

# CoolBox™

## Ice-Free Cooling and Freezing Systems



**CoolBox systems** are ice-free bench top cooling workstations that provide sample cooling or freezing *without ice, electricity or batteries!* CoolBox systems are versatile and can accommodate a variety of sample formats and temperatures. The modular design enables the use of CoolRack® and CoolSink® thermo-conductive sample modules to hold microfuge tubes, cryogenic vials, PCR tubes and plates, assay plates and more. The internal cooling or freezing cartridges provide hours of 0.5 to 4°C cooling or sample freezing. CoolBox systems may also be used with dry ice to create a compact, portable, snap-freezing workstation for bacteria, virus and proteins.

### Problem: wet samples

- Non-uniform ice contact results in variable sample temperature
- Disorganized, wet samples and labels
- Shifting, sinking tubes; contamination risk
- Non-reproducible method



### Solution: CoolBox

- No wet ice contact
- Uniform well-to-well sample cooling
- Samples are organized, secure and dry
- Minimal risk of contamination
- Reproducible method



## Applications

### Ice-Free Cooling and Freezing

Samples stay cold with a re-usable cooling cartridge inside CoolBox keeping samples cold (0.5 to 4°C) for up to 16 hours. Ice-related problems such as unorganized, wet samples, sample mis-identification and risk of contamination are eliminated. Ideal for enzyme and reagent cooling, or protecting samples from temperature fluctuations in the freezer.

### PCR Preparation

Keep PCR plates or strips and reagent tubes cold without ice in a CoolBox system. Samples remain cold (0.5 to 4°C) with a reusable cooling cartridge and ice-related contamination risk from microbes and nucleases is minimized. Samples are maintained at uniform temperature, eliminating temperature variability.

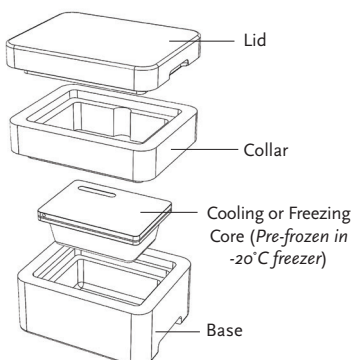
### Cell Cryopreservation

Using a CoolBox system in the thawing process ensures proper temperature maintenance. Studies have shown that one of the main factors in increasing survival and proliferative capacity of stem cells is temperature, and how quickly they are brought back from cryogenic conditions to room temperature.

### Short Transport

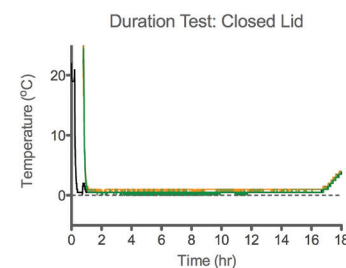
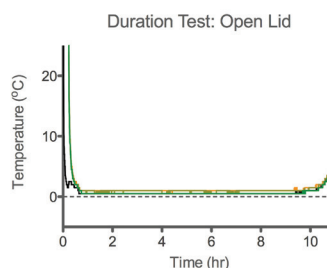
CoolBox systems provide optimal cooling conditions when transporting cold or frozen samples short distances. The reusable cooling or freezing cartridge ensures all samples are kept at uniform temperature. Ideal for transporting samples from building to building, or from clinic to lab.

## How It Works



Choose from three different CoolBox systems. Each system consists of a base, cooling cartridge/core and a lid. CoolBox XT workstations also include a magnetized collar. Each CoolBox system is designed to receive thermo-conductive sample modules that sit directly on the cartridge/core keeping samples at desired temperature for hours. The cartridge/core is pre-frozen in a -20°C freezer.

## Performance



CoolBox XT performance with XT Cooling Core. Samples stay cold for over 10 hours with lid open and over 16 hours with lid closed.

## CoolBox XT and CoolBox 2XT Workstations

Up to 16 Hours of Ice-Free Cooling or Freezing for Tubes and Plates



CoolBox XT and CoolBox 2XT workstations keep tube or plate samples cold for over 16 hours with the lid on, and over 10 hours with the lid off. Use optional XT Freezing Core to maintain frozen samples for up to 8 hours. Dry ice may be used in place of the cores to create a compact snap-freezing workstation.



**CoolBox XT workstation**  
Holds one sample module

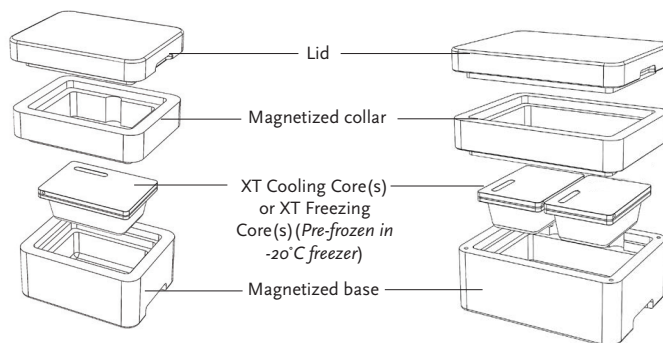


**CoolBox 2XT workstation**  
Holds two sample modules

### CoolBox XT Performance

Temperature Range	Cooling Source	Open Lid	Closed Lid
0.5°C to 4°C	XT Cooling Core	Over 10 hours	Over 16 hours
-20°C to 0°C	XT Freezing Core	Over 5 hours	Over 8 hours
-78°C	200ml Dry Ice*	Over 4 hours	Over 5 hours

\*Note: the thermo-conductive design of CoolRack and CoolSink sample modules ensures uniform well-to-well temperature regardless of the consistency of the dry ice.



### Ordering Information

#### Complete Workstations

Application	Item No.	Description and Contents	For Use With	Box Color
Enzyme, PCR reagent or other biological specimen cooling or snap-freezing	BCS-576	<b>MicroTube 24 Workstation</b> CoolBox XT System, SBS-compatible CoolRack XT M24, one pack of 500 TruCool® 1.5 mL microfuge tubes.	24 microfuge tubes (1.5 or 2.0 mL)	●
Cell thawing, tissue culture, bacteria/virus snap-freezing	BCS-575	<b>CryoTube 24 Workstation</b> CoolBox XT System, SBS-compatible CoolRack XT CFT24, one pack of 50 TruCool® 2 mL internal-thread cryogenic vials	24 cryogenic vials (1.0 to 2.0 mL), wells have "gripping" feature for one-hand tube opening	●
PCR/qPCR plate preparation	BCS-570	<b>PCR96 Workstation</b> CoolBox XT System, SBS-compatible CoolRack XT PCR96, one pack of 500 TruCool® 1.5 mL microfuge tubes.	One 96-well PCR plate, 12 strip wells or 96 tubes	●
PCR/qPCR strip well and reagent tube preparation	BCS-572	<b>PCR Strip Workstation</b> CoolBox XT System, SBS-compatible CoolRack XT M-PCR, one pack of 500 TruCool® 1.5 mL microfuge tubes.	6 strip wells and 12 microfuge tubes (1.5 to 2.0 mL)	●
PCR/qPCR plate and reagent tube preparation	BCS-573	<b>PCR Sample Preparation Workstation</b> CoolBox 2XT System, SBS-compatible CoolRack XT M24, SBS-compatible CoolRack XT PCR96, one pack of 500 TruCool® 1.5 mL microfuge tubes.	One 96-well PCR plate or strip wells or tubes and 24 microfuge tubes (1.5 or 2.0 mL)	●

#### "Design Your Own" Workstation

##### CoolBox XT Workstation

Includes one (1) XT Cooling Core for 0.5 to 4°C cooling. Holds one (1) sample module (Order separately from table on the right.)

Item No.	Description	Dimensions (L x W x H)
BCS-502	● CoolBox XT, purple	Internal: 14 x 9.4 x 9.9 cm* External: 20 x 16 x 15 cm
BCS-502G	● CoolBox XT, green	
BCS-502O	● CoolBox XT, orange	
BCS-502PK	● CoolBox XT, pink	

##### CoolBox 2XT Workstation

Includes two (2) XT Cooling Cores for 0.5 to 4°C cooling. Holds two (2) sample modules (Order separately from table on the right.)

Item No.	Description	Dimensions (L x W x H)
BCS-503	● CoolBox 2XT, purple	Internal: 21 x 14.3 x 13.4 cm* External: 26.5 x 20 x 15 cm
BCS-503G	● CoolBox 2XT, green	
BCS-503O	● CoolBox 2XT, orange	
BCS-503PK	● CoolBox 2XT, pink	

\*Internal height of open space when core is in the base.

#### Sample Modules for CoolBox XT and CoolBox 2XT

Note: All XT modules are SBS-compatible and may be placed on robotic instruments for brief cooling outside of CoolBox.

Item No.	Description	For Use With	Dimensions (L x W x H)
BCS-535	CoolRack XT M24	24 x 1.5 mL microfuge tubes	12.8 x 8.5 x 3.8 cm
BCS-534	CoolRack XT CFT24	24 x 1.0 or 2.0 mL cryogenic vials	12.8 x 8.5 x 3.8 cm
BCS-529	CoolRack XT PCR96	one 96-well PCR plate, strip wells, tubes	12.8 x 8.5 x 2.5 cm
BCS-523	CoolRack XT M-PCR	12 x 1.5 or 2.0 mL microfuge tubes and 6 strip wells	12.8 x 8.5 x 3.8 cm
BCS-538	CoolRack XT PCR384	one 384-well plate	12.8 x 8.5 x 1.8 cm
BCS-536	CoolSink XT 96F	one 96 or 384-well flat-bottom plate	12.8 x 8.5 x 1.7 cm
BCS-537	CoolSink XT 96U	one 96-well u-bottom plate	12.8 x 8.5 x 1.7 cm

#### Tall Sample Modules for CoolBox XT and CoolBox 2XT

Note: Tall modules require an XT Extension Collar. See next page for details.

Item No.	Description	For Use With	Dimensions (L x W x H)
BCS-232	CoolRack L*	12 centrifuge tubes (15 mL), insulated	13.3 x 9.2 x 11 cm
BCS-153	CoolRack 15ml	9 centrifuge tubes (15 mL)	8.9 x 8.9 x 10.7 cm
BCS-154	CoolRack 50ml	4 centrifuge tubes (50 mL)	8.9 x 8.9 x 10.7 cm
BCS-235	CoolRack LV*	12 blood tubes (13x75mm), insulated	13.3 x 9.2 x 8.6 cm
BCS-157	CoolRack VS13	9 blood tubes (13x75 mm)	8.9 x 8.9 x 6.1 cm
BCS-155	CoolRack V13	9 blood tubes (13x100 mm)	8.9 x 8.9 x 8.4 cm
BCS-156	CoolRack V16	9 blood tubes (16x100 mm)	8.9 x 8.9 x 8.4 cm

\*No XT Extension Collar necessary unless lid closing is required.

For additional sample modules visit [www.biocision.com](http://www.biocision.com)

## CoolBox XT and CoolBox 2XT Optional Accessories



### CoolBox XT Extension Collar

For use with CoolBox XT when using taller tube modules  
Dimensions (L x W x H): Internal: 14 x 9.4 x 7 cm.  
External: 20 x 16 x 7 cm.

Item No.	Description
BCS-502C	● Extension Collar, purple
BCS-502C-G	● Extension Collar, green
BCS-502C-O	● Extension Collar, orange
BCS-502C-PK	● Extension Collar, pink



### CoolBox 2XT Extension Collar

For use with CoolBox 2XT when using taller tube modules  
Dimensions (L x W x H): Internal: 21 x 14.3 x 7 cm.  
External: 26.5 x 20 x 7 cm.

Item No.	Description
BCS-503C	● Extension Collar, purple
BCS-503C-G	● Extension Collar, green
BCS-503C-O	● Extension Collar, orange
BCS-503C-PK	● Extension Collar, pink



### XT Cooling Core

For 0.5 to 4°C cooling

Item No.	Description
BCS-511	XT Cooling Core



### XT Freezing Core

For maintaining frozen samples <0°C

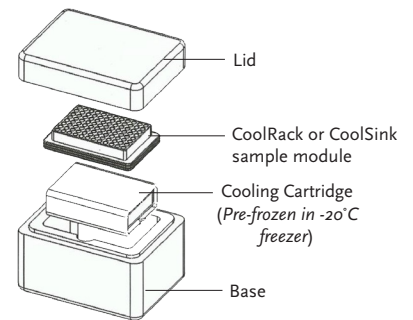
Item No.	Description
BCS-512	XT Freezing Core

## CoolBox MP Systems

Up to 10 Hours of Ice-Free Cooling for Tubes or Plates



CoolBox MP system keeps sample tubes or plates cold (0.5 to 4.0°C) for approximately 10 hours with the lid closed, and approximately 4 hours with the lid open. To extend the cooling duration, keep an additional cooling cartridge in the freezer and replace the cartridge as needed.



### CoolBox MP Performance

Temperature Range	Cooling Source	Open Lid	Closed Lid
0.5°C to 4°C	Cooling Cartridge	Up to 4 hours	Up to 10 hours
-78°C	200ml Dry Ice*	Up to 4 hours	Up to 5 hours

\*Note: the thermo-conductive design of CoolRack and CoolSink sample modules ensures uniform well-to-well temperature regardless of the consistency of the dry ice.

## Ordering Information

### Complete Systems

Application	Item No.	Description and Contents	For Use With	Box Color
PCR/qPCR plate preparation	BCS-145	<b>PCR96 CoolBox System</b> CoolBox MP System, SBS-compatible CoolRack XT PCR96	one 96-well PCR plate or strip wells or tubes	●
PCR/qPCR 384-well plate preparation	BCS-146	<b>PCR384 CoolBox System</b> CoolBox MP System, SBS-compatible CoolRack XT PCR384	one 384-well PCR plate	●
Tissue culture, cell staining, other assays	BCS-147	<b>96F CoolBox System</b> CoolBox MP System, SBS-compatible CoolSink XT 96F	one 96-well or 384-well flat-bottom plate	●
Bradford protein, other colorimetric or fluorescent assays	BCS-148	<b>96U CoolBox System</b> CoolBox MP System, SBS-compatible CoolSink XT 96U	one 96-well u-bottom plate	●

## “Design Your Own” System

### CoolBox MP System

Includes: CoolBox MP base and lid, one blue cooling cartridge.

Accommodates one sample module (Order separately from table on the right.)

Item No.	Description	Dimensions (L x W x H)
BCS-144	● CoolBox MP, purple	Internal: 13.3 x 8.8 x 7.3 cm*
BCS-144G	● CoolBox MP, green	External: 20.3 x 15.25 x 15.25 cm
BCS-144O	● CoolBox MP, orange	
BCS-144PK	● CoolBox MP, pink	

\*Internal height of open space when core is in the base.

### CoolBox MP Optional Accessories

#### Cooling Cartridge

Item No.	Description
BCS-152	Cooling cartridge, blue, 1 per pack



### Sample Modules for CoolBox MP

Item No.	Description	For Use With	Dimensions (L x W x H)
BCS-125	CoolRack M15	15 x 1.5 or 2.0 mL microfuge tubes	10.2 x 6.4 x 3.8 cm
BCS-127	CoolRack M15-PF (1.5ml)	15 conical 1.5 mL microfuge tubes	10.2 x 6.4 x 3.8 cm
BCS-535	CoolRack XT M24*	24 1.5 mL microfuge tubes	12.8 x 8.5 x 3.8 cm
BCS-126	CoolRack CF15	15 cryogenic vials	10.2 x 6.4 x 3.8 cm
BCS-534	CoolRack XT CFT24*	24 cryogenic vials	12.8 x 8.5 x 3.8 cm
BCS-529	CoolRack XT PCR96*	one 96-well PCR plate or 12 strip wells	12.8 x 8.5 x 2.5 cm
BCS-523	CoolRack XT M-PCR*	12 x 1.5 or 2.0 mL microfuge tubes and 6 strip wells	12.8 x 8.5 x 3.8 cm
BCS-538	CoolRack XT PCR384*	one 384-well PCR plate	12.8 x 8.5 x 1.8 cm
BCS-536	CoolSink XT 96F*	one 96-well or 384-well flat-bottom plate	12.8 x 8.5 x 1.7 cm
BCS-537	CoolSink XT 96U*	one 96-well u-bottom plate	12.8 x 8.5 x 1.7 cm
BCS-149	CoolRack 96x1ml	1.4 mL 2D storage tubes	13.2 x 8.9 x 4.3 cm
BCS-231	CoolRack 96x0.5ml	0.5 mL 2D storage tubes	13.2 x 8.9 x 3.6 cm

\*All XT modules are SBS-compatible and may be placed on robotic instruments for brief cooling outside of CoolBox.

## CoolBox 30 Systems

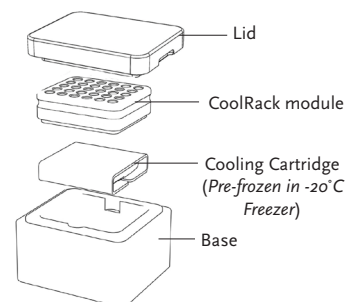
Up to 10 hours of Ice-Free Cooling or Freezing for Tubes



CoolBox 30 System keeps sample tubes cold (0.5 to 4.0°C) for approximately 4 to 10 hours. Use the optional Freezing Cartridge to maintain frozen samples below 0°C for approximately 3 to 6 hours.



CoolBox 30 System



### CoolBox 30 Performance

Temperature Range	Cooling Source	Open Lid	Closed Lid
0.5°C to 4°C	Cooling Cartridge	Up to 4 hours	Up to 10 hours
-20°C to 0°C	Freezing Cartridge	Up to 3 hours	Up to 6 hours
-78°C	200ml Dry Ice*	Up to 4 hours	Up to 5 hours

\*Note: the thermo-conductive design of CoolRack sample modules ensures uniform well-to-well temperature regardless of the consistency of the dry ice.

### Ordering Information

#### Complete Systems

Application	Item No.	Description and Contents	For Use With	Box Color
Enzyme and PCR reagent benchtop cooling or storage	BCS-133	M30 CoolBox System CoolBox 30 System, CoolRack M30	30 x 1.5 mL or 2 mL microfuge tubes	●
Enzyme and PCR reagent benchtop cooling or storage (conical 1.5 mL tubes only)	BCS-134	M30-PF CoolBox System CoolBox 30 System, CoolRack M30-PF	30 x 1.5 mL or 2 mL conical microfuge tubes	●
Cell thawing, tissue culture, bacteria/virus snap-freezing	BCS-166	CFT30 CoolBox System CoolBox 30 System, CoolRack CFT30	30 x 1 mL or 2 mL cryogenic vials	●

#### “Design Your Own” System

##### CoolBox 30 System

Includes: CoolBox 30 base and lid, blue cooling cartridge, Accommodates 15-well or 30-well CoolRack tube modules (Order separately from table on the right.)

Item No.	Description	Dimensions (L x W x H)
BCS-130	● CoolBox 30, purple	Internal: 12 x 10.4 x 7.9 cm*
BCS-130G	● CoolBox 30, green	External: 16.5 x 15.25 x 12.7 cm
BCS-130O	● CoolBox 30, orange	
BCS-130PK	● CoolBox 30, pink	

\*Internal height of open space when core is in the base.

##### Sample Modules for CoolBox 30

Item No.	Description	For Use With	Dimensions (L x W x H)
BCS-125	CoolRack M15	15 x 1.5 mL or 2.0 mL microfuge tubes	10.2 x 6.4 x 3.8 cm
BCS-127	CoolRack M15-PF	15 x conical 1.5 mL microfuge tubes	10.2 x 6.4 x 3.8 cm
BCS-108	CoolRack M30	30 x 1.5 mL or 2.0 mL microfuge tubes	12 x 10.2 x 3.8 cm
BCS-128	CoolRack M30-PF	30 x conical 1.5 mL microfuge tubes	12 x 10.2 x 3.8 cm
BCS-137	CoolRack M30-PF (500 ul)	30 x conical 500ul tubes	12 x 10.2 x 3.8 cm
BCS-126	CoolRack CF15	15 x 1.5 mL or 2.0 mL cryogenic vials or 12x75 FACS tubes	10.2 x 6.4 x 3.8 cm
BCS-138	CoolRack CFT30*	30 x 1.5 mL or 2.0 mL cryogenic vials or 12x75 FACS tubes	12 x 10.2 x 3.8 cm

\* CoolRack CFT30 has “gripping” wells for one-hand cryogenic vial opening/closing

#### CoolBox 30 Optional Accessories

##### Cooling Cartridge

For 0.5 to 4°C cooling

Item No.	Description
BCS-132	Cooling cartridge, blue, 3 per pack



##### Freezing Cartridge

For maintaining frozen samples <0°C

Item No.	Description
BCS-131	Freezing cartridge, green, 3 per pack

