

## K SERIES CRYOSTORAGE SYSTEMS

The Taylor-Wharton K Series CryoStorage Systems offer the reliability of liquid nitrogen storage down to  $-196^{\circ}\text{C}$  combined with the convenience of solid-state automatic controls, easy accessibility to stored product, and dependable performance at cryogenic temperatures. On the larger systems, the unique Temperature Gradient Suppressor greatly improves vapor phase temperature storage.

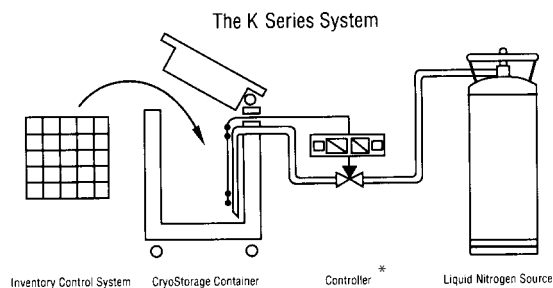
Add to this the modern, caster-mounted cabinet, the stainless steel inner vessel, recessed electronic touch controls, modular design, under-the-lid temperature read-out option, and the K Series CryoStorage System provides reliable, convenient and economical storage of biological samples.

Turn-Key refrigerator systems including liquid level controllers, inventory control system racks, boxes and nitrogen transfer hose make ordering a breeze.



## AUTOMATIC CONTROL OPTIONS

3K, 10K, 24K and 38K units feature built-in automatic controls if desired. They are also available as a basic model without any electronics but fitted with a threaded connection for a standard hose coupling.



## K SERIES SPECIFICATIONS

MODELS	3K	10K	24K	38K
Static Holding Time (days)	19	33	52	74
Working Time (days)	12	20	32	46
Evaporation Rate (liters/days)	2.5	5.0	7.0	8.0
Liquid Nitrogen Capacity (liters)	48	165	365	590
Weight (lb.)	42.0	245	405	565
Empty (kg.)	19.1	111	184	256
Weight (lb.)	125	537	1046	1616
Full (kg.)	56.7	243	474	733
Neck (in.)	14.0	21.0	31.0	39.0
Diameter (mm.)	356	533	787	991
Overall Height (in.)	29.7	44	44.0	49.0
Overall Height (mm.)	754	1118	1118	1245
Overall Diameter (in.)	15.4	23.1 x 30	34.0 x 38.0	42.0
Overall Diameter (mm.)	391	587 x 775	864 x 965	1067
Vial Capacity (2 ml. vials)	3024	10400	24050	38350

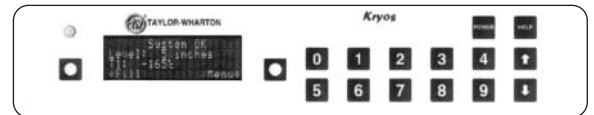
<sup>1</sup> Maximum width 28.25 in. (1226 mm.) Maximum height 91.0 in. (2311 mm) lid open.

<sup>2</sup> Maximum width 37.0 in (940 mm).

\* See next page for controller options

## KRYOS CONTROLLER

The KRYOS controller features temperature control with push button convenience and a full complement of alarms that are user-selectable from the panel. It features automatic filling and a detector that alerts the user to common mishaps such as lid open, low N<sub>2</sub> supply, and vessel and/or sensor faults. The KRYOS is equipped with full on-screen diagnostics. Dependable thermister-based sensors couple with the latest in microprocessor technology. The KRYOS controller meets all of your needs for vapor or liquid phase storage. Back-up options and two-way communications are also available.



## AUTO-TEND

The Auto Tend controller offers simplicity in form and function. Automatic liquid level maintenance and the most basic alarms provide an economical solution to your cryostorage needs.



**Please contact GTS Specialty Gas Customer Service at 800-942-1148 for additional information.**

## RS SERIES CRYOSTORAGE SYSTEMS

Uniquely designed to offer increased vial storage capacity in convenient box-type storage racks and the lower operating costs normally associated with round canister-type storage.

The rack systems are available in four convenient sizes offering vial storage capacities ranging from 750 2 ml vials to 4800 2 ml vials. Storage boxes available in both cardboard and polycarbonate.



### RS SERIES SPECIFICATIONS

MODELS	750RS	1575RS	3000RS	4800RS
Static Holding Time (days)	130	112	106	200
Working Time (days)	80	70	95	125
Evaporation Rate (liters/days)	0.27	0.50	0.76	0.65
Liquid Nitrogen Capacity (liters)	35	56	81	130
Weight (lb.)	35.2	47.6	70.0	90.0
Empty (kg.)	16.0	21.6	31.8	40.8
Weight (lb.)	97.5	147.4	215	330
Full (kg.)	44.2	66.9	97.7	150
Neck (in.)	4.7	5.1	8.5	8.5
Diameter (mm.)	119	130	216	216
Overall Height (in.)	25.5	34.5	28.8	35.1
Overall Height (mm.)	648	876	731	892
Overall Diameter (in.)	18.8	18.8	26.9	26.9
Overall Diameter (mm.)	478	478	683	683
Number of Racks	6	7	6	6
Number of Drawers (per rack)	5	9	5	8
Box Capacity – 2 ml. Vials	25	25	100	100
Storage Capacity – 2 ml. Vials	750	1575	3000	4800

**THE CRYOGENIC STANDARD IN REFRIGERATORS**

Taylor-Wharton's advanced range of cryogenic refrigerators meet your needs – flexibly, efficiently, and economically.

Our comprehensive series of high-performance refrigerators incorporate durable, lightweight construction with a full range of optimum holding times and maximized capacities. The result is an entirely new standard of cryogenic efficiency.

**XT SERIES REFRIGERATORS**

The XT Series of Taylor-Wharton Cryogenic Refrigerators offers extended-time, cost-effective storage for semen, embryos or biological samples. Each of the six different sizes maximizes holding time for a given quantity of liquid nitrogen, fulfilling a variety of user requirements. In addition, the low profile XTL models provide an answer to space problems.



**XT SERIES SPECIFICATIONS**

MODELS	3XTL	8XTL	10XT	20XT	34XT
Static Holding Time (days)	27	80	100	245	340
Working Time (days)	17	50	62	140	212
Evaporation Rate (liters/days)	0.11	0.10	0.10	0.10	0.10
Liquid Nitrogen Capacity (liters)	3	8	10	20.7	34
Weight (lb.)	6.3	19.5	13.1	26.9	33.4
Empty (kg.)	2.9	8.8	5.9	12.2	15.1
Weight (lb.)	11.5	34.0	31.5	63.8	94.0
Full (kg.)	5.2	15.4	14.3	29.0	42.6
Neck (in.)	2.0	2.0	2.0	2.0	2.0
Diameter (mm.)	51	51	51	51	51
Overall Height (in.)	17.0	17.4	22.4	25.8	25.5
Overall Height (mm.)	432	442	569	655	648
Overall Diameter (in.)	7.6	15.6	11.4	15.6	18.8
Overall Diameter (mm.)	193	396	290	396	478
Vial Capacity (2 ml. vials)	—	—	180	180	180

## HC SERIES REFRIGERATORS

The high-capacity HC series of Taylor-Wharton refrigerators enables you to store more semen, embryos or biological material at liquid-nitrogen temperature. Six different unit sizes with convenient holding times and capacities are available to satisfy a road range of storage demands. Two low profile HCL models are also available providing reduced unit height for transit or storage.



### HC SERIES SPECIFICATIONS

MODELS	10HCL	18HC	21HCL	34HC	35HC	35VHC
Static Holding Time (days)	50	80	70	200	130	130
Working Time (days)	31	50	44	125	81	81
Evaporation Rate (liters/days)	0.20	0.23	0.30	0.17	0.27	0.27
Liquid Nitrogen Capacity (liters)	10	18	21	34	35	35
Weight (lb.)	19.5	22.4	30.2	35.4	35.2	35.2
Empty (kg.)	8.8	10.2	13.7	16.1	16.0	16.0
Weight (lb.)	37.5	55.1	67.5	96.0	97.5	97.5
Full (kg.)	17.0	25.0	30.6	43.5	44.2	44.2
Neck (in.)	3.6	3.6	3.6	3.6	4.7	4.7
Diameter (mm.)	91	91	91	91	119	119
Overall Height (in.)	17.4	22.8	17.8	25.5	25.5	25.5
Overall Height (mm.)	442	579	452	648	648	648
Overall Diameter (in.)	15.6	15.6	18.8	18.8	18.8	18.8
Overall Diameter (mm.)	396	396	478	478	478	478
Vial Capacity (2 ml. vials)	—	684	—	684	1020	1020

**LD SERIES DEWARS**

For safe, convenient storage of liquid nitrogen in small quantities, GTS offers a complete line of laboratory dewars incorporating the same modern design and quality construction as the refrigerators. These sturdy, yet lightweight dewars combine optimum holding time with convenient access to liquid nitrogen. Our line of cryogenic dewars includes a 'beaker-style' model for wide-mouth access to liquid nitrogen, and a 'pitcher-style' model to facilitate transfer. Other standard models offer additional flexibility for storing, pouring and transporting liquid nitrogen.



**LD SERIES SPECIFICATIONS**

MODELS	TAY 4LD	TAY 5LD	TAY 10LD	TAY 25LD	TAY CLASSIC 25	TAY 35LD (35LD-T)	TAY 50LD
Static Holding Time (days)	10	6	45	109	119	152 (134)	122
Working Time (days)	–	–	–	–	–	–	–
Evaporation Rate (liters/days)	0.40	0.77	0.22	0.23	0.21	0.23 (0.26)	0.41
Liquid Nitrogen Capacity (liters)	4	5	10	25	25	35	50
Weight (lb.)	6.0	5.0	13.4	26.4	17.4	28.0	38.9
Empty (kg.)	2.7	2.3	6.1	12.0	7.9	12.7	17.6
Weight (lb.)	13.0	14.0	31.2	71.0	62.0	90.0	128.0
Full (kg.)	5.9	6.4	14.1	32.2	28.1	40.8	58.1
Neck (in.)	1.2	5.6	2.0	2.5	2.0	2.5	2.5
Diameter (mm.)	30	142	51	64	51	64	64
Overall Height (in.)	16.7	17.5	21.0	25.7	22.9	25.6	32.6
Overall Height (mm.)	424	445	533	653	582	650	828
Overall Diameter (in.)	7.6	7.6	11.4	15.6	15.5	18.7	18.7
Overall Diameter (mm.)	193	193	290	396	394	475	475
Canister Dimension (in)	–	–	–	–	–	–	–
Canister Dimension (mm.)	–	–	–	–	–	–	–
Vial Capacity (2 ml. vials)	–	–	–	–	–	–	–

## CRYOPAK SERIES CRYOGENIC SHIPPERS

Each style provides long holding times and excellent shipping convenience for shipping small quantities of semen, embryos or biological specimens. The unique patented absorbent keeps samples cold and dry at cryogenic temperatures. Because liquid nitrogen is held in the absorbent material, it cannot spill or leak. The CryoPak series cryogenic shipper provides a safe means for shipping samples and specimens.



## LD SERIES SPECIFICATIONS

MODELS	TAY CP35	TAY CP65	TAY CP190
Static Holding Time (days)	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>
Working Time (days)	21	21	21
Evaporation Rate (liters/days)	0.15	0.16	0.40
Liquid Nitrogen Capacity (liters)	4.2	5.2	15.5
Weight (lb.)	9.5	9.6	29.0
Empty (kg.)	4.3	4.4	13.2
Weight (lb.)	16.1	16.4	50.0
Full (kg.)	7.3	7.4	22.7
Neck (in.)	2.0	2.78	4.7
Diameter (mm.)	51	71	119
Overall Height (in.)	19.0	19.0	24
Overall Height (mm.)	483	483	610
Overall Diameter (in.)	7.6	8.2	15.6
Overall Diameter (mm.)	193	208	396
Canister Dimension (in)	1.5x11	2.64x11	4.4x11
Canister Dimension (mm.)	38x279	67x279	112x279
Vial Capacity (2 ml. vials)	30	102	320

<sup>1</sup> Based on static nitrogen evaporation of a liquid full container

## ACCESSORIES

A variety of accessories complement the line of Taylor-Wharton refrigerators and dewars for even greater convenience.

### ROLLER BASE

This sturdy cast aluminum, 5-wheel dolly provides a way to move refrigerators and dewars easily and safely. Choose from three sizes to fit either the 18.8 in. (478 mm.) diameter, 15.6 in. (396 mm.) diameter, or the 26.7 in. (678 mm.) diameter units.

PRODUCT CODE	MODEL
TAYR018-8C00	8XTL, 10HCL, 18HC, 18XT, 25LD
TAYR033-8C00	21HCL, 34HC, 34XT, 35HC/VHC, 35LD, 50LD, 750RS, 1575RS, 2100RS
TAYR05K-8C00	4800RS
TAYD024-8C02	Classic 25



### LOW LIQUID LEVEL 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 refrigerator and is recommended for stored product protection. For use with the 20XT, 34XT, 35HC, 35VHC, 3K, 750RS, 157R5RS, 23000S and 4800RS refrigerators. Please specify model.



PRODUCT CODE	MODEL
TAYR033-8C15	20XT
TAYR033-8C15	34XT
TAYR033-8C30	35HC
TAYR033-8C15	35VHC
TAYR03R-8C50	3K
TAYR036-8C30	750RS
TAYRS15-8C26	1575RS
TAYRS30-8C40	3000RS

**ACCESSORIES** *(cont.)***TIPPING STAND - LIQUID DISPENSING**

These are highly convenient tipping stands for the 25LD and Classic-T Liquid Dewars for safely dispensing liquid nitrogen.

The stand supports the weight while you easily tip the dewar.

Wheels add maximum handling convenience.

PRODUCT CODE	MODEL
TAY D025-8C00	25 LD
TAY D025-8C00	Classic 25

**LIQUID WITHDRAWAL DEVICE**

The Liquid Withdrawal Device enables the 25LD, 35LD or the 50LD to conveniently pressure transfer liquid nitrogen at rates up to 8 liters per minute. The low 10 psig (0.7 Bar/69 kPa) assures safe dispensing through a phase separator (shown above) to an accessory transfer hose. A smaller phase separator is available for refilling dermatological equipment.

Includes hose adapter.

PRODUCT CODE	MODEL
TAYD050-8C00	25 LD, 35LD, 50 LD



**CYRO-GLOVES AND APRONS**

Protects against hot and cryogenic atmospheres and splashes. Not for immersion in cryogenic liquids. Resistant to solvents and chemicals. Machine washable and dryable. Made in USA.



**Cryo-Gloves.** Mid arm length (14" to 15"). Water resistant. Inquire about other lengths and 100% waterproof models.

PRODUCT CODE	DESCRIPTION
TMSMAS	Cryo-Gloves Small
TMSMAL	Cryo-Gloves Large
TMSMAM	Cryo-Gloves Medium
TMSMAXL	Cryo-Gloves XLarge

**Cryo-Aprons.**

100% waterproof.

Reversible. Adjustable

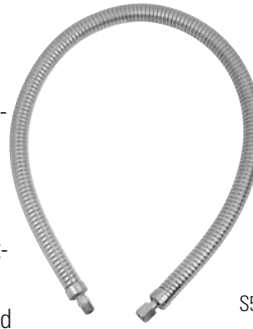
straps at neck and waist



PRODUCT CODE	DESCRIPTION
TMSCA36	Cryo-Apron – 24" x 36" long
TMSCA42	Cryo-Apron – 24" x 42" long

## STAINLESS STEEL CRYOGENIC TRANSFER HOSES AND PHASE SEPARATORS

Flexible transfer hoses for cryogenic liquids are available in 1/2" nominal diameter and 6 foot lengths. They are fabricated with all stainless steel construction and come equipped with fittings for oxygen or inert service as indicated. Phase separators allow faster filling, less splashing, and economy of transfer with low pressure cryogenic liquids. This is accomplished by separation of the liquid and gas phases. Outlet end is 3/8" NPTM.



S541



S543

## STAINLESS STEEL CRYOGENIC TRANSFER HOSES

PRODUCT CODE	GAS SERVICE	CONNECTION	LENGTH
S541-1	Oxygen	5/8" ODT x 45° Flare	6'
S541-2	Inert	1/2" ODT x 45° Flare	6'
S541-4	Inert	1/2" ODT x 45° Flare	4'

## PHASE SEPARATOR

PRODUCT CODE	DIAMETER	LENGTH
S543-1	1-5/16"	3"
S543-2	1"	1-1/2"

Thread size 3/8 - 18 NPT

\* For custom length transfer hoses, please contact nearest GTS location

## DIPPERS AND MEASURING RODS



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

PRODUCT CODE	DESCRIPTION
TAYR018-8C50	Dipper
TAYR033-8C11	Measuring rod

## CRYO-VISOR AND FACE SHIELD



Adjustable, ratchet headgear with large clear, acetate, face shield (15 1/2" x 9") (headgear and face shield sold separately).

PRODUCT CODE	DESCRIPTION
JAC0742-0020	Ratchet Headgear for Cryo Face Shield
JAC0754-0029	Cryo Face Shield Window