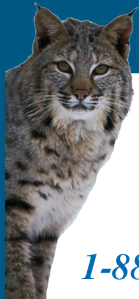


CRYSTAL

Crystal Technology & Industries, Inc.

www.crystalindustries.com



Available in Canada from...

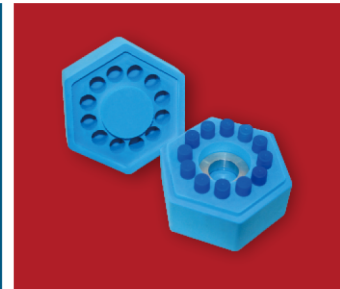
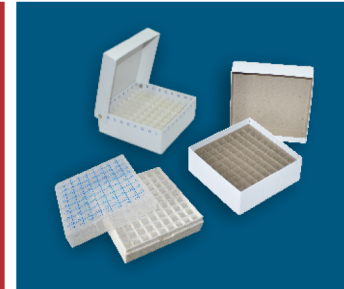
MJS
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INC.

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2020



Benchtop Cryo-Handling Product



2020

Crystal Technology & Industries



COMPANY INTRODUCTION

Crystal Technology & Industries, Inc. (CTI) headquarters is strategically located in Addison, Texas, USA. CTI is a fast-growing company that manufactures instruments and supplies for the medical and scientific research communities. CTI headquarters occupies 300,000 square feet of building space that includes offices, manufacturing, research and development, and warehouse facilities.

CTI's goal is to provide total customer satisfaction with our products, and additionally ease of ordering and product guarantee. Our approach utilizes the expertise and skills of more than 40 professional engineers in our Research and Development department who maintain close liaisons with several major life-science research institutions and hospitals to incorporate leading edge technologies into our products. CTI's team of quality control personnel and failure analysis engineers continue to set high standards for researchers with the latest tools and instruments developed from joint ventures with other manufacturers of advanced analytical scientific instruments.

CTI's headquarters coordinates global business activities providing continuous service and support for our customers throughout the world. CTI prides itself in its ability to provide efficient and rapid service to our customers. Our company has developed several product lines with over 400 product items. With CTI's continued growth, our product offering continues to increase as well as our share of the global market.

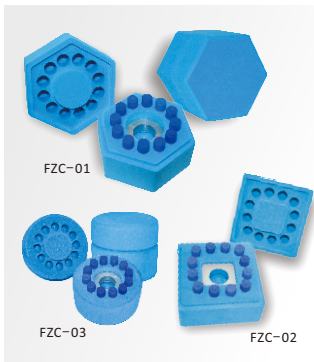


C ONTENTS

01	FreezerCell™
02	FreezeBox™
03	FreezeBuckets and Pans
04	Dewar Flasks, Cryo-Canes
05	Boxes
06	Pipette Carousel
07	Agarose

FreezerCell™

Ensure High Cell Survival Rate and Average Cooling Rate of Cell Cryopreservation



The FreezerCell™ can be used with a variety of cell types, including stem cells, primary cells, cell lines and yeast. The FreezerCell™ doesn't require any additives, all you need to do is place the FreezerCell™ into an ultra-low freezer, and the cooling will begin at -1°C per minute. It is a very good device for all protocols of cell preservation. This product is symmetrically designed with a combination of foam and alloys with no additives or emission characteristics. These products are environmentally friendly. No Need to replace any parts, and will serve you for years. The FreezerCell™ is easy to use, just insert your samples, and place in an ultra-low freezer and you're done. The FreezerCell™ greatly improves sample handling and efficiency. It promotes a greater survival rate of cells after thawing and helps to keep samples safe and worry free.

Product Features:

Easy to use:

- No need to add any liquid or pre-cooling, simply put your samples directly into the FreezerCell™, and keep all your samples in a -80°C low temperature environment.
- Easy open lid, and you can hold the FreezerCell™ directly from the -80°C freezer without any concern of frostbite to your fingers.
- Transfer the samples conveniently, you can remove the whole box or an individual sample at any time.

Low cost:

- No maintenance costs, no need to replace anything. Once you purchase the FreezerCell™, it will serve you for years to come.
- Reuse the FreezerCell™ over and over, 5-minute turnaround time.
- The FreezerCell™ foot print is minimal, and won't use up a lot of freezer space.

Higher cell survival rate:

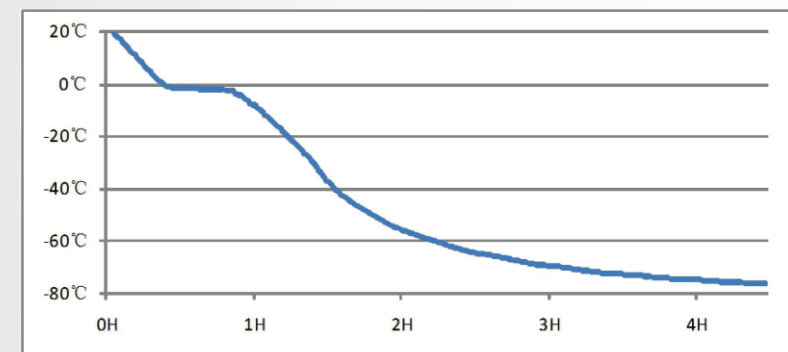
- Cooling rate consistency is very good, freeze an individual experiment, or a full load. The cooling rate on each sample is the same every time.

Usage

Simply put the samples to be frozen into FreezerCell™, and apply the lid. The FreezerCell™ must be placed in a -80°C environment for at least 3 hours, do not open during the cooling period. After the cooling process is complete, the sample can be removed and transferred to a liquid nitrogen tank for long term storage. If you need to reuse the FreezerCell™ quickly, simply open the lid and remove the tray, let them both return to room temperature, then you are ready to use again.

Cooling schematic diagram

Item Number	Specification	Weight	Note
FZC-01	5108 x 100 mm (S: Side Length)	120g	Holds 12 - 1ml / 2ml cryogenic vials or 1.5ml / 2ml centrifuge tubes. (12-φ13)
FZC-02	117 x 117 x 100 mm	160g	
FZC-03	φ117 x 100 mm	120g	



FreezerCell™ performance test

FreezeBox™

New Cooling Equipment to preserve biological samples all day long



Ice-free FreezeBox™ is a new type of energy-saving, environmentally friendly, safe, preservation solution. The FreezeBox™ requires no electricity (other than freezer), no ice required for low temperature protection for biological samples. Ice core aluminum alloy shell with high thermal conductivity of the alloy module to ensure that the sample can be quickly cooled, the temperature difference between the sample holes is less than 0.1°C, maintains a uniform temperature between the samples. The FreezeBox™ is Ice-free, lightweight, easy to carry, and ideal for collection of biological samples, it also can also be used in helping to preserve unstable nucleic acid samples. Its compact design and ice-free technology make it ideal for use in a tissue culture incubator, bio-safety cabinet and any other application with limited space. The FreezeBox™ can be used with different ice cores, and a variety of thermal test tube modules for use with different samples and temperatures.

Item Number	Specifications	Weight	Note
FZB-01	152 x 170 x 123 mm	1300g	CL, CM01 included in standard packaging (1 each).
FZB-S1	152 x 170 x 123 mm	140g	1. Can be equipped for different refrigeration. 2. Can be equipped for a variety of tube size.
FZB-02	152 x 170 x 170 mm	2100g	CL, CM03 included in standard packaging (1 each).

Product Features:

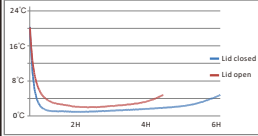
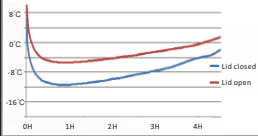
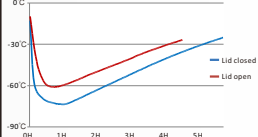
- Provides low temperature protection for biological samples.
- The uniformity of the temperature between the holes can ensure the consistency of sample test results.
- Optional different ice cores selection for different storage temperatures.
- Applicable to a variety of thermal pipes and modules.
- Lightweight, easy to carry, suitable for the collection of biological samples.
- Easy to clean and disinfect.
- Highly durable and suitable for frequent and repeated use.

Usage

This product is easy to assemble and simple use. Simply store the corresponding ice core in a ultra-low temperature refrigerator for several hours, place the desired tube module on the chilled core, and insert your sample or plate into the tube module. If you choose to use dry ice, take the ice core out, and directly fill approximately 200g dry ice, then lay the tube modules on top of it.

Note: Do not use any FreezeBox inside the Freezer.

Technical Parameters:

Temperature Range	Cooling Sources	Cooling Sources Processing	Module Processing	Insulation Time (Open cover)	Insulation Time (Close cover)	Performance Diagram
0.5°C~4°C	Ice core CL	Place it at -20°C for 4hrs, use after 10mins at room temp.	Precooling at 0.5°C~4°C for 30mins.	4h	6h	
0.5°C~4°C		Place it above 4hrs under -20°C, then use directly.	Room Temp.			
0.5°C~4°C		Place it above 2hrs under -80°C, then use directly.	Room Temp.			
-18°C~-4°C	Ice core CF	Place it above 6hrs under -20°C.	Precooling 30mins under -20°C	3h	4h	
-18°C~-4°C		Place it above 3hrs under -80°C.				
-78°C~-30°C	Dry ice	About 200g directly into the bottom of the box.	Directly place room temp. module	4h	5h	

Accessories:

■ Ice Core

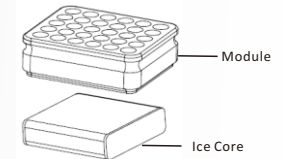
Item Number	Name	Temperature Range	Refrigerator's Temperature	Freeze Time	Dimension
CL	Cooling Core	0.5°C~4°C	-20°C	4h+	105 x 100 x 26 mm
		0.5°C~4°C	-80°C	2h+	105 x 100 x 26 mm
CF	Freeze Core	-18°C~-4°C	-20°C	6h+	105 x 100 x 26 mm
		-18°C~-4°C	-80°C	3h+	105 x 100 x 26 mm

■ Tube Module

High thermal conductivity metal alloy tube module, ensures consistent tube temperature, the module can ensure that all tubes are +/-0.1°C temperature. It can be used for cooling, quick freezing, thawing and heating, suitable for temperatures ranging from -196°C to above 100°C.

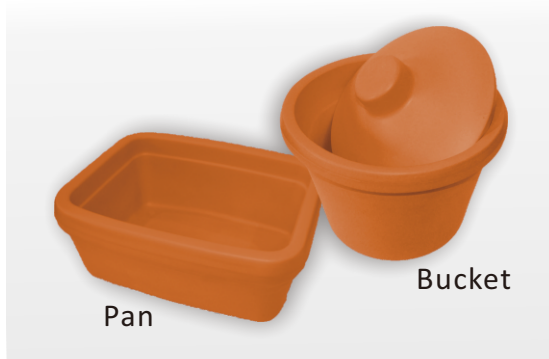
Item Number	Model	Specification	Dimension
2ml Module	CM01	30 x 2 ml Cryo Tube (30-φ12.6)	119 x 101 x 38 mm
1.5ml Module	CM02	48 x 1.5 ml Cryo Tube (48-φ11)	119 x 101 x 38 mm
5ml Module	CM03	30 x 5 ml Cryo Tube (30-φ13.5)	119 x 101 x 38 mm
PCR Module	CM04	Match with PCR Module (96-φ7)	119 x 101 x 38 mm

Note: More module options will be available in the future.



FreezeBuckets and Pans

EVA Ice Pans and Buckets



The FreezeBucket is made of high-tech synthetic material and is odorless. Used to replace the traditional ice basin in the field of life science. Products are solidly constructed, lightweight, leak-proof, not easily deformed. Suitable for ice, dry ice, alcohol, Saline or other solutions.

- Non-toxic and odorless
- Solid, recyclable
- Surface hydrophobic, dry appearance, no residue solution.

Item Number	Name	Picture	Dimension
FBT-RT01	1 L Ice Pan		150 x 150 x 120 mm
FBT-RT02	4 L Ice Pan		300 x 220 x 120 mm
FBT-RT03	9 L Ice Pan		390 x 310 x 120 mm
FBT-RD03	10 L Ice Pan		φ430 x 120 mm
FBT-RD01	2.5 L Ice Bucket with Lid		φ250 x 230 mm
FBT-RD02	4 L Ice Bucket with Lid		φ270 x 250 mm

Dewar Flasks, Cryo-Canes

Stainless Steel Dewar Flasks

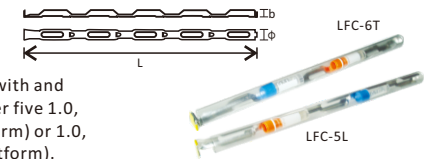
Store and transport low-temperature liquid gases or high temperature liquids. Dewars are available in two sizes 500ml or 1000ml and come complete with vented stainless steel lids. Model SDF-1000 comes with removable stainless steel handle.



Item Number	OD	Height	Capacity
SDF-500	85 mm	205 mm	500 ml
SDF-1000	120 mm	183 mm	1000 ml

Aluminum Cryo-Canes

Aluminum cryo-canes are available in two styles, with and without vial platforms. Each cryo-cane holds either five 1.0, 1.2, 1.5, 1.8, 2.0ml cryogenic vials (with vial platform) or 1.0, 1.2, 1.5, 1.8, 2.0, 5.0ml cryogenic vials (no vial platform).



Item Number	Description	Dimension L x φ x b	Unit	Package
LFC-6T	Cryo-canes w/o platform	289 x 12.5 x 8.4 mm	Pk	Pk of 12
LFC-5L	Cryo-canes with platform	289 x 12.5 x 8.4 mm		Pk of 12
PC-511	Clear Plastic Sleeve	276 x 16 x 0.5 mm		Pk of 12

Metal Tags for Aluminum Cryo-Canes

Metal tags for aluminum cryo-canes are sold in packs of 12 come in 5 different colors. Tags are clipped onto the ends of the cryo-canes to allow easy identification of samples.



Item Number	Color	Unit	Package
PC-501	Red	Pk	Pk of 12
PC-502	Yellow		
PC-503	Blue		
PC-504	Green		
PC-505	White		

Boxes

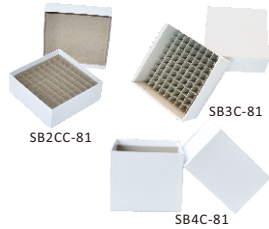
Hinged Cardboard CryoBoxes



Item Number	Color	Description	Dimension L x W x H	Unit
SB2CC-H-81	White	<ul style="list-style-type: none"> Holds up to repeated freezing & thawing. Water proof fiberboard. Hinged lid. 81 cell divider. Three colors optional. 	133 x 133 x 51mm	Ea
SB2CC-H-81-P-W	Purple			
SB2CC-H-81-G-W	Green			

* Hinged cardboard cryoboxes withstand temperature extremes of -196°C.

Cardboard Boxes



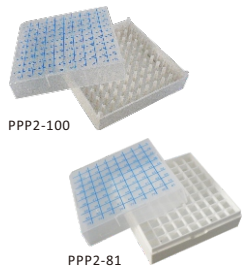
Item Number	Color	Description	Dimension L x W x H	Unit
SB2CC-81	White	White cardboard boxes for storage of samples or tubes are supplied with 81-cell dividers.	133 x 133 x 51 mm	Ea
SB3C-81			133 x 133 x 75 mm	
SB4C-81			148 x 148 x 122 mm	

* Cardboard cryoboxes withstand temperature extremes of -196°C.

** Option of 81 or 100 cells for 2", 3" and 4" boxes.

(Recommendation: External thread vial for 81 cell box, internal thread vial for 100 cell box.)

Polypropylene Boxes



Item Number	Cell Number	Dimension L x W x H	Cell Opening	Unit
PPP2-100	100	133 x 133 x 51 mm	10.5 mm	Ea
PPP2-81	81	133 x 133 x 51 mm	12.5 mm	

* Polypropylene boxes withstand temperature extremes of -80°C.

** Option of 81 or 100 cells for 2" boxes. (Recommendation: External thread vial for 81 cell box, internal thread vial for 100 cell box.)

Polycarbonate Boxes



Item Number	Cell Number	Dimension L x W x H	Cell Opening	Unit
PB2-100	100	133 x 133 x 52 mm	12.5 mm	Ea
PB2-81	81	133 x 133 x 52 mm	13 mm	
PB2-10	10	55.7 x 20.5 x 146.4 mm	13 mm	
MPB2-25	25	76 x 76 x 53 mm	12.8 mm	
MMPB2-25	25	67 x 67 x 47 mm	13 mm	

* Polycarbonate boxes withstand temperature extremes of -196°C.

** Option of 81 or 100 cells for 2" boxes. (Recommendation: External thread vial for 81 cell box, internal thread vial for 100 cell box.)

100-Cell Hinged Plastic Boxes



Item Number	Color	Cell Number	Dimension L x W x H	Cell Opening	Unit
PP2-100	White	100	141 x 152 x 54 mm	12.5 mm	Ea
PP2-100-G	Green				
PP2-100-B	Blue				
PP2-100-O	Orange				
PP2-100-Y	Yellow				
PP2-100-P	Purple				
PP2-100-A	5 Color				

* 100-Cell hinged plastic boxes withstand temperature extremes of -80°C.

** Option of 100 cells for 2" boxes. (Recommendation: Internal thread vial for 100 cell box.)

Pipette Carousel

Pipette Carousel, 6-place



Organize your benchtop with the compact, 6-place pipette carousel. The pipette is held in place at the handle, with room for up to 6 single or multi-channel pipettes. The carousel rotates easily for convenient access to the pipette you need.

- Rotating carousel for easy pipette selection
- Holds up to six pipettes
- Constructed of durable ABS plastic
- Works with many common pipette styles, including Gilson, Rainin, Labnet, Genemate, Tomos and others.

Item Number	YZJ-6
Product Name	Pipette Carousel, 6-place
For Pipette Types	Gilson, Rainin, Labnet, Genemate, Tomos and others
Capacity	Six Pipettes
Height	330mm
Max Outside Diameter	φ 152mm
Package Dimensions	190 x 220 x 165mm

Agarose

Agarose



Agarose is a low EEO, multi-purpose, standard melting point agarose that yields high resolution sharp DNA bands with high clarity and low background. Its optimized gel strength enhances ease of gel processing and handling. Manufactured using innovative organic solvent free manufacturing process that is more environment friendly.

- High purity and Multi-purpose.
- Low background and high resolution.
- Optimized gel strength for ease of gel preparation.

Item Number	A-500
Appearance	White to ivory white powder
Water	7% max.
Solubility	Clear colorless solution at 1G plus 100ml water
Gel strength(1% Gel)	1200g/cm 2min.
EEO(Electroendosmosis(-Mr)	0.13 max.
Sulfate	0.15 max.
Ash	0.5 max.
Gelling point(1.5% Gel)	36°C ±1.5°C
Grade	Biotechnology grade
CAS	NO.9012-36-6