9.2	9.2	15.5
	- mm.	234	234	391
Number of Canisters		1	1	N/A
Canister Dimensions	- in.	2.64x11.0	2.64x11.0	N/A
	- mm.	67x279	67x279	N/A
Number of 1.2 ml & 2.0 ml vials (5/cane) (4)		85	85	500
Number of 1.2 ml & 2.0 ml vials (6/cane) (4)		102	102	500
Number of 1/2 straws (10/cane)		280	280	N/A
Number of 1/2 cc straws - Bulk ( 2 levels)		980	980	N/A
Padded carton		3701-9277	N/A	N/A
5 shelf rack		N/A	N/A	RS30-9C44
Poly Carb 100 box		N/A	N/A	R24K-9C44
Shipping Case		CX10-8C00	CX10-8C00	CP19-8C00

Features

- Advanced Concept Adsorbent enables faster charging
- Complies with IATA regulations
- New rugged construction includes-dependable, stronger magniformed necktube design, ribbed high strength aluminum body, and more durable paint system.
- Superior vacuum performance with super insulation provides maximum holding times
- Optional storage accessories include a five shelf rack box system and Blood Bag rack for the CXR500
- Temperature loggers are available for all models
- Lockable lids



(1) Evaporation rate and static holding time are nominal. Actual rate may be affected by the nature of the contents, atmospheric conditions, container history, and manufacturing tolerances.  
(2) Work time is an arbitrary, reference-only value to estimate container performance under the actual operating conditions.  
(3) Without canisters or racks  
(4) CX500 and CXR500 vials are stored in 100 cell boxes



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LD Series



The LD Series of cryogenic dewars are designed for storing and dispensing small amounts of liquid nitrogen. The series includes a beaker style dewar with a wide mouth (LD5) and pitcher-style model for easy pouring (LD4).

Features

- High Performance – Modern construction and advanced insulation materials assure high thermal efficiency
- New Rugged Construction – ribbed high strength aluminum body, magniformed necktube design, and more durable paint system
- Easy Operation – Lightweight Snap-On cap and necktube assures tight closure and easy access, convenient handles location
- Superior vacuum performance with super insulation provides maximum holding times
- Optional equipment includes liquid withdrawal device, tipping stand, dippers and roller base (for some models)



Models		LD4	LD5	LD10	LD25	Classic 25	LD35	LD50
Static Holding Time days (1)		10	6	45	109	119	152	122
Evaporation Rate (1) liters/days		0.40	0.77	0.22	0.23	0.21	0.23	0.41
Liquid Nitrogen Capacity - liters		4	5	10	25	25	35	50
Weight Empty	- lbs.	6.6	6.9	14.5	23.2	19	35.1	38.7
	- kg.	3.0	3.1	6.6	10.5	8.6	16.0	17.6
Weight Full	- lbs.	13.7	15.8	32.3	67.7	63.5	97.4	127.7
	- kg.	6.2	7.2	14.7	30.8	28.9	44.3	58.0
Neck Diameter	- in.	1.2	5.6	2.0	2.5	2.0	2.5	2.5
	- mm.	30	142	51	64	51	64	64
Overall Height	- in.	17.0	17.5	23.5	25.8	22.9	26.3	32.4
	- mm.	432	445	597	655	582	668	823
Overall Diameter	- in.	7.6	7.6	11.4	15.6	15.5	18.8	18.8
	- mm.	193	193	290	396	394	475	475
Liquid Withdrawal Device P/N		N/A	N/A	N/A	D050-8C00	N/A	D050-8C00	D050-8C00
Roller Base P/N		N/A	N/A	N/A	R018-8C00	D024-8C02	R033-8C00	R033-8C00
Tipping Stand P/N		N/A	N/A	N/A	D025-8C00	D024-8C00	N/A	N/A
Dipper P/N		N/A	R018-8C50	R018-8C50	R018-8C50	R018-8C50	R018-8C50	R018-8C50

(1) Evaporation rate and static holding time are nominal. Actual rate may be affected by the nature of the contents, atmospheric conditions, container history, and manufacturing tolerances.





# Stainless Steel Dewar Flasks



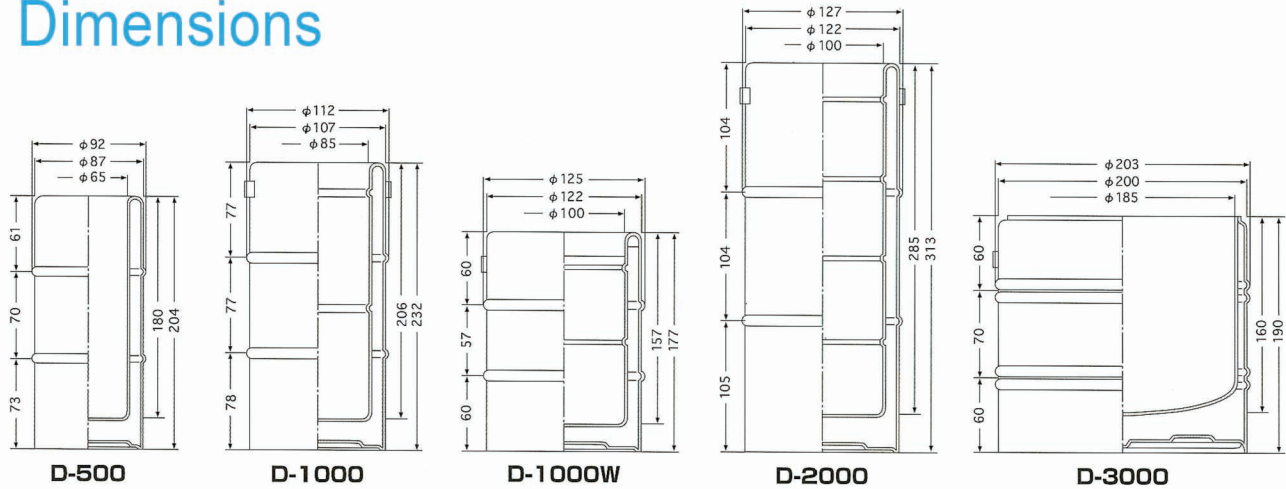
**THERMOCUT D**

The Thermocut D series is a range of vacuum-insulated stainless steel Dewar flasks developed on the principles of cryogenic insulation technology. In addition to their low-temperature capabilities, they also offer the durability and insulation required for high temperature use, such as with an oil bath.

## Features

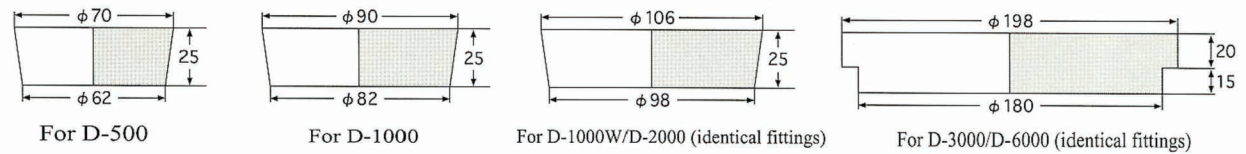
- Full stainless steel construction
- High vacuum-insulated
- Supportive protrusions
- Value for money
- Long lasting (does not degrade with age)
- Compact and lightweight
- Portability
- Measuring scale
- High-temperature tolerance
- Extensive multi-purpose range

## Dimensions

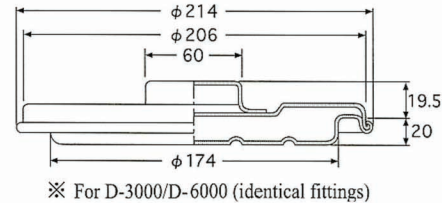


## Dimensions of optional items

- Custom-made cork stopper



- Custom-made hollow double-layered stainless steel lid

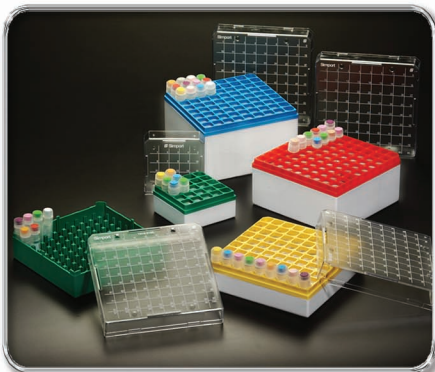


## Specifications

Model	D-500	D-1000	D-1000W	D-2000	D-3000
Capacity (liters)	0.5	1.0	1.0	2.0	3.0
Approx. mass (grams) flask	480	850	830	1.230	1.500
Approx. mass (grams) handle	-	50	40	80	80
Height (mm)	204	232	177	313	190
Diameter (mm)	92	112	125	127	203



# Simport



## Cryovial® Family

The Simport Cryovial® Family is the most complete line of cryogenic vials available today. Designed for storing cells, blood, serum and other biological fluids at temperatures as low as -196 °C, these sturdy polypropylene vials offer a high level of chemical resistance. As described in the following pages, they are available in 3 different configurations and in 5 sizes from 1.2 ml to 5 ml. A large white marking area and printed graduations facilitate sample identification. Some models are free-standing while some others have only a round bottom. Self-standing vials have a locking base allowing opening and closing with only one hand while vials are used with the Simport Workstation. One important feature in the Simport Cryovial® design is being able to manufacture both the tube and cap from the same plastic, ensuring the same expansion coefficient, therefore a lasting seal.\*

\* The Cryolock vial has a polyethylene cap.

WARNING: Do not use Cryovials for storage in the liquid phase of liquid nitrogen. Such use may cause entrapment of liquefied nitrogen inside the vial and lead to pressure build-up resulting in possible explosion or biohazard release. Use appropriate safety procedures when handling and disposing of vials.

## T311 CRYOVIAL® With Silicone Washer Seal

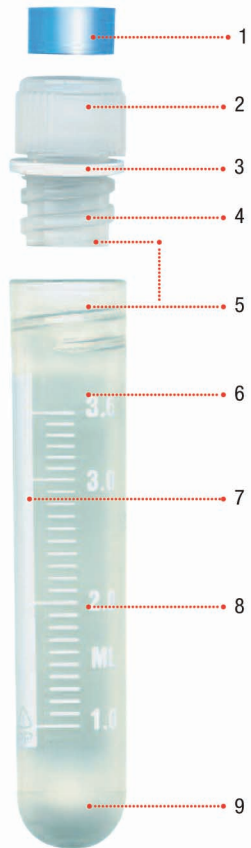
Specially formulated polypropylene

Designed for storing biological material, human or animal cells, at temperatures as low as -196 °C (**but should be used only in the gas phase of liquid nitrogen**). A silicone washer between cap and vial ensures a positive leakproof seal at all temperatures. A 1 1/4 turn of the cap is sufficient to seal the vial. Closure and vials are both manufactured of polypropylene with the same coefficient of expansion, ensuring an equally secure seal both at room temperature and at low cryogenic temperatures. Tubes have a white marking area, can be color coded with a CAPINSERT™ (Series T312) and are compatible with most storage systems. Only the round bottom vials can be centrifuged, and up to 17,000g. Sterilized by gamma radiation and packaged in unique tamperproof, resealable, safety-lock bags of 100. Autoclavable.

Certified RNase-, DNase-,  
Pyrogen- and DNA-free

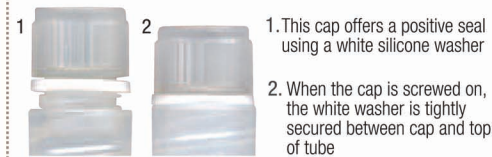


Cat. #	T311-1	T311-2	T311-3	T311-4	T311-4A	T311-5
Volume (ml)	1.2	2	2	4	4	5
Size (mm)	12,5 x 41	12,5 x 49	12,5 x 48	12,5 x 70	12,5 x 72	12,5 x 90
Self-Standing	•	•			•	
Round Bottom			•	•		•
Qty/Bag	100	100	100	100	100	100
Qty/Cs	1000	1000	1000	1000	1000	1000



- 1- A CAPINSERT™ is available in 11 different colors / Perfect for color coding (See T312 Series)
- 2- Vertical ribs facilitate cap removal
- 3- Silicone washer
- 4- Super fast 1 1/4 turn thread design
- 5- Both cap and tube are made of same polypropylene material, therefore same coefficient of expansion ensures secure seal at all temperatures\*
- 6- Thick wall makes vial almost unbreakable
- 7- Large white marking area
- 8- Excellent clarity makes sample easy to see
- 9- Round bottom / Very easy to empty contents completely

\*T310-10A has a polyethylene cap





T309

CRYOVIAL®

With Lip Seal Design

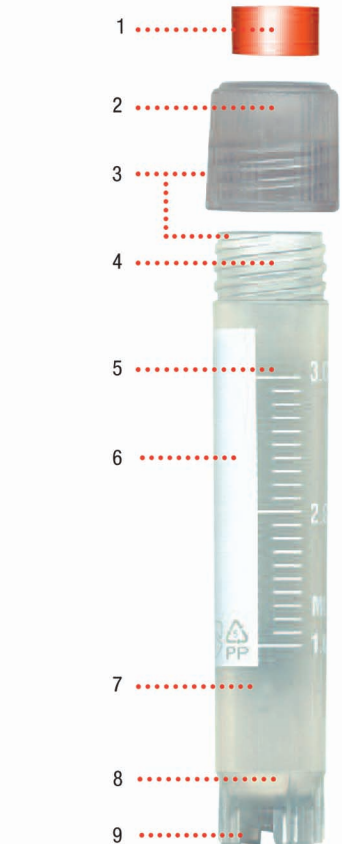
Made of specially formulated polypropylene

Designed for storing biological material, human or animal cells, at temperatures as low as -196 °C (but should be used only in the gas phase of liquid nitrogen). The cap features a long skirt for one hand aseptic methods, and a super fast thread design that allows tightening or removal with a mere 1 1/4 turn, and an inside thread design that will not contribute to possible contamination. A specially designed lip inside the cap ensures a leakproof seal even at very low temperatures. Closures and tubes are both made of polypropylene having the same coefficient of expansion, which further enhances the leakproof qualities of these vials at various temperatures. Tubes are provided with a white marking area for sample identification and can be color coded by the use of a CAPINSERT™ (Series T312). T309-2 can be centrifuged up to 17,000g. Vials are sterilized by gamma radiation and are packaged in unique tamperproof, resealable, safety-lock bags of 100. Autoclavable

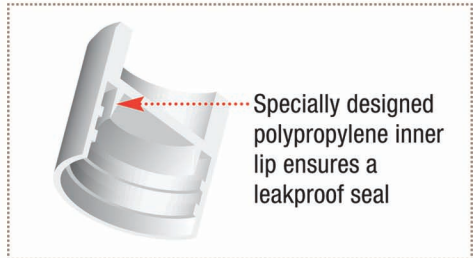
Certified RNase-, DNase-,  
Pyrogen- and DNA-free



Cat. #	T309-1A	T309-2	T309-2A	T309-3A	T309-4A	T309-5A
Volume (ml)	1.2	2	2	3	4	5
Size (mm)	12.5 x 42	12.5 x 47	12.5 x 49	12.5 x 71	12.5 x 77	12.5 x 91
Self-Standing	•		•	•	•	•
Round Bottom		•				
Qty/Bag	100	100	100	100	100	100
Qty/Cs	1000	1000	1000	1000	1000	1000



- 1- A CAPINSERT™ is available in 11 different colors / Perfect for color coding (See T312 Series)
- 2- Vertical ribs facilitate cap removal
- 3- Both cap and tube are made of same polypropylene material, therefore same coefficient of expansion ensures secure seal at all temperatures
- 4- Super fast 1 1/4 turn thread design
- 5- Thick wall makes vial almost unbreakable
- 6- Large white marking area
- 7- Excellent clarity makes sample easy to see
- 8- Round bottom / Very easy to empty contents completely
- 9- Many sizes available as self-standing with universal locking base



T310

CRYOVIAL®

With Silicone Washer Seal

Made of specially formulated polypropylene

Designed for storing biological material, human or animal cells, at temperatures as low as -196 °C (but should be used only in the gas phase of liquid nitrogen). The cap features a long skirt for easy one hand aseptic methods, the same super fast thread design allowing it to be removed or sealed with a mere 1 1/4 turn, and the same inside thread design that will not contribute to possible contamination. But this cap also features an exclusive silicone seal fitted inside the cap to ensure a positive seal at any temperature, even the lowest of cryogenic temperatures. Tubes are provided with a white marking area for sample identification and can be color coded by the use of a CAPINSERT™ (Series T312). The Simport CRYOVIAL® is compatible with most storage systems. T310-2 can be centrifuged up to 17,000g. Vials are sterilized by gamma radiation and are packaged in unique tamperproof, resealable, safety-lock bags of 100. Autoclavable.

Certified RNase-, DNase-,  
Pyrogen- and DNA-free



Cat. #	T310-1A	T310-2	T310-2A	T310-3A	T310-4A	T310-5A	T310-10A
Volume (ml)	1.2	2	2	3	4	5	10
Size (mm)	12.5 x 42	12.5 x 47	12.5 x 49	12.5 x 71	12.5 x 77	12.5 x 91	17 x 84
Self-Standing	•		•	•	•	•	•
Round Bottom		•					
Qty/Bag	100	100	100	100	100	100	50
Qty/Cs	1000	1000	1000	1000	1000	1000	500



- 1- A CAPINSERT™ is available in 11 different colors / Perfect for color coding (See T312 Series)
- 2- Vertical ribs facilitate cap removal
- 3- Silicone washer
- 4- Both cap and tube are made of same polypropylene material, therefore same coefficient of expansion ensures secure seal at all temperatures
- 5- Super fast 1 1/4 turn thread design
- 6- Thick wall makes vial almost unbreakable
- 7- Large white marking area
- 8- Excellent clarity makes sample easy to see
- 9- Round bottom / Very easy to empty contents completely
- 10- Many sizes available as self-standing with universal locking base





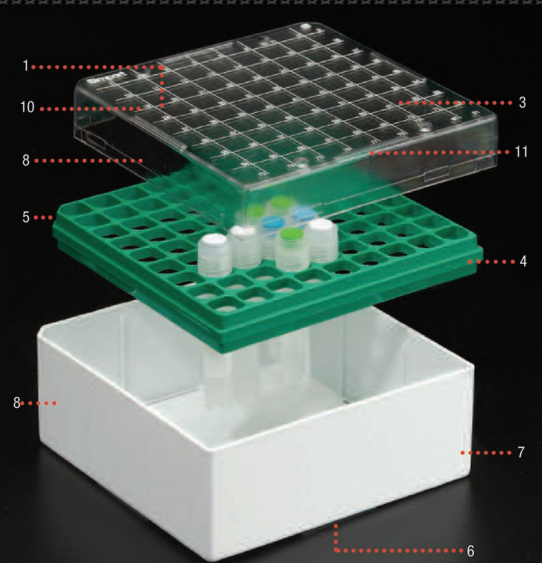
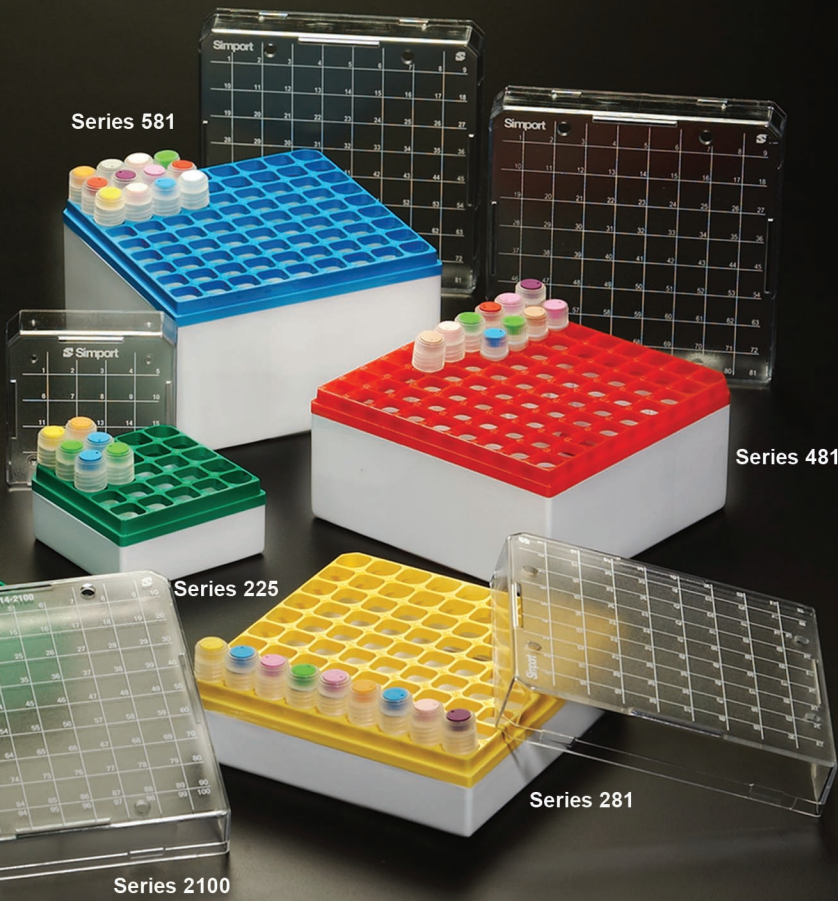
T314

CRYOSTORE™

Storage Boxes

Made of polycarbonate

Color your world with a wide variety of Cryostore™ Storage Boxes for sizes from 1.2 ml to 5 ml. Made of extra strong polycarbonate, these durable cryogenic storage boxes are designed to be used at temperatures between -196 °C and +121 °C and are autoclavable at 120 °C, 15 psig (1 bar) for 20 minutes. Different models are available to accommodate either 25, 81 or 100 Cryovial® tubes from 1.2 ml to 5 ml. A transparent cover allows the user to see the contents of the box, and is keyed to the base to prevent misalignment. Printed with a series of squares (numbered from 1 to 25, 1 to 42, 1 to 81, or 1 to 100), the surface accepts writing with markers, facilitating inventory control. A unique color coding system uses colored plastic grids to separate the cover from the base on the 25, 42 and 81-place boxes. Those made to accept 100 tubes (series 2100) have a colored base instead of a grid. Removal of vials facilitated by an innovative vial picker supplied with each storage box (not available with box T314-542). A choice of four popular pastel colors is available. Autoclavable.



Features and benefits of 25- and 81-Place

CRYOSTORE™

Storage Boxes

- 1- Writing surface has numbered squares for easy sample identification
- 2- Stackable
- 3- Vials readily visible through transparent cover
- 4- Four colors available for better color-coding
- 5- Cover and base are keyed to prevent misalignment
- 6- Drain holes under base
- 7- Made to fit freezer metal racks
- 8- Writing surface for identifying base and/or cover
- 9- Autoclavable at 120 °C, 15 psig (1 bar) for 20 min.
- 10- Numeric identification of each vial
- 11- Air vents minimizing condensation

ALL CRYOSTORE™  
STORAGE BOXES ARE  
EASILY STACKABLE



T314-542

CRYOSTORE™

Storage Box

Made of polycarbonate

Made of extra strong polycarbonate, these durable cryogenic storage boxes are designed to be used at temperatures between -196 °C and +121 °C and are autoclavable at 120 °C, 15 psig (1 bar) for 20 minutes. Different colors are available to accommodate 42x T310 -10A Cryovials®. A transparent cover allows the user to see the contents of the box, and is keyed to the base to prevent misalignment. Printed with a series of squares numbered from 1 to 42, the surface accepts writing with markers, facilitating inventory control. A unique color coding system uses colored plastic grids to separate the cover from the base on the box. A choice of four popular colors is available.

Series 542: Size: 133 mm x 133 mm x 95 mm H

Cat. No.	For cryogenic tubes	Color of grid	Qty/Pk	Qty/Cs
T314-542B	10 ml	Blue	5	10
T314-542G	10 ml	Green	5	10
T314-542R	10 ml	Red	5	10
T314-542Y	10 ml	Yellow	5	10

Series 281: Size: 133 mm x 133 mm x 52 mm H

Cat. No.	For cryogenic tubes	Color of grid	Qty/Pk	Qty/Cs
T314-281B	1 to 2 ml	Blue	4	24
T314-281G	1 to 2 ml	Green	4	24
T314-281R	1 to 2 ml	Red	4	24
T314-281Y	1 to 2 ml	Yellow	4	24

Series 481: Size: 133 mm x 133 mm x 81 mm H

Cat. No.	For cryogenic tubes	Color of grid	Qty/Pk	Qty/Cs
T314-481B	3 to 4 ml	Blue	6	12
T314-481G	3 to 4 ml	Green	6	12
T314-481R	3 to 4 ml	Red	6	12
T314-481Y	3 to 4 ml	Yellow	6	12

Series 581: Size: 133 mm x 133 mm x 95 mm H

Cat. No.	For cryogenic tubes	Color of grid	Qty/Pk	Qty/Cs
T314-581B	3 to 5 ml	Blue	5	10
T314-581G	3 to 5 ml	Green	5	10
T314-581R	3 to 5 ml	Red	5	10
T314-581Y	3 to 5 ml	Yellow	5	10

Series 2100 : Size: 133 mm x 133 mm x 52 mm H

Cat. No.	For cryogenic tubes	Color of base	Qty/Pk	Qty/Cs
T314-2100B	1 to 2 ml	Blue	4	24
T314-2100G	1 to 2 ml	Green	4	24
T314-2100R	1 to 2 ml	Red	4	24
T314-2100Y	1 to 2 ml	Yellow	4	24

Series 225: Size: 76 mm x 76 mm x 52 mm H

Cat. No.	For cryogenic tubes	Color of grid	Qty/Pk	Qty/Cs
T314-225B	1 to 2 ml	Blue	8	48
T314-225G	1 to 2 ml	Green	8	48
T314-225R	1 to 2 ml	Red	8	48
T314-225Y	1 to 2 ml	Yellow	8	48

Cat. No.	Description	Qty/Pk
T314S	Metal stand	1





# T312

## CAPINSERT™for CRYOVIAL® Tubes

Made of polypropylene

Color coded inserts fit precisely into the cap of the Cryovial® for color identification.

Cat. #	Color	Qty/Bag	Cat. #	Color	Qty/Bag
T312-1	White	500	T312-8	Tan	500
T312-2	Blue	500	T312-9	Gray	500
T312-3	Red	500	T312-10	Lilac	500
T312-4	Green	500	T312-11	Burnt orange	500
T312-5	Yellow	500	T312-13	Violet	500
T312-7	Assortment of colors above	5 bags of 100	T312-14	Pink	500

# T313

## Cane for CRYOVIAL® Tubes

Made of aluminum

For storage of up to five 1.2 or 2 ml Simport Cryovial® tubes in liquid nitrogen containers such as Dewar flasks.

Cat. #	Length	Qty/Pk	Qty/Cs
T313	290 mm (11 5/16 in.)	12	48

# T315

## CRYOVIAL®Workstation Rack

Made of polypropylene

This handy autoclavable rack can hold up to 50 cryogenic vials. Now with one hand, you can easily unscrew a Simport Cryovial® closure. Thanks to an innovative universal locking system, the vials will securely lock in each well and will not turn. Each position is identified with an alphanumeric index. Strong handles make it easy and safe to carry. It is supported by five anti-skid rubber feet. The rack is compact and stackable. Available in three attractive colors.

Size: 10 cm x 20 cm x 25 mm H (4 x 8 x 1 in. H)

Cat. #	Color	Qty/Cs
T315-2	Blue	4
T315-3	Red	4
T315-10	Lilac	4

Now, with only one hand, you can easily unscrew a Simport Cryovial® closure. Thanks to an innovative universal locking base, the vials will securely lock in the wells of just about any rack on the market. This newly designed feature is available on all Simport self-standing Cryovial® tubes.

# T310TP

## CRYOLOCK™ Tamper Evident Cryogenic Vial with Silicone Washer Seal

Tube made of polypropylene / Cap made of polyethylene

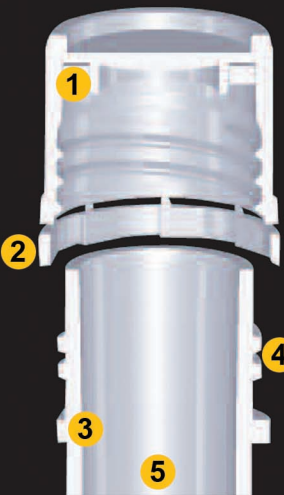
Recognizing the special needs of the laboratory scientist in the area of Cryogenics, Simport has developed a unique Cryovial®, initiating the beginning of a new era in sample protection. The unique Simport CryoLock™ Tamper Evident Cryogenic Vial incorporates a seal that needs to be broken in order to open it, which leaves an obvious visual indication that the vial has been opened. The ease of operation is due in part to the closure's unique frangible band design. This produces a combination tamper-evident resistant closure system that provides benefits of safety and peace of mind. Designed for storing biological material, human or animal cells, at temperatures as low as -196° C (but should be used only in the gas phase of liquid nitrogen). The cap features a long skirt for one hand aseptic methods, a super fast thread design that allows tightening or removal with a mere 1 1/4 turn, and an inside thread design that will not contribute to possible contamination. But this tamper evident cap also features an exclusive silicone seal as well as a specially designed lip fitted inside of the cap to ensure a positive seal at any temperature, even the lowest of cryogenic temperatures. Tubes are provided with a white marking area for sample identification and can be color coded by using a Capinsert™ (T345). The Simport CryoLock™ Tamper Evident Cryovial® is compatible with most storage systems. Self-standing vials are sterilized by gamma radiation and are packaged in unique tamperproof, resealable, safety-lock bags of 100.

Certified RNase-, DNase-, Pyrogen- and DNA-free



Cat. #	T310-1ATP	T310-2ATP	T310-5ATP
Volume (ml)	1,2	2	2
Size (mm)	11.8 x 35,1	11.8 x 44,3	11.8 x 82
Self-Standing	•	•	•
Qty/Bag	100	100	100
Qty/Cs	1000	1000	1000

When unscrewing the cap, the tamper evident locking ring is detached and freed from closure



- 1) Available with specially designed economical silicone washer for a more secure and positive leakproof seal
- 2) Innovative tamper evident locking ring for better protection of contents
- 3) Thick wall makes tube almost unbreakable
- 4) Super fast 1 1/4 turn thread design
- 5) Excellent clarity makes sample easy to see





## Accessories

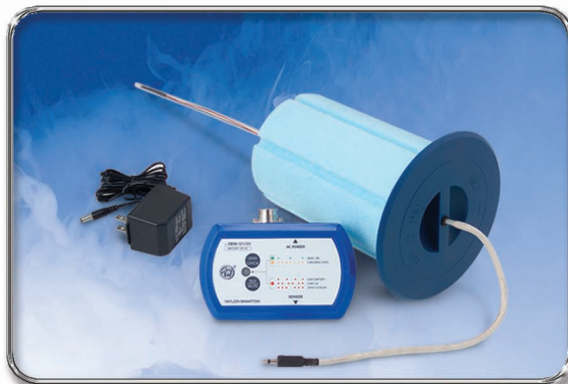


### Dippers and Measuring Rods

Safe and convenient LN2 dippers available. The low conducting measuring rod will clearly show the LN2 level of a dewar in inches and centimeters.

Dipper .....P/N R018-8C50

Measuring Rod .....P/N R033-8C11



### Low-Liquid Alarm

To protect valuable biological samples this alarm will sound promptly to alert you when more liquid nitrogen is needed. It is best suited for the infrequently used refrigerators and is recommended for stored product protection. It is equipped for battery operation. For use with XT20, XT34, HC20, HC34, VHC35, LS750, LS3000, LS4800 and LS6000.



### Liquid Withdrawal Device

The Liquid Withdrawal Device enables the LD25, LD35 or the LD50 to conveniently pressure transfer liquid nitrogen at rates up to 8 liters per minute. The low 10 psig (0.7 Bar/69kPa) assures safe dispensing through a phase separator or an accessory transfer hose. A smaller phase separator is available.

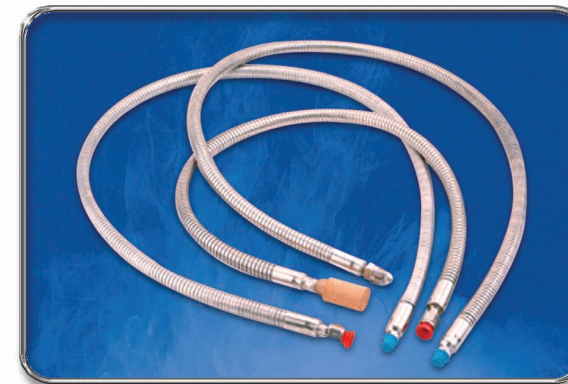


## Accessories



### Roller Base & Tipping Stand

This sturdy, cast-aluminum, five-wheel roller base enables movement of refrigerators and dewars easily and safely. Choose from three sizes to fit either the 18.8 in (478 mm) dia., 15.6 in. (396 mm) dia., to or the 26.7 in (678 mm) dia. units. The tipping provides mobility and assist in transferring liquid nitrogen for the LD25 dewar. Both include lockable casters.



### Transfer Hoses

Transfer hoses are constructed of a flexible stainless steel suitable for the transfer of cryogenic fluids and are available in 4 ft. (1.2 m) or 6 ft. (1.8 m) lengths. Hoses are fitted with a 3/8 in. NPT male fitting on one end and a CGA295 female fitting on the other end.

4'- CGA295 to 3/8" NPT .....P/N 1700-9C65

6'- CGA295 to 3/8" NPT .....P/N 1600-9C66



### Cryogenic Phase Separators

Designed to minimize hazardous splashing and vaporization, phase separators are available in three different sizes to accommodate transferring liquids into various open containers. The two larger phase separators are designed to fit the 3/8 in. NPT end of Taylor-Wharton transfer hoses.

2 3/4"x 1 3/8 OD, 3/8"- 18 NPT .....P/N 1193-8C80

1 1/4"x 1 OD, 3/8"- NPT .....P/N 1193-8C82

1 1/2"x 1/8" - NPT ..... P/N 1193-8C83



# Cryomagic

## Low Liquid Nitrogen Alarm System



DA-102 can be operated by DC 9V Alkaline Battery (6LR61T), DC 9V Adapter and the Output port for power supply. To maximize longevity, the unit runs for ten minutes every hour (power save mode) when the battery is used. You may use DC 9V adapter, then it is automatically changed to a continuous usage (normal mode).

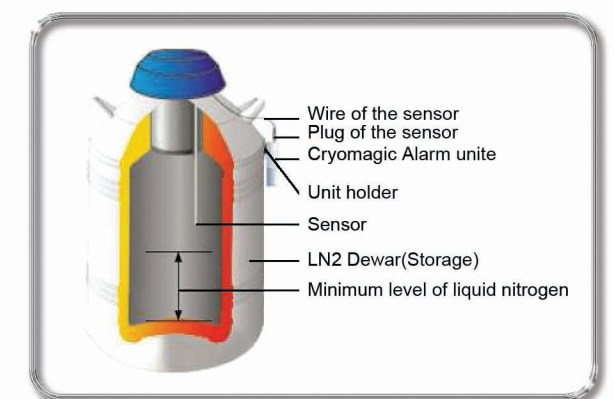
The unit holder (clip) can be easily attached and removed to / from any side of nitrogen tank using faces tape

DA-102 displays wide ranged information and secure signals such as temperature, normal, refill and alarm mute. Icon bars indicate liquid nitrogen and battery levels.

Using a cable of three wires, the Output allows the Phone Master, Alarm Master and DC 9V adapter for power supply.

### Features

- Simple Operation
- Compact Size : 92mm X 61mm X 23mm
- Weight : 70g
- Easy Installation
- Remote Relay Output
- Adapter : DC 9V, Continuous mode & Power save mode when using battery
- Open Probe Alarm
- Low Level Alarm
- LN2 Status Display : 7 icon bars
- Work Mute Button
- LCD Display : Temperature, Error, Low, Alarm, LN2 Level Bar, Normal, Refill, Mute(Timer), Set, Remains of Battery
- Complete Unit Holder
- PRT Sensor
- Temperature Range on Display : -80°C...~ -200°C...
- Sensor Clamp
- Alarm Program
- Alarm Master DC 9V (Contact Output Available)
- Program unit ID Available
- LN2 Status Display
- One Touch Sensor Connector
- Adapter : DC 9V 300mA. Continuous mode when using adapter
- Battery : DC 9V Alkaline (6LR61T), Power save mode when using battery





TEMPSHIELD

CRYO-PRODUCTS™



TEMPSHIELD specializes in the development and manufacture of high-quality, cryogenic personal protective equipment (PPE) and apparel. A pioneer in the development of cryogenic safety apparel, Tempshield launched the first cryogenic glove in 1980. Made from the highest-quality state-of-the-art materials, our gloves allow for a maximum level of thermal protection, flexibility, and dexterity.

CRYO-APRON

**Protection from Splashes and Contact Cold**  
Cryogenic aprons made by Tempshield provide a high-level of thermal protection to the torso and upper legs in harsh cryogenic atmospheres.



Cryo-Apron®

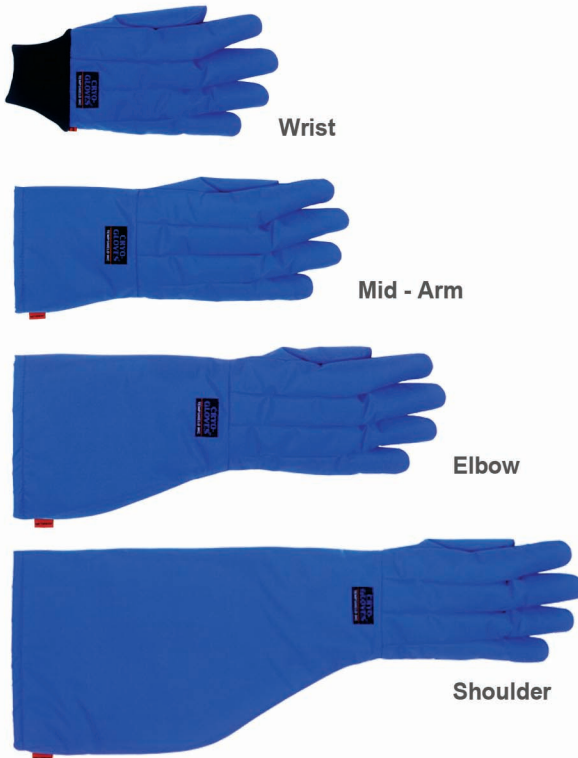
STYLE	MODEL				
	US / EN	36" / 91.4cm	42" / 106.7cm	48" / 121.9cm	54" / 137.2cm
Apron		CA36	CA42	CA48	CA54

WATERPROOF Cryo-Gloves®

STYLE	MODEL				
	US / EN	Small / 8	Medium / 9	Large / 10	X-Large / 11
Wrist	11 ¼"-12 ½" (290-325mm)	WRSWP	WRMWP	WRLWP	WRXLWP
Mid-Arm	13 ½"-15 ¼" (345-390mm)	MASWP	MAMWP	MALWP	MAXLWP
Elbow	17 ¼"-19 ¼" (440-485mm)	ESWP	EBMWP	EBLWP	EBXLWP
Shoulder	24 ¾"-27" (625-685mm)	SHSWP	SHMWP	SHLWP	SHXLWP

CRYO-GLOVES

**Hand and Arm Protection When Working with Liquid Nitrogen**  
Waterproof Cryo-Gloves® made by Tempshield protect your hands and arms when working in hazardous, ultra-cold environments. Gloves are designed to provide a high level of thermal protection where the exposure to cryogenic fluids might exist.







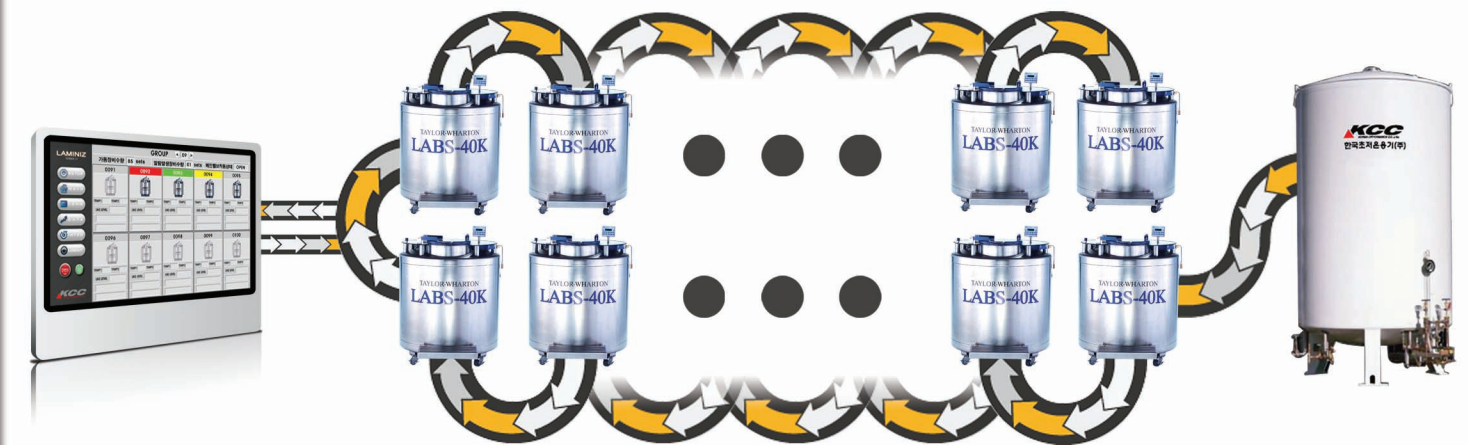
# LAMINIZ

## Network Monitoring System

A total management system that can control all of your LN2 supply tanks, LN2 supply pipelines, cryopreservation equipments, Oxygen Monitor and Sensaphone. It can be used at the office away from the equipments for remote control, monitoring, and data backup.

LAMINIZ function to minimize the LN2 consumption amount at the LN2 supply line that eventually reduces the consumption cost of the cryopreservation equipment.

## LABS Monitoring & MINIZ Program



## Features

- Check the temperature, liquid nitrogen level, alarm conditions
- Screen Display - Temperature, Liquid Nitrogen Level, Alarm conditions, Liquid Nitrogen supply condition, and equipment number & quantity of the alarmed units
- Saved data
- Controls supply of the liquid nitrogen
- One fill All fill operation
- RS485 communication
- All of the details can be easily seen at the FULL HD monitor
- All communication lines related to LAMINIZ program uses STP line that best limits the external influence factors.
- Connected with O2 monitor system that it shows the Oxygen density of the room where cryopreservation equipments are installed so it safeguards whether worker is safe to enter the room before going in.

## Specification

- LAMINIZ program
- Program Operating System: WINDOW XP or upper version
- Communication Method: RS-485 Communication
- No. of equipments possible for connection: Maximum 150 units
- Computer Specification:
  - RAM : DDR3 / 4GB or above
  - CPU : Intel i5 or above
  - HDD : 500GB or above
  - ODD : DVD-RW or above
  - Converter : RS485 to 232 conversion ports
  - Monitor : Full HD Class
- Solenoid Valve Controller
- Remote Alarm Contact Controller