Crēdo®
THERMAL PACKAGING SOLUTIONS

# Series 4-28168 User Guide

## PROVEN. PRECISE. RELIABLE

**Contact Information**
Tel: (877) 537-9800
Fax: (763) 412-4801

**Minnesota Thermal Science**
3020 Niagara Lane
Plymouth MN, 55447
Made in the U.S.A.
www.credothermal.com




rev.A

# SPECIFICATION SHEET
# Series 4-28168

## Product Overview

Superior thermal protection in a convenient mid-size container.

Qualified to hold chilled medical materials at a safe temperature for up to seven days – ideal for long-duration international transport of pharmaceuticals, blood, biologics and tissues where customs delays are a real risk.

Modular TIC® System panels with integrated 4°C phase-change material break down easily for simple storage and preconditioning.

## Specifications

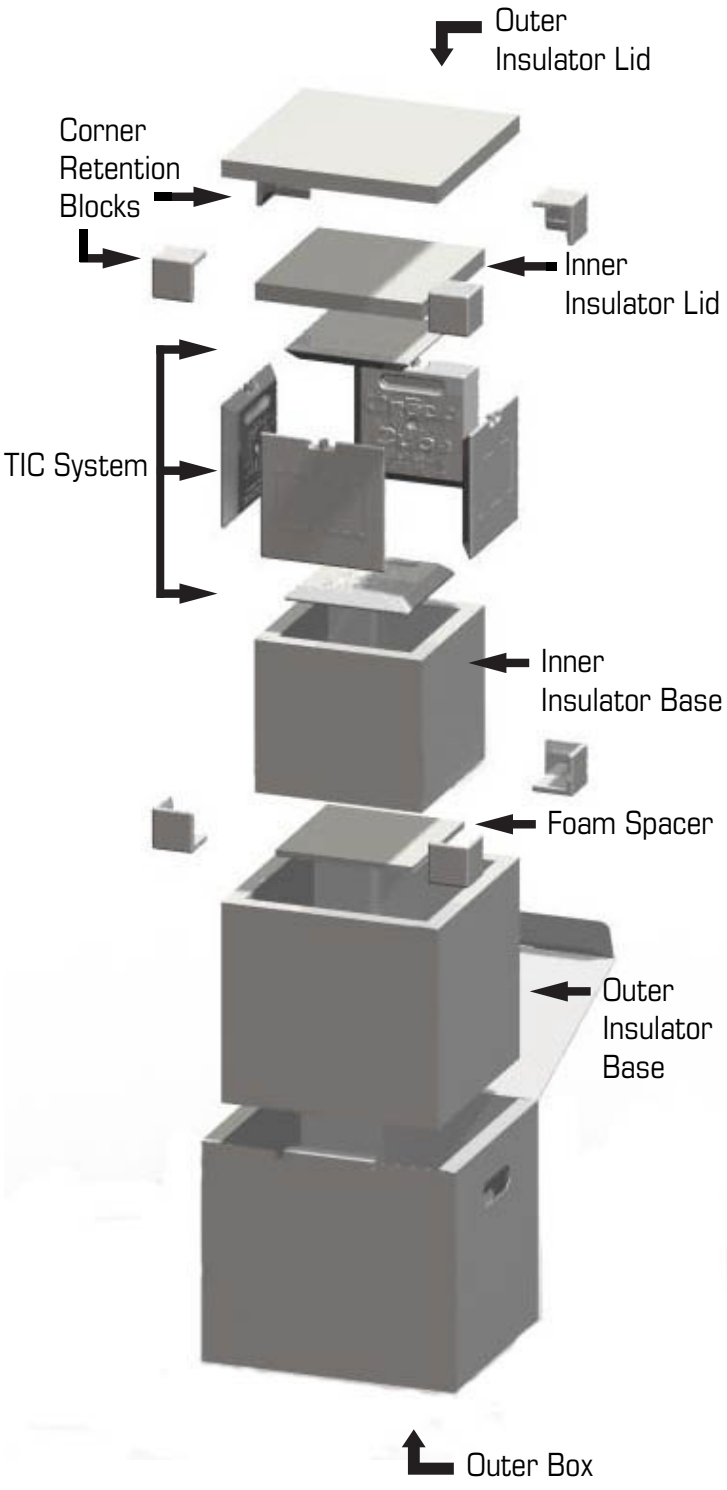
| Unit of Measure | Standard | Metric |
|---|---|---|
| Temperature Range | Within 34° - 50°F | Within 1° - 10°C |
| Payload Capacity | 1728 in³ | 28316 cm³ |
| Volumetric Capacity | 7 Gallon | 28 Liters |
| Payload Dimensions (L x W x H) | Inches | Centimeters |
| | 12" x 12" x 12" | 30 x 30 x 30 |
| Exterior Dimensions (L x W x H) | Inches | Centimeters |
| | 21"x19.5"x19.75" | 53 x 50 x 50 |
| Tare Weight | 51 LBS | 23 kg |
| Thermal Performance (ISTA Profile) | Winter Profile | Summer Profile |
| | 120+ Hours | 168+ Hours |
| Insulator | Vacuum Insulation Panels | |

## Ensuring Consistent Performance

| Exterior Ambient Conditions | Holds Payload 2° - 8°C |
|---|---|
| ISTA 7D summer shipping profile | 168+ 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.

## Product Components

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# USING YOUR CREDO THERMAL PACKAGING SOLUTION
# Series 4-28168

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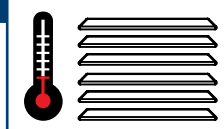

## Precondition TIC® System

- Remove TIC (Thermal Isolation Chamber) System (6 panels) from the inner insulator base by pulling open the tab on the front of the corrugate box and removing the outer insulator lid to expose the inner insulator assembly.
- Remove the four white corner retention blocks along with the inner insulator lid. Remove the 6 panels from the inner insulator base.
- Place the TIC System in a -18˚C freezer (or colder) for a minimum of 12 hours, until frozen hard. Ensure the TIC components lay flat. Before adding product payload, let the TIC panels stand at room temperature for 25 minutes or until the surface frost melts.
- **TO PRECONDITION FOR EXPECTED EXTREME COLD CONDITIONS:** Place the TIC System in a refrigerator between 4˚ to 8˚C for 4 to 8 hours. Verify that the PCM is liquid by shaking.

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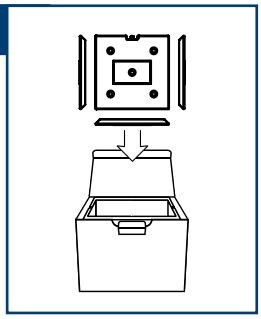

## Assemble TIC Base

- Insert a TIC panel into the base of the inner insulator with the Credo Cube embossed logo facing up.
- Add 4 TIC panels to form the side walls with the Credo Cube embossed logo facing inward.

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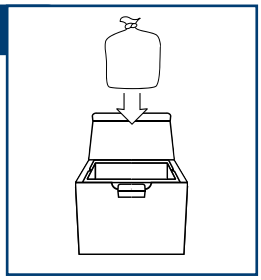

## Load Payload

- Ensure payload (product to be shipped) is preconditioned at 4ºC before loading into the 5 TIC panel assembly listed above. Do not overpack.
- Add non-insulating filler to fill empty payload space to prevent contents from shifting during transit.

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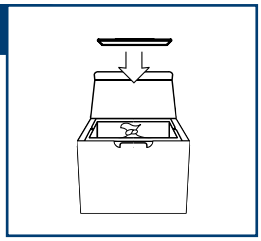

## Insert TIC Lid

- Place the final TIC panel over payload area, ensuring the panel lies flat and level without forcing onto TIC side walls.

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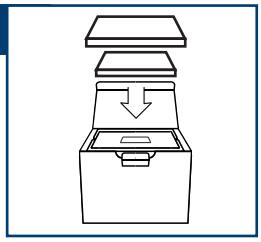

## Insert Insulator Lids

- Place inner insulator lid onto inner insulator base making sure it rests flat and level without forcing.
- Install the four white corner retention blocks ensuring the cube logo is facing upwards. Ensure that all four blocks do not protrude above the outer insulator base assembly.
- Place outer insulator lid onto outer insulator base making sure it rests flat and level without forcing.

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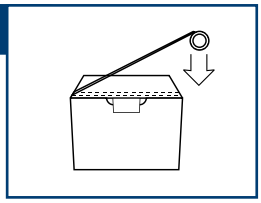

## Close and Secure Container

- Close and secure box with packing tape where indicated.

# CARING FOR YOUR CREDO THERMAL PACKAGING SOLUTION
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## How to Clean Credo Components

- TIC® System (6 panels): The TIC panels can be cleaned using warm water and soap or alcohol. Sanitization can be performed using isopropyl alcohol and water mixture (typically 70/30 mix alcohol to water) or other salt-based disinfectants.
- Insulator lid and base: Insulator lid and base can be cleaned using a damp rag with soap or a rag with isopropyl alcohol.
- DO NOT:
  1. Autoclave any of the components.
  2. Use any organic solvents such as acetone or methyl ethyl ketone (MEK) on any of the components.
  3. Expose any of the TIC components or insulator to extreme heat (+75° C or above).
  4. Use any abrasive cleaners on any of the components.
- Contact Minnesota Thermal Science for verification if your preferred method is not listed.

## Notes on TIC® Preconditioning

- Proper TIC preconditioning is vital for the containers correct operation. Follow the tips below to ensure proper operation.
  1. Make sure the TIC system is frozen at -18° C or colder for a minimum of 12 hours.
  2. Make sure the components are frozen flat.
  3. Shake the panels after freezing to ensure they are frozen solid and no liquid can be heard.
  4. DO NOT forget to let the components stand at room temperature for approximately 25 minutes (until surface frost melts off panels). This allows component temperature to rise from freezer temperature into an acceptable pack out temperature range (above 2° C for most applications).
  5. Low temperature deviation will occur if this step is skipped.
  6. Spread components out on a table (do not stack) during the room temperature conditioning.
  7. The amount of time required at room temperature depends on the temperature of the room and the orientation of the parts.

## Refrigerated Hold

Placing the container in a refrigerated environment before or during shipment is OK. You will not experience a low temperature deviation as with other gel pack based systems. By placing the unit in a refrigerated environment you have effectively "stopped the clock" and the shipper can be held indefinitely in that state while maintaining the payload between 2° and 8° C. This can save your product if it experiences a customs or other delay.

## How to Perform a Thermal and/or Transit Qualification

Minnesota Thermal Science offers thermal and transit qualification services via our ISTA certified laboratory. If you do not wish to utilize our services we offer NIST traceable PC based temperature data loggers that fit inside the container and provide accurate, continuous time and temperature data in excel format. We recommend that you reference and follow ISTA procedure 5B or ISTA procedure 7D which are ASTM D3103 compliant to guide you through your thermal testing process. We recommend that you reference and follow ISTA procedure series 1, 2 or 3, or ASTM D4169 to guide you through your transit testing. Many of our units are already transit tested to ISTA procedure 3A. The certification can be found on the bottom of the box.

## How to Inspect and Replace Vacuum Insulation Panels: (VIPs)

The Vacuum Insulation Panels (VIPs) in Credo containers are extremely effective as long as they hold an interior vacuum. Inspect VIP lid and VIP base surfaces to ensure they are gripped tight. Another indicator of a compromised panel is a loss of rigidity. A loose skin or non-rigid panel indicates vacuum loss and the product should be returned for refurbishment. Avoid removing VIP base from outer corrugated box unless corrugated or VIP is damaged and needs to be replaced. The VIP lid and VIP base will expire and should be replaced before the expiration date printed on each panel.

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

**(763) 412-4800 • Toll Free: (877) 537-9800 • Fax: (763) 412-4801**
Operations and Sales • Plymouth, Minnesota
Corporate Headquarters • Baxter, Minnesota
www.credothermal.com

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