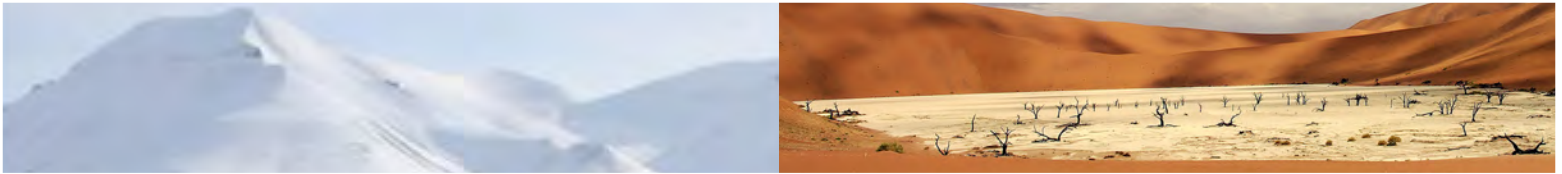




## Series 4-224

## User Guide



Tested To Extremes



**Minnesota Thermal Science**

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# SPECIFICATION SHEET

## Series 4-224



### Product Overview

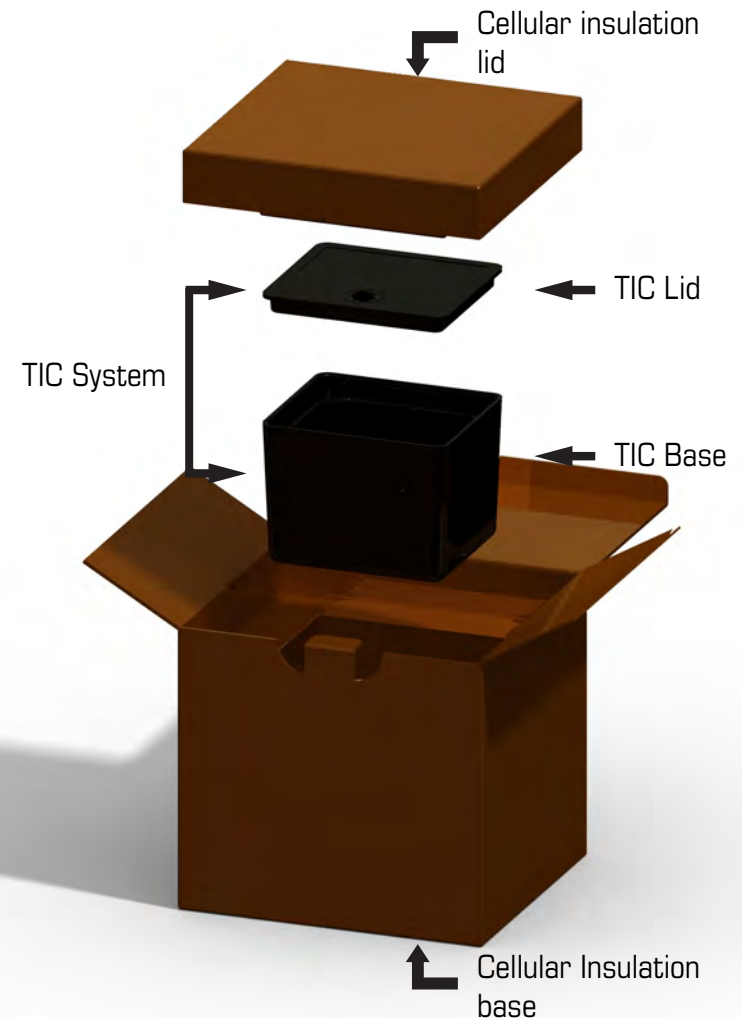
24-hour thermal protection in a small-sized shipping container.

Validated to hold chilled medical materials at a safe temperature for 24 hours for safety-assured transport in the 1° to 10°C and 2° to 8°C range. Removable TIC® Insert with integrated 4°C PCM is preconditioned in a -18°C or colder freezer for most shipping situations.

### Specifications

Temperature Range	Within 1° - 10°C
Payload Capacity (Liters/Cubic Inches)	2/127.5
Payload Area Dimensions (LxWxH)	6"x5"x4.25
Exterior Dimensions (LxWxH)	12.5"x11.75"x12"
Tare Weight	8 LBS
Thermal Performance (ISTA Summer Profile)	24+ Hrs
Insulator	Cellular Insulation

### Product Components

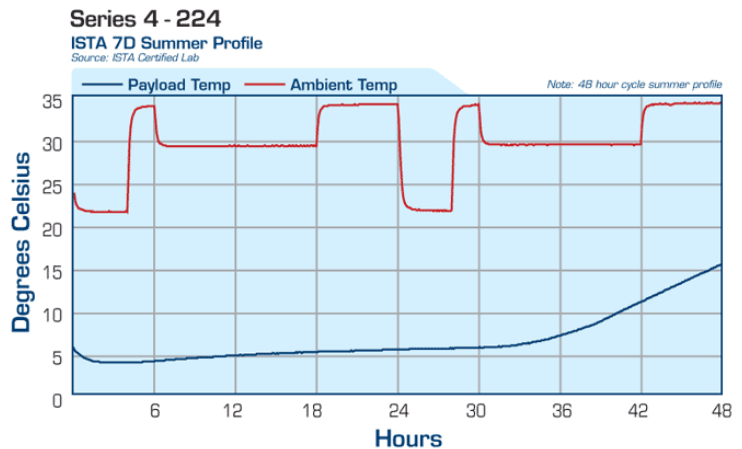


### Ensuring Consistent Performance

Exterior Ambient Conditions	Holds Payload 1° - 10°C
ISTA 7D summer shipping profile	24+ Hours
ISTA 7D winter shipping profile	120+ Hours
*Performance based on full payload preconditioned at 4°C	

- Always precondition TIC System before use according to instructions on TIC lid.
- Ensure all components are clean and not damaged.
- Follow assembly instructions printed on outside corrugate box.
- After loading, avoid opening container unnecessarily.
- Ensure both TIC lid and insulator lid are secure before sealing for transport.

### ISTA Testing Performance



ISTA Profile: ISTA (International Safe Transit Association) provides performance testing standards, training and education. The ISTA 7D shipping profiles simulate typical temperature ranges for summer (22° to 35° C) and winter (-10° to 18° C) conditions. For more information, visit [www.ista.org](http://www.ista.org).



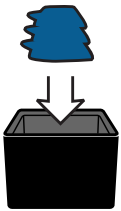
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### Precondition TIC® System

- Remove TIC® (Thermal Isolation Chamber) System (lid and base) from cellular insulation base by pulling open tab on front of corrugated box and removing cellular insulator lid..
- Precondition TIC System at -18°C (or colder) for a minimum of 8 hours, until frozen hard. Separate TIC lid from TIC base during preconditioning.
- To precondition in extreme cold condition the TIC System in a 4°C refrigerator for a minimum of 4 hours. Verify that the refrigerant is liquid.

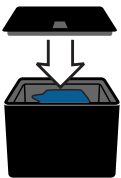
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### Load Payload

- Ensure payload (product to be shipped) is preconditioned at 4°C before loading into TIC base. Do not overpack.
- Add non-insulating filler to fill empty payload space to prevent contents from shifting during transit.

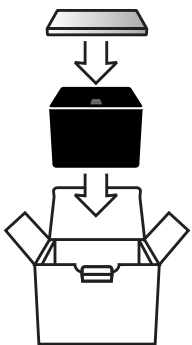
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### Secure TIC System

- Place TIC lid over payload, ensuring lid lies flat without forcing onto TIC base.

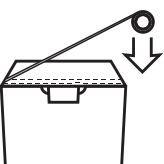
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### Assemble Credo Container

- Lower TIC System into insulation base and place insulator lid over TIC, making sure both lids lie flat and level.

5



### Close and Seal Container

- Close and seal box with packing tape where indicated.



### How to clean Credo components:

- TIC® System (lid and base): The TIC lid and base can be cleaned using warm water and soap or alcohol. Sterilization can be performed using alcohol or other salt-based disinfectants.
- Cellular insulation Base and Lid: Insulator base and lid can be cleaned using a damp rag with soap or a rag with alcohol. Avoid removing insulator base from outer corrugated box unless corrugated or insulator is damaged and needs to be replaced.
- DO NOT:
  1. Autoclave any of the components.
  2. Use any volatile organic compounds such as acetone or methyl ethyl ketone on any of the components.
  3. Expose any of the TIC components or cellular insulator to extreme heat (+75° C or above).

### How to validate thermal compliance:

Minnesota Thermal Science offers certified PC based temperature data loggers that fit inside the container and provide accurate, continuous time and temperature data in Excel format. Reference our white paper “Best Practices for Validating Thermal Performance” to validate or compare the performance of any packaging solution.

### Where to find transportation validation information:

This container has been ISTA transportation certified. A validation statement can be found on the bottom of the outer corrugated box.

### How to verify components are working properly:

Any packaging solution should be periodically checked to ensure all components are working properly. Reference our white paper “Best Practices for Validating Thermal Performance” to validate or compare the performance of any packaging solution.

### How to inspect and replace Cellular Insulator:

The Cellular insulator is very effective as long as there is no damage that can cause infiltration of outside air. This can happen by any damage that decreases the thickness of the insulator.

Call 1-877-537-9800 if a component needs refurbishment.