# Cryoport Express® Cryogenic HV2 Shipping System - *Technical Specifications*

The Cryoport Express® Cryogenic HV2 Shipping Systems are available for both general purpose and advanced therapy shipments which accommodate larger payloads and international shipping lanes.

## Ordering Information

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|---|---|
| **CXHV2SPGP** | Cryoport Express® Cryogenic HV2 Shipping System (GP) |
| **CXHV2SPHU** | Cryoport Express® Cryogenic HV2 Shipping System (ATS™) |

## Product Specifications

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| **Temperature Range** | -150°C or colder |
| **Static Hold Time** | Up to 13 days |
| **Dynamic Hold Time** | Up to 10 days |
| **Exterior Dimensions** | 22 L x 22 W x 28 H in<br>55.88 x 55.88 x 71.12 cm |
| **Interior Chamber** | 8.5 in / 21.59 cm diameter<br>12 in / 30.48 cm height<br>Note: Max commodity height 11.5 in / 29 cm |
| **Weight - Dry** | 57 lb / 26 kg |
| **Weight - Charged** | 77 lb / 35 kg |



*GP*

## Payload Capacity

**Capacity - Canes**
Each cane holds 5 vials

- 6 Safepak® bags - 15 canes per bag (75 cryovials per bag, 450 cryovials total)
- 100 canes (2.0 ml per vial)
- 4 metal canisters (500 cryovials total)
- Max packout can hold up to 500 cryovials

**Capacity - Boxes**

- 5 standard cryovial boxes (5 x 5 x 2 in / 127 x 127 x 51 mm)
- 1 Safepak® 1800 with optional Cryostrap®
- 1 Safepak® XL with optional Cryostrap®
- 1 metal cryovial box rack (5 boxes per rack)

**Capacity - Blood Bag Cassettes**

- 9 blood bag cassettes (up to 750 ml); additional quantities depending on blood bag cassette size
- 1 Safepak® Soft System 1800
- 1 Safepak® XL with optional Cryostrap®
- 1 metal blood bag cassette rack



*ATS™*

# Condition Monitoring Solutions

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| **Smartpak™ Condition Monitoring System** | ○ Records near real-time information<br>○ Track shipment's location<br>○ Records temperature, pressure, anti-tamper, orientation, humidity, and shock<br>○ Unsurpassed analytics contributes to the preservation of the shipped materials<br>○ Assists with planning, enroute mitigation, and reporting |
| **Cryoportal® Logistics Management System** | ○ Maintains data recorded by the Smartpak™ and provides 24/7 access to a shipment's location and condition<br>○ Integrates ordering, tracking, paperwork, and communications<br>○ Enhanced Security/GAMP Compliance (CRF 21 Part 11)<br>○ Audit logging system captures all changes made in the database<br>○ Built to uphold latest industry standards in web security and cross-site scripting prevention<br>○ Cryoportal® and Smartpak™ utilize the Live View® interface to display mobile-friendly data for "on-the-go" experience |

# Regulatory Testing

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| **ISTA 3A** | This test simulates typical shipping activity by subjecting the shipping systems to the worst-case scenarios associated with shipping and distribution. |
| **ISTA 7E** | This test evaluates the thermal performance of insulated shipping containers, with or without refrigerants, under controlled laboratory conditions. It uses pre-defined seasonal temperature profiles to replicate real-world distribution scenarios, ensuring the package maintains required temperature ranges. It is applicable to products up to 150 pounds. |
| **ISTA 6-FedEx-A** | General procedures simulating FedEx air and ground shipping environments for testing packaged products weighing up to 150 lbs. which includes drop, impact, compression, and vibration tests. |
| **IP32** | Ingress Protection (IP) testing is performed to establish the effectiveness of the shipping system to block solids such as dust and liquids from entering the shipper. |
| **IATA CAT B** | The testing evaluates the adequacy of the packaging to protect the payload (a Category B infectious substance) during a simulated distribution test, which includes drop, leakproofness, pressure differential, thermal shock, and vibration assessments, in accordance with the IATA Packing Instruction 650, Category B Infectious Substance Testing procedure. |

## Compatible Accessories

### ACC-9123 | Smartpak II®

The Smartpak II® condition monitoring system provides near real-time cellular transmission tracking and reporting of location, temperature, pressure, humidity, orientation, and light.

### SET-1000 | Safepak® Soft System 1800

This system includes a Tyvek bag with integrated absorbent material used for secondary containment of infectious substances. This is a one-time use product. Set includes Safepak® 1800 Bag, SoftRack™, and HV Sleeve (not pictured).

- 1 SoftRack™
  - Holds up to 8 blood bag cassettes (Any combination of 50 ml, 250 ml, and 500 ml blood bag cassettes)

### SET-1001 | Safepak® System 1800

This system includes a Tyvek bag with integrated absorbent material used for secondary containment of infectious substances. This is a one-time use product. Set includes Safepak® 1800 Bag and HV Sleeve (not pictured).

- Holds 5 standard cryovial boxes (5 W x 5 L x 2 H in / 127 x 127 x 51 mm)

### ACC-9139 | Safepak®

Tyvek bag with integrated absorbent material used for secondary containment of infectious substances. This is a one-time use product.

- Holds up to 15 cryovial canes
- Holds up to 2, 65 mm goblets
- Holds up to 2 Cryoport cryovial boxes (5.75 W x 2 L x 2 H in / 146 x 51 x 51 mm)

### ACC-9140 | Safepak® XL

Tyvek bag with integrated absorbent material used for secondary containment of infectious substances. This is a one-time use product.

- Holds up to 15 Cryoport cryovial boxes (5.75 W x 2 L x 2 H in / 146 x 51 x 51 mm); up to 400 ml
- Holds up to 9 blood bag cassettes - for additional security, we recommend using a Cryostrap®
- Holds 1 ACC-8905 metal rack
- Holds up to 5 standard cryovial boxes (5 W x 5 L x 2 H in / 127 x 127 x 51 mm)
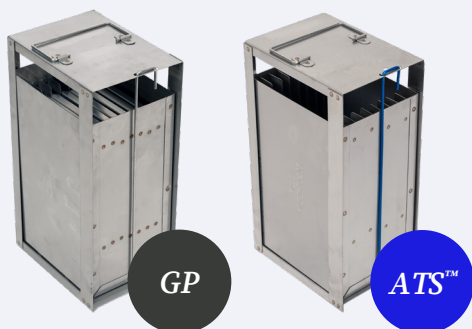
# Cryoport Systems

## ACC-9141 | Cryostrap®
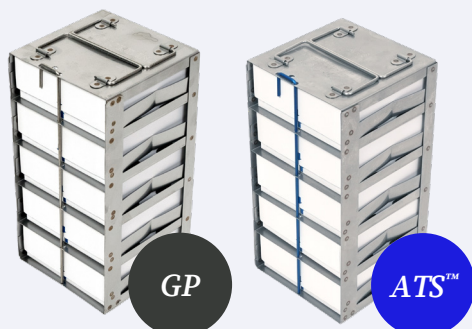Alternative to metal racks and compatible with Safepak® System.

- Hold up to 9 blood bag cassettes
- Hold up to 5 standard cryovial boxes (5 W x 5 L x 2 H in / 127 x 127 x 51 mm)
- Hold up to 12 Cryoport cryovial boxes (5.75 W x 2 L x 2 H in / 146 x 51 x 51 mm)

## ACC-9122 (GP) / ACC-10502 (ATS™) | Blood Bag Cassette Rack
Reusable blood bag cassette rack for blood bags.

- Holds up to 9 blood bag cassettes
- Blood bag cassette sizes up to 11 W x 6 L x 0.5 D in / 279.4 x 152.4 x 12.7 mm
- Minimum blood bag cassette width is 5.5 in / 140 mm

GP

ATS™

## ACC-8905 (GP) / ACC-10521 (ATS™) | Cryovial Box Rack
Reusable box rack for cryovials.

- Holds up to 5 standard cryovial boxes
- Standard cryovial box sizes up to 5 W x 5 L x 2 H in / 127 x 127 x 51 mm
- Minimum box width is 5.5 in / 140 mm

GP

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## ACC-9043 | Cryovial Box
Cryovial box with insert.

- Holds up to 30 cryovials
- Up to 2.0 ml

## ACC-9053 | Canister
Reusable stainless-steel canister for specialty canes.

- Holds up to 25 specialty canes
- Cryoport Express® High Volume Shipping Systems can accommodate up to 4 metal canisters for a total of 100 canes for an overall total of up to 500 cryovials per shipment

### ACC-9033 | Cryovial Cane
Snap cryovials into place to create a protective seal that will remain intact during liquid nitrogen cooling.

- Holds up to 5 cryovials
- Up to 2.0 ml

### ACC-9052 | Cane Sleeve
Clear cryo-proof protective sleeve for ACC-9033 standard canes.

- Holds 1 cryovial cane

### ACC-9160 | Serialized Seal
Serialized blue tamper-evident seal that helps identify if shipment may have been compromised.