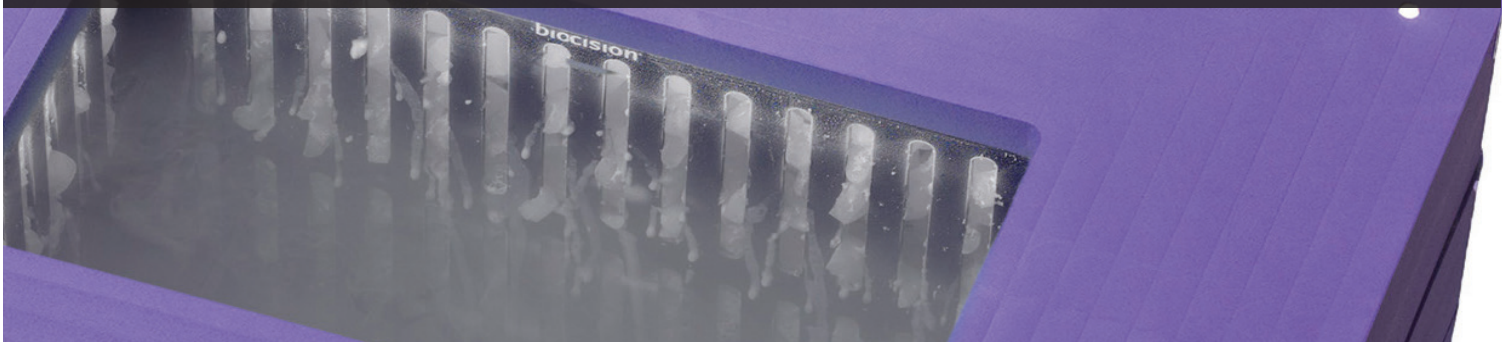
BioT™ ULT Transporter

Ultra-Low Temperature Stability System

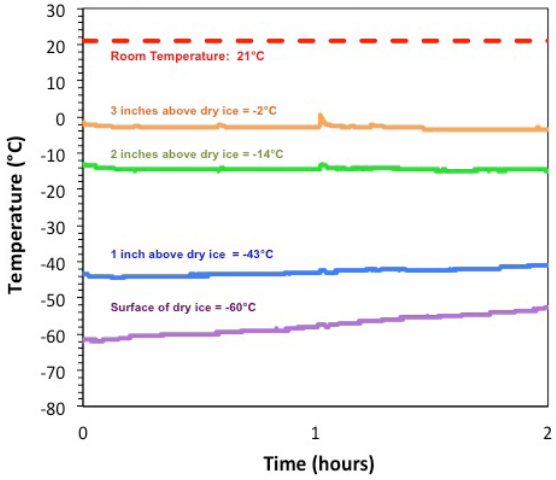


BioT™ ULT Transporter is a breakthrough portable solution for handling and transporting valuable frozen biological materials and temperature-sensitive samples, or freezing samples at a collection site.

- Maintains samples between <-70°C and -50°C for over 8 hours open, 24 hours closed
- Ready to use in approximately 5 minutes
- 8 inches working depth below -50°C
- Lightweight, easy to carry
- Intuitive assembly, durable

Styrofoam and Dry Ice: Not as Cold as You Think

A dry ice-filled Styrofoam box is currently the standard method used for receiving, handling and transporting valuable frozen samples. However, only a 0.6 inch (1.5 cm) high zone above the dry ice stays below -50°C. Samples treated in this manner are exposed to unnecessary temperature variation that may alter their quality in unknown ways.

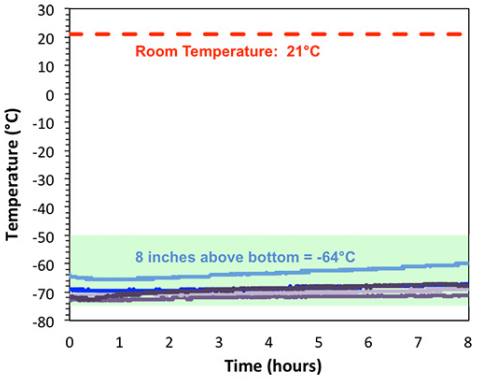


Styrofoam box with dry ice is 14°C at 5.0 cm (2 in) above dry ice

Temperature profile of a 7 inch (17.8 cm) deep Styrofoam container filled half full with dry ice. Only the bottom 0.6 inches (1.5 cm) above dry ice are in the desired < -50°C region. The top of a standard 2-inch cryostorage box (and sample tubes or vials inside) is at -14°C. Temperature readings were taken at 0, 1, 2, and 3 inches above the dry ice for 2 hours.

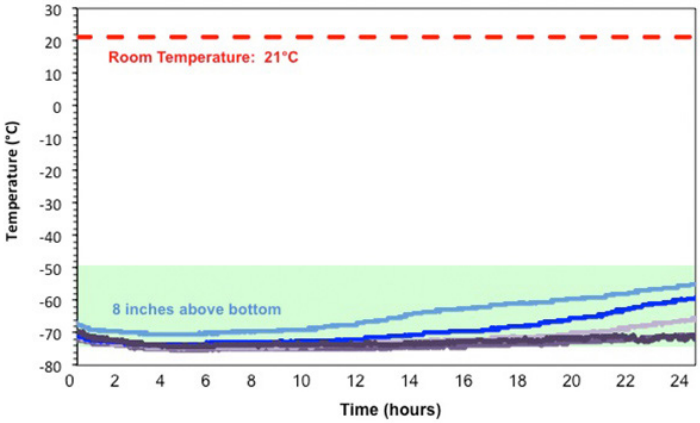
BioT™ ULT Transporter: Performance Data

Lid open: Over 8 hours < -50°C



Temperature profile of BioT™ ULT Transporter loaded with dry ice and with lid open. The entire 8 inch working depth of the transporter remains below -50°C (green shading) for over 8 hours with one charge of dry ice and with the lid open. Temperature readings were taken every 2 inches above the chamber floor for 8 hours. Inches above base chamber floor: 0 inches (dark purple), 2 inches (purple), 4 inches (lavender), 6 inches (dark blue), 8 inches (light blue).

Lid closed: Over 24 hours < -50°C

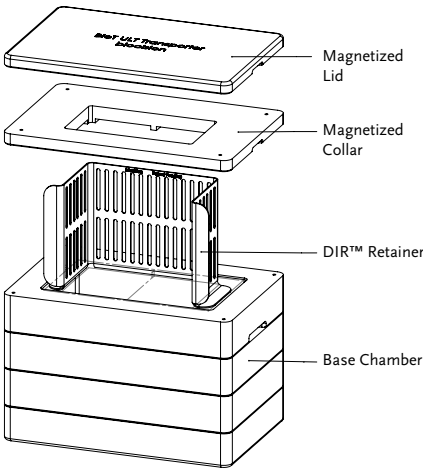


Temperature profile of BioT™ ULT Transporter loaded with dry ice and with lid closed. The entire 8 inch working depth of the transporter remains below -50°C (green shading) for over 24 hours with one charge of dry ice and with the lid closed. Temperature readings were taken every 2 inches above the chamber floor for 8 hours. Inches above base chamber floor: 0 inches (dark purple), 2 inches (purple), 4 inches (lavender), 6 inches (dark blue), 8 inches (light blue).

How It Works

BioT™ ULT Transporter is comprised of four parts: magnetized lid, magnetized collar, DIR™ dry ice retainer, base chamber.

The patent-pending DIR™ cooling insert technology inside the transporter harnesses cold convection for efficient, stable, and hours-long dry ice based cooling. Dry ice is added to the cavity between the DIR™ retainer and base chamber walls, filling to the top of the retainer (5.4 kg, 12.8 lb). The ventilated thermo-conductive retainer ensures uniform and consistent gas circulation to keep the entire base chamber at ultra-low temperature. This configuration also minimizes consumption of dry ice as one charge maintains contents under -50°C for over 24 hours.

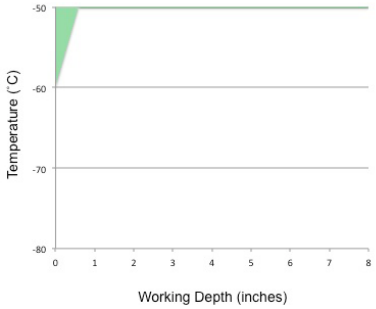


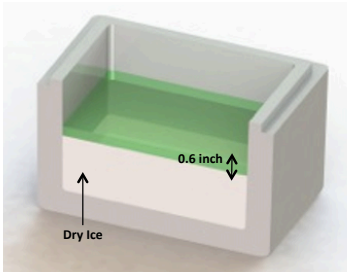
The closed-cell high-density polyethylene foam construction of the lid, collar and base chamber is durable, non-absorbent, and remains comfortable to the touch even when loaded with dry ice and frozen materials. The magnetized collar and lid ensure safe transport of the contents. The DIR™ retainer is constructed of a thermo-conductive aluminum alloy anodized for durability.

BioT™ ULT Transporter may be cleaned with bleach or alcohol solutions. DIR™ retainer may be autoclaved or cleaned with alcohol or bleach.

Styrofoam Box and Dry Ice: 0.6 Inches Below -50°C

A dry ice-filled Styrofoam box is currently the standard method used for receiving, handling and transporting valuable frozen samples. However, only a 0.6 inch (1.5 cm) high zone above the dry ice stays below -50°C for 2 hours. Worse, at 2 inches (5.0 cm) above the dry ice - the top of a standard 2-inch cryostorage box- the temperature is above -20°C.

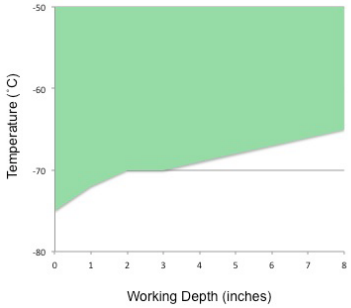


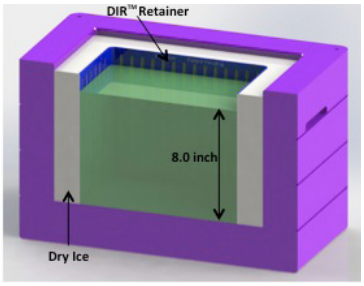


A Styrofoam box with dry ice provides < 1 inch of working height below -50°C for 2 hours

BioT™ ULT Transporter: 8.0 Inches Below -50°C

BioT™ ULT Transporter provides a stable ultra-low temperature (< -70°C to -50°C) work zone 8.0 inches (20.3 cm) deep. Up to 8 standard 2-inch cryostorage boxes will remain safely below -50°C for over 8 hours with the lid open and over 24 hours with the lid closed with one charge of dry ice.





BioT™ ULT Transporter provides an 8-inch deep working height area below -50°C for over 8 hours with lid off and over 24 hours with lid closed

Applications

BioT™ ULT Transporter is a versatile ultra-low temperature system that maintains a stable < -70 to -50°C throughout its entire 8 inch working depth over an 8 hour period with the lid off, enabling secure handling, freezing, and transfer of temperature-sensitive biomaterial. With the lid on, the transporter maintains < -70 to -50°C in the chamber for over 24 hours, enabling longer sample transport with virtually no temperature variation or risk of elevated temperatures that could compromise the valuable contents. The bottom 4 to 6 inches of the BioT™ ULT Transporter remain ≤ -70°C for hours, simulating an ultra-low freezer environment and allowing the collection and freezing of biological samples at collection site.

Applications may include:

- Cherry-picking, sorting or other short term handling of critical samples outside a -80°C freezer
- Controlled-temperature transfer of frozen samples between laboratories or collection and processing sites
- Freezing samples at collection site (in conjunction with CoolCell® cell freezing containers or CoolRack® thermo-conductive modules)
- Receiving or preparing frozen samples for shipment

Keep up to 8 standard 2-inch cryostorage boxes below -50°C

Freeze 2 CoolCell® LX cell freezing containers (up to 24 cryogenic vials) at collection site

Specifications

Hours of <-50°C cooling	Lid off: over 8 hours Lid on: over 24 hours
Amount of dry ice required	5.4 kg (12.8 lb)
Weight empty	3.6 kg (8.0 lb)
Weight with dry ice	9.0 kg (20.8 lb)
Working depth <-50°C	up to 20 cm (8.0 in) from chamber floor
Capacity	8 standard 2-inch cryostorage boxes

Ordering Information

Item No.	Description	Dimensions (L x W x H)
BCS-518P	• BioT™ ULT Transporter, Purple	Internal: 28.7 x 16.2 x 20.3 cm (11.3 x 6.4 x 8.0 in)
BCS-518G	• BioT™ ULT Transporter, Green*	External: 50.8 x 33.8 x 37.6 cm (20.0 x 13.3 x 14.8 in)
BCS-518O	• BioT™ ULT Transporter, Orange*	
BCS-518PK	• BioT™ ULT Transporter, Pink*	

* Minimum order quantity: 6 units

Related Products

BioT™ Carrier provides efficient cold transport of temperature-sensitive laboratory research samples replacing ice and gel packs. The intuitive LCD display allows programming cooling set point. AC power adaptor enables long-term stationary use. Rechargeable battery is easy to install and lasts up to 8 hours. For applications that require longer transport, a car power adaptor is included. Rugged, lightweight, with shoulder strap for easy carrying.

CoolCell® LX alcohol-free controlled-rate cell freezing containers. Highly reproducible results and no maintenance. Ideal for stem cells, primary cells, PBMC, cell lines, insect cells, yeast and more. Available in four colors.

TruCool® Cryogenic Vials feature a thermally-fused gasket layer on each cap that replaces traditional O-rings, allowing leak-proof storage of valuable biological samples. Each tube is individually barcoded for accurate identification and anonymity. Available with internal- or external-thread caps.

TruCool® Hinged CryoBoxes offer convenience and archival integrity, ensuring markings and vials remain in sync. Lid stays attached to base minimizing risk of lid contamination, and is easy to open when frozen. Adjustable slats accommodate multiple vial types. Store 1 mL through 5 mL cryogenic vials or other similar vials and tubes in 81- or 100-grid formats.

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