

Where you can find your cold-chain solution near you

TAPS INTERNATIONAL Co.,Ltd.

TAPS COLD CHAIN
SOLUTION



TAPS INTERNATIONAL
Smart Cold Chain Platform



TAPS INTERNATIONAL

Smart Cold Chain Platform

We're, TAPS International, Korea's leading technology innovation company in the field of packaging solution for biotechnology and food industry



TAPS International was established in 2006 for the first professional pharmaceutical thermal insulation packaging company in Korea. We have been developed based on registering thermal insulation packaging patents, WHO authorization for vaccine supply packaging, government award for future packaging technology, INNO-BIZ certification, global design registration and consistent investment in study.



We offer professional PQ & validation report on the international level for our clients with thermal insulation packaging box which approved from WHO and the biggest scale of constant temperature test chamber in Korea.

HISTORY

TAPS INTERNATIONAL, Innovative Cold Chain solution Provider

- 2021** Establishing of smart cold chain business system
 - 2020** Entered into packaging and logistics for COVID-19 diagnostic kits
Participated to a national project for medical waste
 - 2019** Development of TAPS own temperature monitoring system
 - 2018** Established TAPS International Vietnam branch
 - 2017** Performed a 3-year national project under the Ministry of Trade, Industry and Energy
Established TAPS Food Service, a food company specializing in frozen instant rice
 - 2016** Development of international standards for fresh logistics technology
Certified as a member of the Basic Design Industry Association
 - 2015** Expanded TAPS R&D Center in SeongNam city
 - 2014** Started T1 World (Trading company) in Vietnam
 - 2013** INNO-BIZ certification in Korea
 - 2012** ISTA (International Safe Transit Association) Lab authorization
Participated to R&D technology development business by Korea ministry of knowledge economy
 - 2011** ISO 9001, 14001 certification
Established TAPS R&D Center
 - 2010** The first authorized for vaccines packaging solution in Korea by WHO
 - 2009** Award for new technology of future packaging by Korean government
 - 2008** Opened Asan manufacturing & warehousing facility
Authorization for blood transportation & packaging by Korean red cross
 - 2006** Established TAPS International Co., Ltd.
-

What is a cold chain?

A high-quality cold chain allows health workers to deliver life-saving vaccines to every last child.

Delivering vaccines to all corners of the world is a complex undertaking. It takes a chain of precisely coordinated events in temperature-controlled environments to store, manage and transport these life-saving products. This is called a cold chain.

Vaccines must be continuously stored in a limited temperature range – from the time they are manufactured until the moment of vaccination. This is because temperatures that are too high or too low can cause the vaccine to lose its potency (its ability to protect against disease). Once a vaccine loses its potency, it cannot be regained or restored.

Storage and transport equipment such as cold rooms, refrigerators, freezers, cold boxes and vaccine carriers must comply with performance standards defined by the World Health Organization (WHO). Stock management procedures must also follow WHO guidelines specific to each type of vaccines.

The importance of cold-chain management is known to the public only after the COVID19 pandemic breakout in 2019 which keep the appropriate temperature, freezing, and refrigerating, during the all-supply chain process for maintaining the quality of temperature-sensitive products such as various vaccines products and secure stability.

However, after the 1960s, smallpox vaccines were distributed for public vaccination, and WHO, FDA, and ECDC have guided very strict regulations for cold-chain management for temperature-sensitive medical products.



Do you want to ship products safely under any temperature conditions?



Solution Development & Validation Report

Customized Solution and Eligibility Verification

- ✓ The biggest test chamber in Korea
- ✓ Offering customizing cold chain solution
- ✓ Validation report(pre-qualification test)
- ✓ ISTA LAB authorization in 2014



Cold Chain Packaging

Temperature Assurance Packaging Solution

- ✓ Packaging solutions for vaccines, blood, bio medicines, pharmaceutical products
- ✓ Various sizes (4L-50L)
- ✓ Up to 120 hours temperature maintenance
- ✓ Reasonable price



Cold Chain Monitoring

Real-time Monitoring During Transportation

- ✓ Smart phone-based wireless data logger
- ✓ Real-time transportation monitoring
- ✓ E-mail and cloud service from all over the world
- ✓ Worldwide transportation tracking



Cold Chain Bio Transportation

Exclusive Delivery for Bio Medicines

- ✓ Verified delivery vehicle from IQ, OQ, PQ
- ✓ Reasonable transportation cost
- ✓ Domestic/abroad special delivery service
- ✓ Exclusive team for special packaging & pick up service



ISTA (International Safe Transit Association) Lab authorization

Cold chain packaging solution based on verified data of international certification guarantees safe temperature maintenance in any condition for any products.



Vaccines



Bio & Pharma



Fresh food



Possesses the largest test chamber in Korea
Customer-specific solutions and qualifications
Validation Report

TRPS INTERNATIONAL

TAPS Cold Chain Solutions

Professional cold chain packaging solutions offered from TAPS International Co., Ltd. are fully pre-qualified packaging solutions based on numerous temperature maintenance tests with professional technology such as innovative insulation boxes and PCM to keep products stability under the extreme weather conditions. Our professional engineers always fulfill constructing test of customized packaging to meet client demands for hours and temperature accurately in TAPS technology laboratory.



Controlled Room Temperature

1°C ~ 30°C



Cold Temperature

2°C ~ 8°C



Freezing Temperature

-25°C ~ -15°C



Extremely low Temperature

-180°C ~ -70°C

Reusable Carrier

Suitable hand carrier packaging for short distance clinical specimen/blood/plasma/medical appliance transportation Applying temperature could be controlled with refrigerant restructure.

- ## Benefits
- Reasonable price, eco-friendly material
 - High robustness, high durability
 - Space for thermometer on the lid

Packaging	External Dimensions(mm)	Internal Dimensions(mm)	Payload Volume(L)	Cooling Elements(EA)	Temperature Range(°C)	Hour
TE220	300 X 300 X 400	180 X 120 X 190	4.1 ~ 8.4	6 ~10	Below -18°C 2~8°C 15~25°C	24 ~ 122
TE430	520 X 300 X 395	380 X 170 X 220	14.2	6 ~10		24 ~ 49
TE600	660 X 365 X 395	550 X 255 X 220	30.9	10 ~18		24
TE660	747 X 504 X 405	580 X 344 X 255	50.9	12 ~ 24		24 ~ 123
11L	430 X 410 X 400	240 X 220 X 210	11	6		48 ~ 208
24L	553 X 462 X 412	374 X 284 X 225	24	6		48 ~ 215
39L	553 X 462 X 555	374 X 284 X 370	39	6		72 ~ 215
Entero-B	415 X 320 X 455	335 X 240 X 285	23	4		10
Entero-V	720 X 560 X 480	550 X 380 X 310	65	12		48
Entero-P	1180 X 983 X 1074	975 X 780 X 960	730	10		82



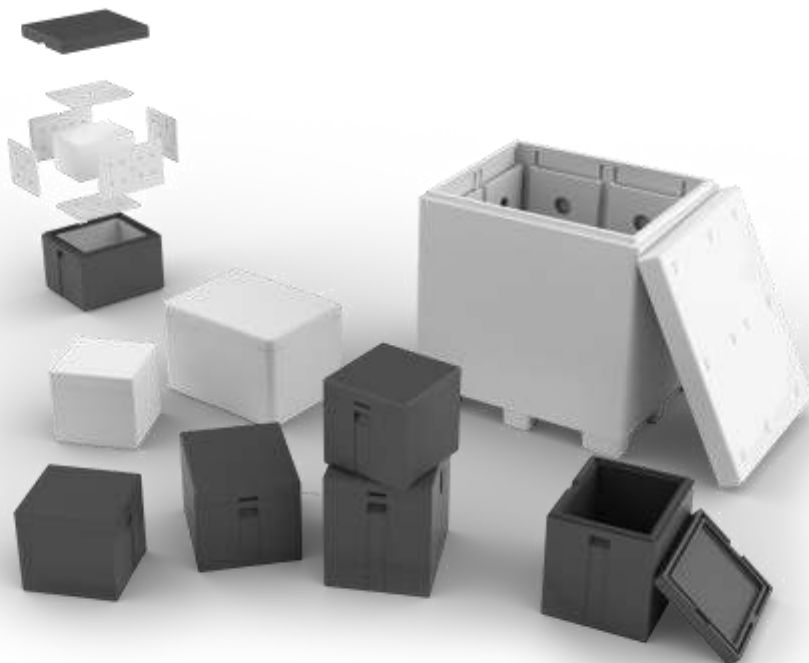
Single Use Carrier

Guaranteed temperature control packaging solutions for temperature-sensitive biological medicines and pharmaceutical products up to 140 hours under the extreme weather conditions

Benefits

- Reasonable price than abroad products
- Temperature assurance as client demand
- Up to 140 hours pre-qualified profile
- Qualification Reports included

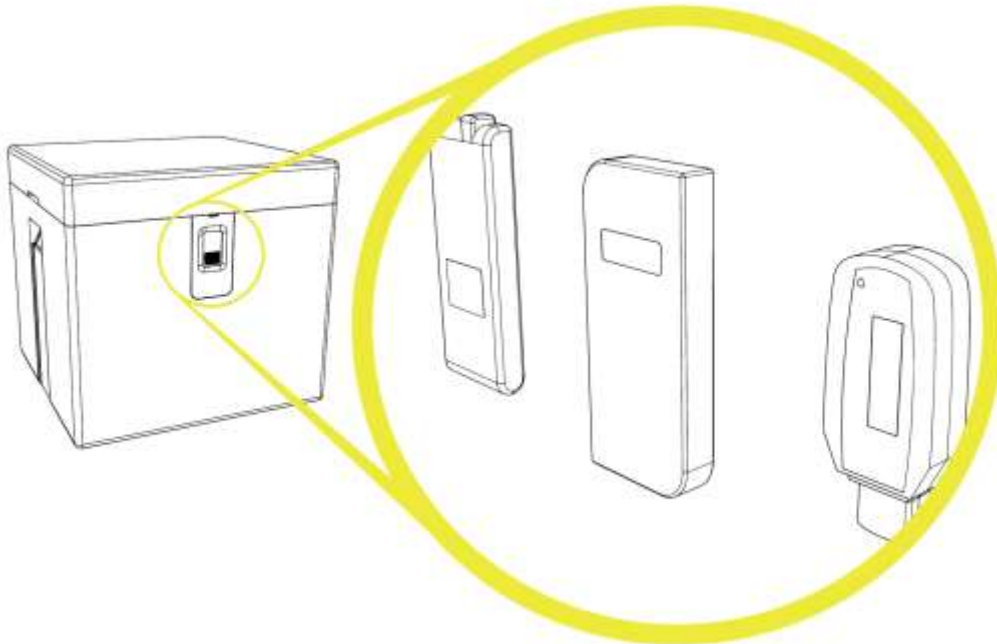
Packaging	External Dimensions(mm)	Internal Dimensions(mm)	Payload Volume(L)	Cooling Elements(EA)	Temperature Range(°C)	Hour
TD150	360 X 360 X 415	150 X 150 X 150	3.3	2 ~ 4		24 ~ 48
TD200	440 X 440 X 485	200 X 200 X 200	8.0	6 ~10	Below -18°C 2~8°C 15~25°C	48 ~ 140
TD380.1	570 X 530 X 480	340 X 300 X 290	29.5	10 ~18		48 ~120
TD550	764 X 590 X 510	510 X 340 X 260	45	12 ~ 24		48 ~120
SG	625 X 505 X 485	430 X 310 X 290	38	20	below +4°C	120
TD550GIMV	760 X 580 X 512	540 X 375 X 260	52	10	2~8°C	72



We, TAPS International Co., Ltd. provide technology and service to ensure quality across the supply chain, safe and convenient delivery of temperature sensitive products (food, medicine, healthcare, industrial products, electrical products, etc.) from products shipments to end-users.



TAPS International's temperature and humidity monitoring system can be used a variety of data loggers.

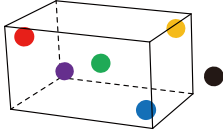


TAPS INTERNATIONAL

COLD CHAIN PACKAGING SOLUTION

Cold Packaging Solution

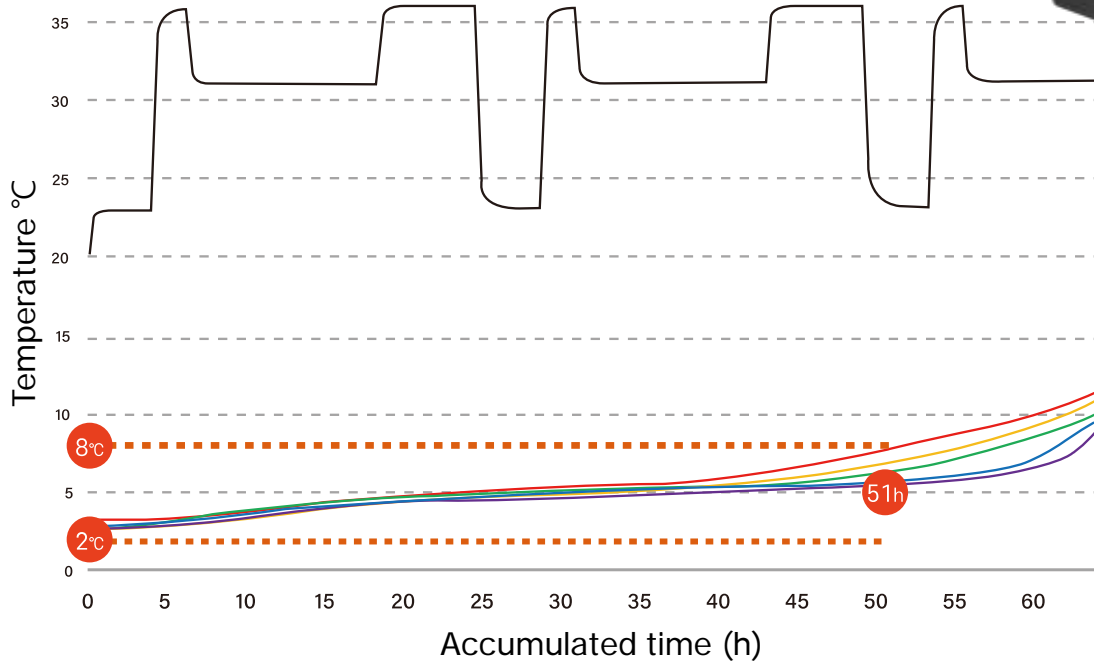
Test location



[2~8°C]

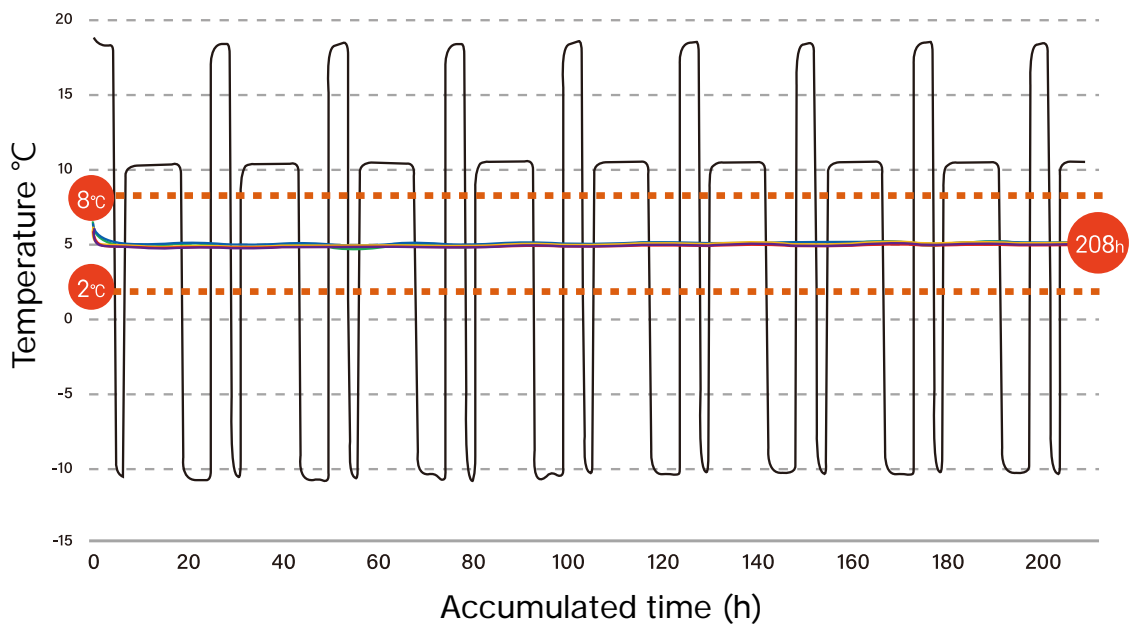
[ISTA 7D SUMMER]

+ 51 hrs



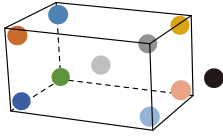
[ISTA 7D WINTER]

+ 208 hrs

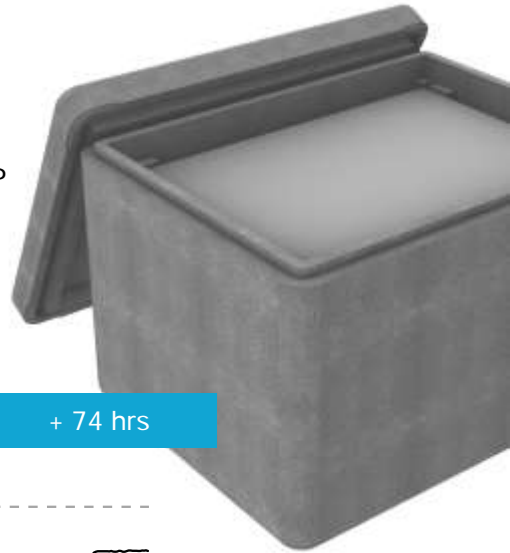


Cold Packaging Solution

Test location

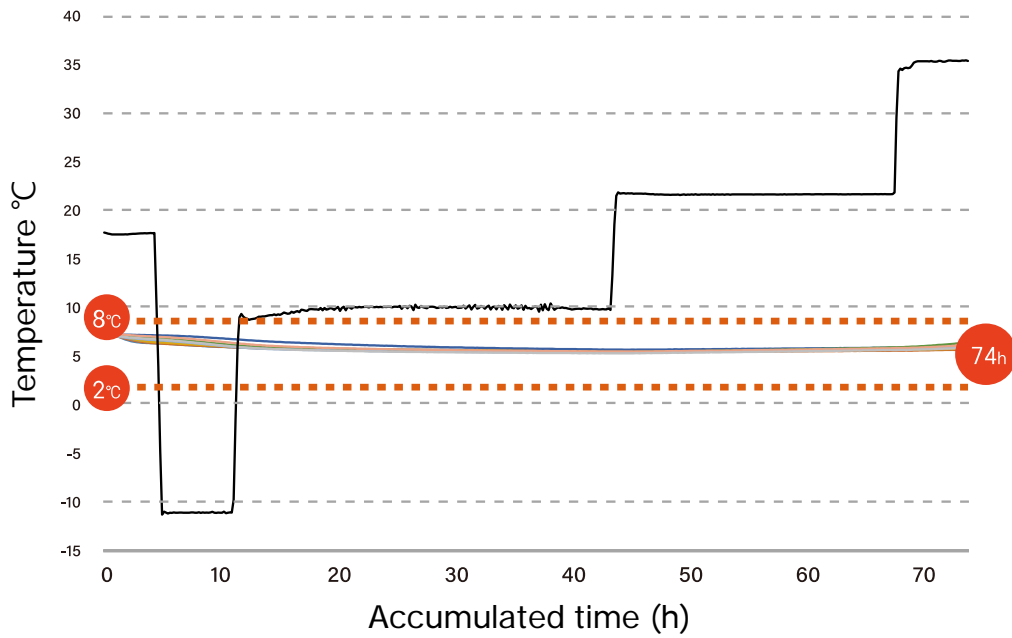


- ✓ Single use
- ✓ Universal packaging
- ✓ Insulation of the highest specification, VIP
- ✓ 70L Large capacity container
- ✓ Light weight for capacity & Low cost
- ✓ Provide qualification report
- ✓ 70 ~ 350 hours



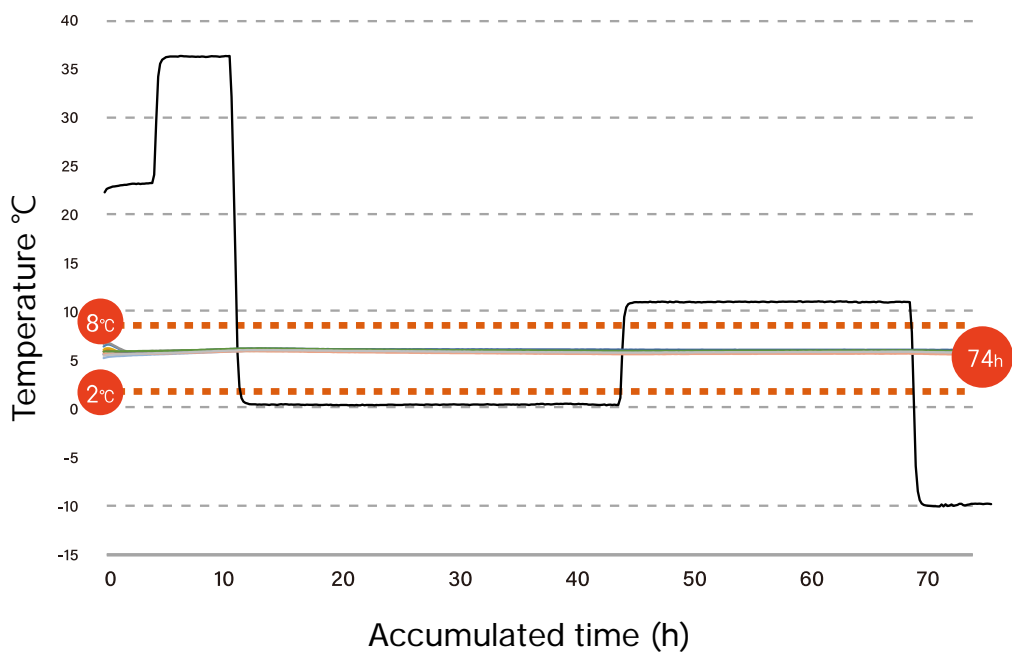
[COLD/HOT Max load]

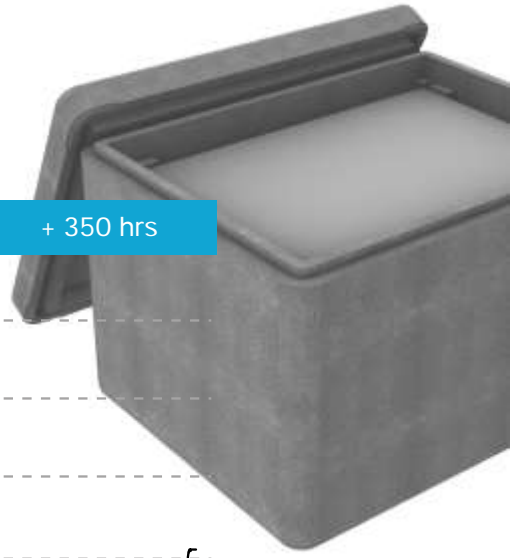
+ 74 hrs



[HOT/COLD Max load]

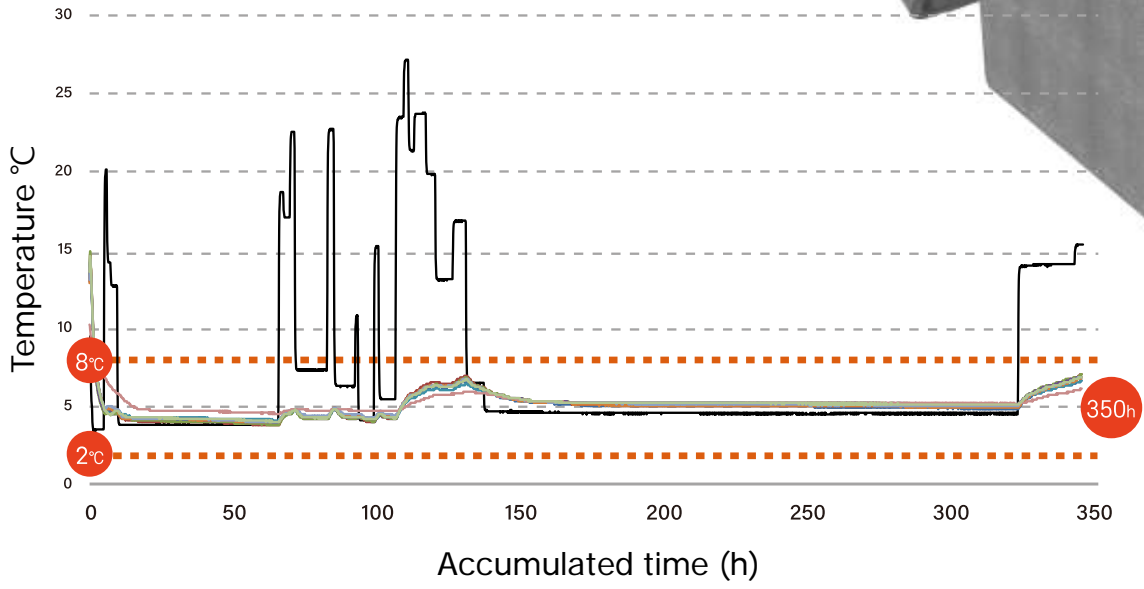
+ 74 hrs





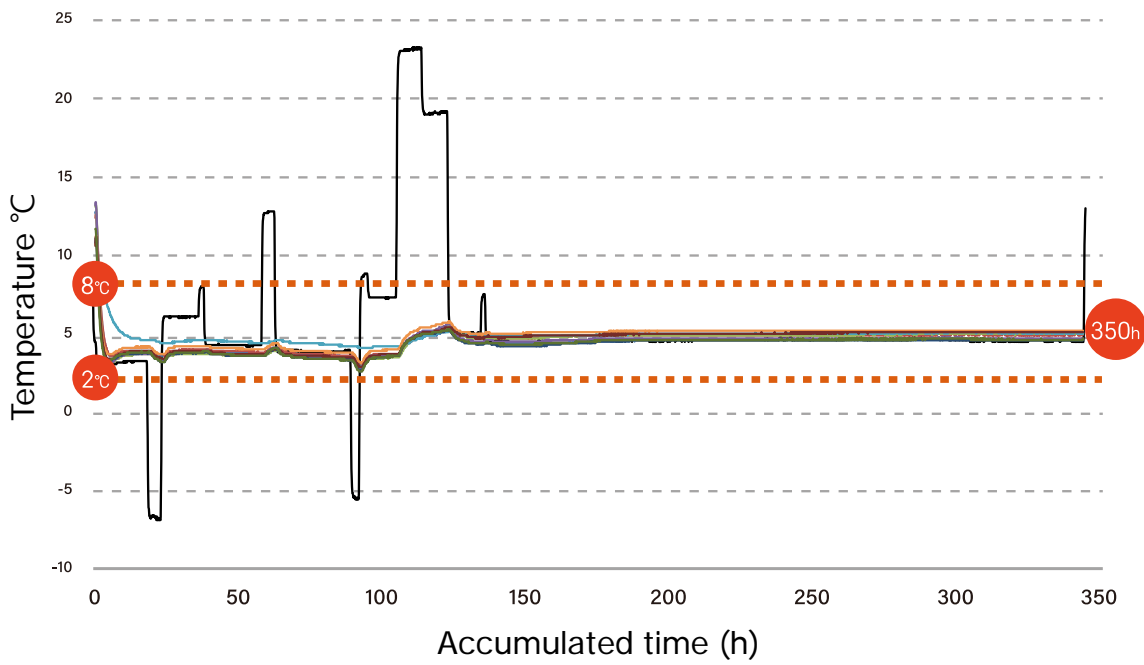
[Summer, Brazil]

+ 350 hrs



[Winter, Brazil]

+ 350 hrs



TAPS International Professional Transportation

Professional temperature management with saving transportation expenses
One-stop service from cold chain and packaging to delivery
Methodical temperature profile

Domestic Transportation

The best shipment as domestic transportation profile

Global Transportation

- Professional solution as per delivery hour
- Special shipping service for client demands
- 30% lower price than other transporters

Cold chain transportation for reducing costs

1. Exclusive service team

- ✓ Temperature monitoring service
- ✓ Quick export/import custom service

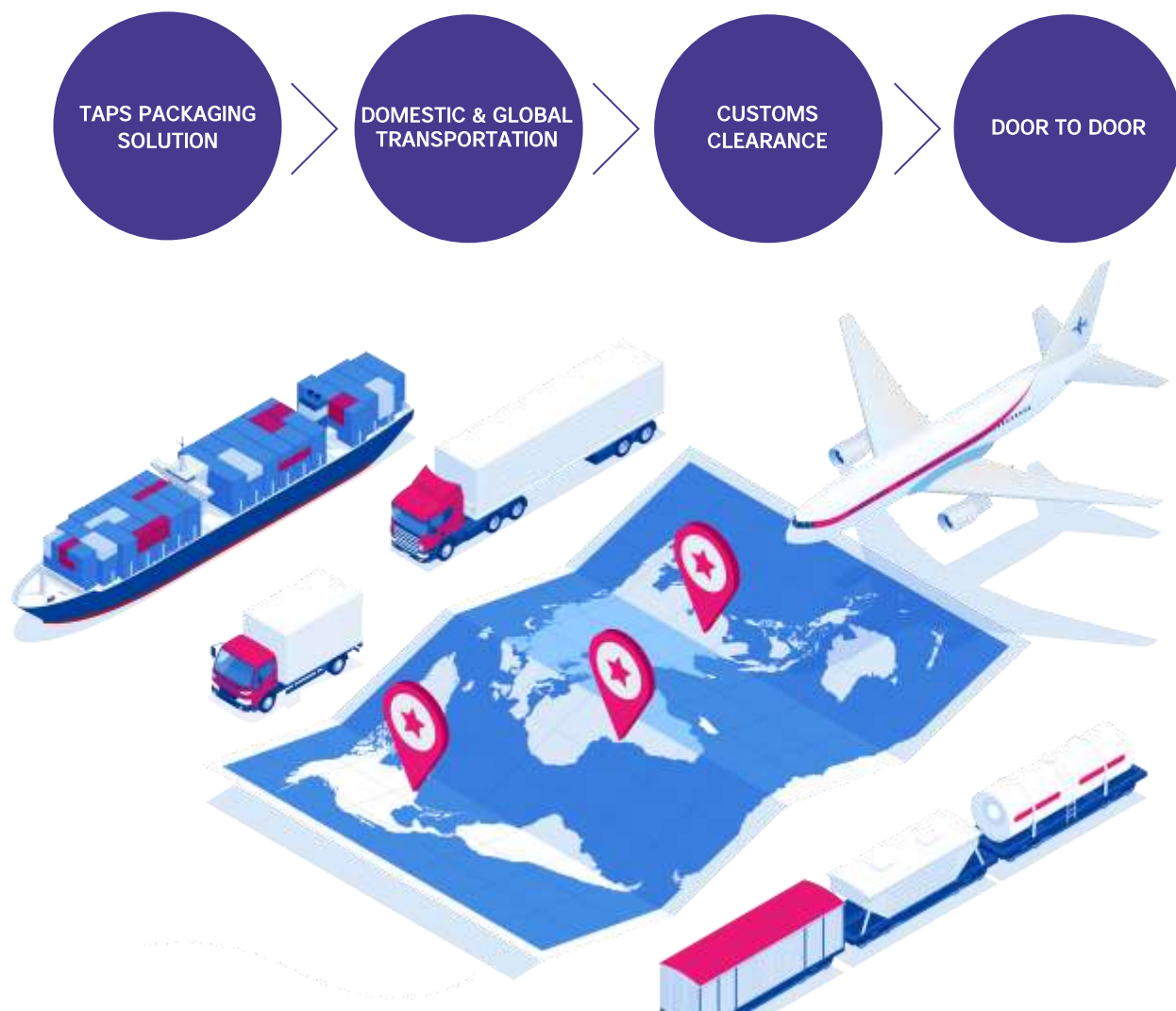
2. Improving transportation quality

- ✓ Pre-qualified packaging
- ✓ Same day shipping to airport storage

3. Well-organized standard process

- ✓ Packaging SOP (Standard Operating Procedure)
- ✓ Transportation SOP (Standard Operating Procedure)

1 on 1 exclusive transportation service from packaging to shipping destination





CAVU ATI
Datalogger & Cloud Service

Bluetooth

LOG-IC 360[®]

Revolutionize Your Cold Chain

LOG-IC[®]360 Bluetooth Electronic Data Loggers are reliable, easy-to-use and exceptionally accurate. You can track temperature without disrupting your supply chain by opening a box, truck or shipping container.

LOG-IC 360 BT is programmable with up to 4 alarms and is scalable for temperature and humidity. Using the LOG-IC 360 BT App on an iOS or Android device, you can easily retrieve and share your digital temperature and humidity data.

INCREASE SUPPLY CHAIN VISIBILITY

LOG-IC 360 BT provides clear results through an LCD screen for high, low and average temperatures. If an excursion occurs, you will know when and how long your product was outside the acceptable temperature and humidity ranges. Your temperature data is immediately accessible to view, store or share via a CSV or PDF file.



STAY COMPLIANT AND SAFE

Many regulations have been set or modified over the past 10 years as it pertains to temperature and the monitoring of goods throughout the cold chain. LOG-IC 360 BT can help verify compliance from the beginning to the very end of your distribution channel, sharing critical temperature and humidity data with key decisionmakers.

LOG-IC 360[®]

Revolutionize Your Cold Chain

DIMENSIONS



Variations include:

- High Precision Temperature
- Temperature + Humidity
- High Precision Temperature + Humidity

Bluetooth

SPECIFICATIONS

Wireless Range	up to 100m
Battery Type	Lithium Coincell
Shelf Life (not active)	1 year
Use Life (active)	1 year
Communication	Android, iOS™ and Bluetooth-enabled Desktop PC's
Temperature Range	-20°C to 70°C
Resolution	0.01°C
Certifications	FCC, CE, NIST Traceable

High Precision Temperature

Memory	32,000 data points
Accuracy	+/- 0.25°C
Additional Certifications	IP67

Temperature + Humidity

Memory	16,000 data points
Accuracy	± 0.50°C, ± 3% max humidity error
Humidity Range	0-80% RH

High Precision Temperature + Humidity

Memory	16,000 data points
Accuracy	± 0.25°C, ± 3% max humidity error
Humidity Range	0-80% RH

REDUCE LIABILITY

Temperature excursions happen; LOG-IC 360 BT provides the information you need to decide what to do when they happen. You have the ability to identify where and when excursions occur, troubleshoot potential problem areas in your supply chain and take action to reduce future risk. Depend on LOG-IC 360 BT for accurate temperature and humidity readings along with safe and secure data retrieval and storage.



I-PLUG



ABOUT US

The I-PLUG electronic data logger is extremely easy-to-use and interpret. With an optional LED or LCD display showcasing the temperature data, you will instantly know if your product has been exposed to critical temperatures. The compact design is easily integrated into your packaging and has a wide temperature range for various applications. LOG-IC 360's I-PLUG logger will instantly show if your shipment has seen temperatures that could affect the efficacy or overall quality of your product. Protect your brand and give your customers the assurance they need with a compact and reliable temperature monitoring solution.

MADE IN SWITZERLAND

ACCESSIBLE DATA

Upon receipt of your shipment, plug in the I-PLUG data logger to any USB port. A PDF containing the temperature data will automatically be generated and displayed on-screen for your review. CAVU Hub allows data to be tracked/captured and can be shared with key stakeholders throughout your supply chain.

EASY CONFIGURATION

With the free CAVU HUB software, you can configure each logger following a step-by-step application. Simply, plug in the logger and input the necessary configuration with up to 4 temperature alarms. With a click of the on/off button, the logger is actively tracking temperature

Label design may vary depending on the time of product production.

Dimensions (mm)	Data Storage Capacity	Data Sampling Interval	
73 x 15 x 33	8000	From 1 minute	
Alarms	Use Life (active)	Start-up Delay	Certification
Up to 4 programmable alarms	Up to 1 Year	Adjustable	CE, RoHS

S (Single Use)

M (Multi Use)



I-PLUG (LED) **S**
SW-IPST8

Temperature Measurement Range

-30°C ~ 65°C

Recommended Industry

Pharmaceutical, Medical Device,
Food, Industrial



I-PLUG (LCD) **S**
SW-IPST8D

Temperature Measurement Range

-20°C ~ 65°C

Recommended Industry

Pharmaceutical, Medical Device,
Food, Industrial



I-PLUG (BLACK) **M**
SW-IPMT8

Temperature Measurement Range

-30°C ~ 65°C

Recommended Industry

Pharmaceutical, Medical Device,
Food, Industrial; Closed loop
supply chain/fixed asset



I-PLUG (BLACK) **M**
SW-IPMT8D

Temperature Measurement Range

-20°C ~ 65°C

Recommended Industry

Pharmaceutical, Medical Device,
Food, Industrial; Closed loop
supply chain/fixed asset



I-PLUG BIO **S**
SW-IPST8B

Temperature Measurement Range

-30°C ~ 65°C

Recommended Industry

Pharmaceutical/Medical Device

Certification

FDA CFR 21 Part 11 Compliant



I-PLUG BIO **M**
SW-IPMT8B

Temperature Measurement Range

-30°C ~ 65°C

Recommended Industry

Pharmaceutical, Medical Device;
Closed loop supply chain/fixed
asset

Certification

FDA CFR 21 Part 11 Compliant



I-PLUG BIO **S**
SW-IPST8BD

Temperature Measurement Range

-20°C ~ 65°C

Recommended Industry

Pharmaceutical/Medical Device

Certification

FDA CFR 21 Part 11 Compliant



I-PLUG BIO **M**
SW-IPMT8BD

Temperature Measurement Range

-20°C ~ 65°C

Recommended Industry

Pharmaceutical, Medical Device;
Closed loop supply
chain/fixed asset

Certification

FDA CFR 21 Part 11 Compliant



I-PLUG FROZEN **S**
SW-IPST8KN

Temperature Measurement Range

-45°C ~ 65°C

Recommended Industry

Food Industry



I-PLUG DRY ICE Single **S**
SW-IPST8-ICE

Temperature Measurement Range

-80°C ~ 20°C

Recommended Industry

Cryo / Biologic



I-Plug Dry ICE Multi **M**
SW-IPMT8-ICE

Temperature Measurement Range

-80°C ~ 20°C

Recommended Industry

Cryo/Biologic



I-PLUG Humidity **S**
SW-IPSH20

Temperature Measurement Range

-30°C ~ 65°C

Recommended Industry

Food, Industrial, Cannabis



I-PLUG PROBE **S**
SW-IPST8-DX1

Temperature Measurement Range

-40°C ~ 65°C (Probe only)

Recommended Industry

Clinical Testing, Validation Testing,
Secure Shipping



I-PLUG (BLACK) **M**
SW-IPMT8-DX1

Temperature Measurement Range

-40°C ~ 65°C (Probe only)

Recommended Industry

Clinical Testing, Validation Testing,
Secure Shipping



I-PLUG PROBE **S**
SW-IPST8-DX4

Temperature Measurement Range

-40°C ~ 65°C (Probe only)

Recommended Industry

Clinical Testing, Validation Testing,
Secure Shipping



I-PLUG PROBE **M**
SW-IPMT8-DX4

Temperature Measurement Range

-40°C ~ 65°C (Probe only)

Recommended Industry

Clinical Testing, Validation Testing,
Secure Shipping

endicate®

Electronic Temperature Monitoring Solution

endicate® is an extremely accurate and user friendly temperature monitoring solution that meets WHO performance quality and safety requirements for international vaccine shipment monitoring.

Highly regulated shipments present a challenge throughout shipping and storage. To guarantee the integrity of your product, ATI's endicate electronic temperature monitoring solution provides reliable information about temperature excursions upon receipt of shipment. endicate provides the assurance you need to guarantee a product's quality with a temperature range from -20°C to 70°C and 4 easily programmable alarms. endicate can be customized with your branding and configured based on your tracking needs.



UTILIZING ENDICATE

endicate is easily deployed with the push of a button. The large display screen shows shipment status and gives a clear, readable notification detailing whether the shipment is okay or if a temperature excursion has been reached. This functionality gives you and your customer the confidence necessary to make an immediate decision in order to protect your brand and your consumer.



**DIMENSION
S**



endicate can be custom-labeled with your branding.

Not to be submerged in water *Store at room temperature.

SPECIFICATIONS

Temperature Measurement Range	-20°C ~ 70°C
Temperature Accuracy	±0.5°C for full range
Operating Life	60 days
Start Options	Button press
Alarm Settings	Up to 4 programmable time and temperature Single, continuous and cumulative available
Sample Intervals	1-255 in increments of 1 minute
Shelf Life	2 years*
Delay Available	8 hours in 1 minute increments
Application	Application
Configuration	Custom configuration and delay start
Availability	Single-use
Time and Temperature	Provides date and time each alarm was triggered



endicate's advanced time and temperature functionality allows you to pinpoint exactly when a product has been exposed to a temperature that may have affected its quality. Upon receipt of a shipment, the device displays a sequenced 6-digit code for each alarm. This code can be used to determine the exact date and time of each of the 4 alarms, protecting your brand and allowing you to assume responsibility throughout your supply chain.

Have the confidence you need in your supply chain to ensure your product travels safely and your brand is protected.

CAVU HUB IS SCALABLE BASED ON YOUR BUSINESS NEEDS

- Do you simply need to upload and store your temperature and/or humidity data?

HUB is all you need!



STORE YOUR TEMPERATURE DATA PLUS

- Unlimited Users
- Unlimited Uploads
- Email Notifications
- Data Stored for 1 Year

- Does your company ship your temperature-sensitive products and extract the data themselves from one primary location?

HUB ANALYTICS is the perfect fit for you!



HUB PLUS

- Excursions
- Routes
- Maintenance
- Deployed Profiles
- Ability to Compare Data
- 200 SMS Notification's Per Month*
- Maintains 2 Years of Data

ADDITIONAL CHARGES APPLY FOR ADDITIONAL AND INTERNATIONAL NOTIFICATIONS

- Do you have a number of stakeholders extracting data in multiple locations throughout your supply chain?

HUB & SPOKE ANALYTICS is the best choice for your organization!



HUB ANALYTICS PLUS

- Ability to Manage your Supply Chain's Data
- 400 SMS Notifications Per Month*
- Maintains 3 Years of Data
- API Support for 3rd Party Software (CUSTOM INTEGRATION NOT INCLUDED IN PRICING)

ADDITIONAL CHARGES APPLY FOR ADDITIONAL AND INTERNATIONAL NOTIFICATIONS

ADDITIONAL SMS OPTIONS AVAIL ABLE



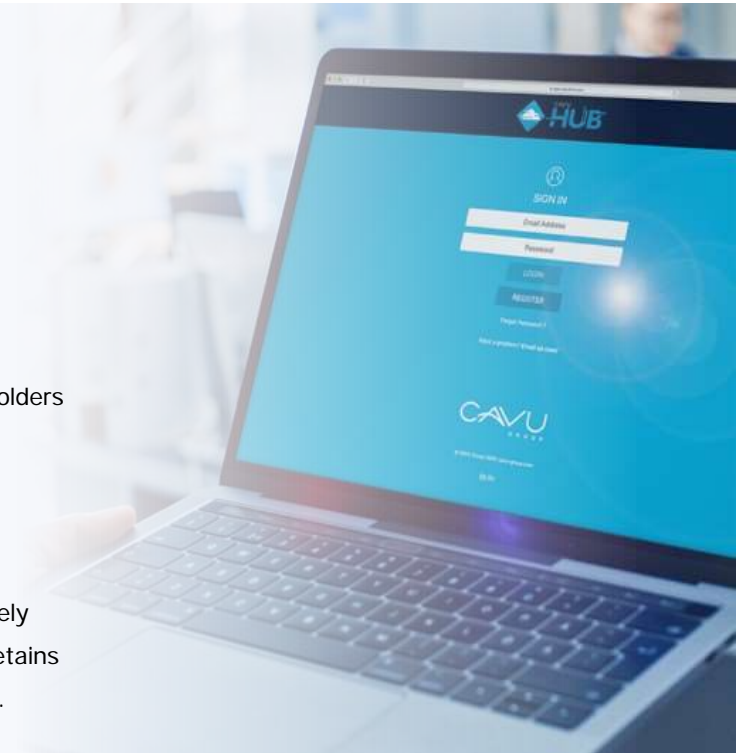
CAVU Hub allows companies to manage, distribute and analyze critical temperature and humidity data. Providing valuable connectivity to your supply chain, CAVU Hub allows for universal visibility into your product's life cycle as it travels from manufacturing to delivery.

BENEFITS INCLUDE

- Secure, 24/7 service
- Dashboard for data analysis
- Sorting and filtering
- Exception management via email and SMS notifications
- Uploads available via remote/mobile phone

Temperature and humidity data becomes readily available to key stakeholders throughout the supply chain. Trends within shipping lanes and logistics partners provide valuable insight to quality data that allows you to be proactive, or even predictive when shipping valuable product.

CAVU Hub provides a streamlined and easy-to-use interface to accurately identify a potential compromise. There is no longer a need for physical retains as digital records are now available within the Hub – anytime, anywhere.



CAVU Hub's Dashboard View provides detailed reports to help you manage your temperature and humidity data.

Dashboard features include showing:

- Excursions
- Routes
- Maintenance Reports
- Deployed Profiles
- Compare Data

COMPARE FEATURE

Simply select a preferred list of devices and compare sessions to gain a better understanding of temperature within shipping lanes and with various logistics partners. You can quickly view or overlay the data, and easily export to share throughout your supply chain.

MANAGED ORGANIZATIONS

CAVU Hub provides the ability to not only track your company's data, but also carriers, distributors and other shipping partners. By managing organizations and adding outside users, you will have full visibility into your supply chain.





Dashboard



1. Operational statistics
2. Route
3. Data logger status information
4. Distributed profile information
5. Session data comparison

Profile Setting

The 'Change LOG-IC Settings' dialog box allows for configuring various parameters. It includes a dropdown for 'Current Settings', a 'Unit' selector set to 'Celsius', and a 'Trip duration' dropdown. There are input fields for 'On' and 'Off' values for multiple channels (e.g., Channel 1, Channel 2, Channel 3). A 'Save & Exit' button is located at the bottom right.

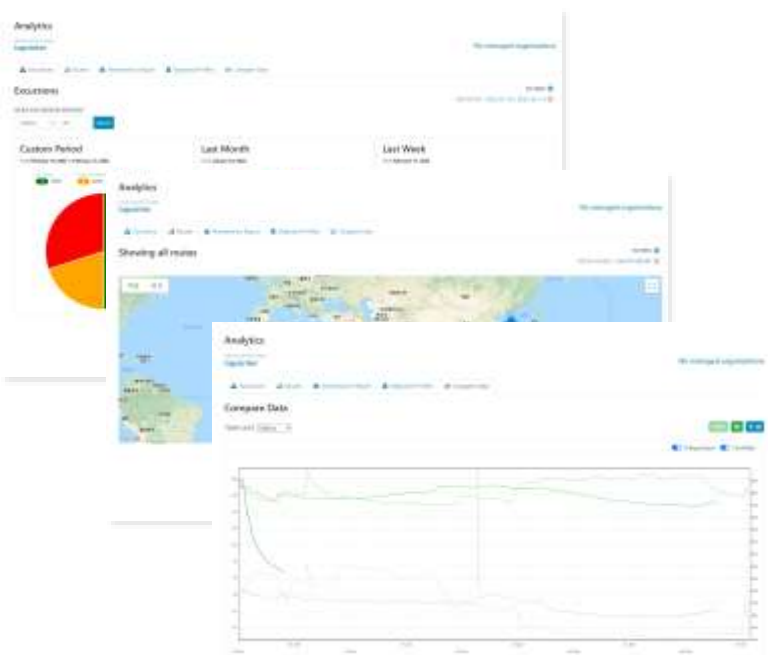
1. °C/°F selection
2. Alarm settings
3. Measurement period setting
4. Interval (based on the measurement interval)

Session Detail



1. Session Subscriber Settings
2. Save PDF, CSV report
3. view map
4. Provide MKT

Analytics



1. Operational statistics
2. Route
3. Data logger status information
4. Deployed Profile Information
5. Compare session data

LOG-IC 360[®]

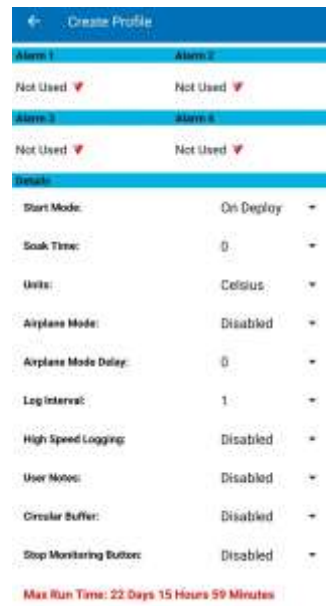


There is a dedicated APP for LOG-IC 360 which relates to CAVU HUB.

App Home



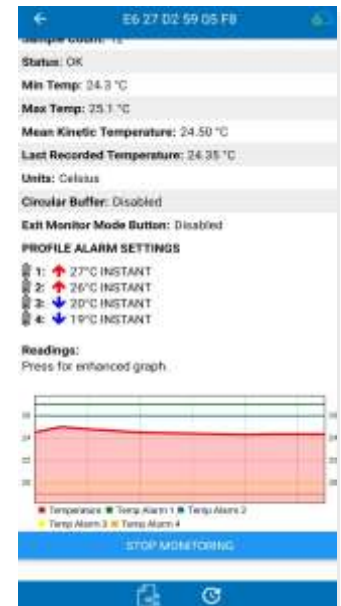
Create Profile



Data Download



Session Detail



- Profile creation and modification
- Profile deployment
- Download Data
- CSV, PDF creation
- View operation history

- Set 4 alarms
- Startup mode setting Push button
- On deploy Soak time

- You can download data by selecting the list selection or scanning QR code.

It is convenient to check data by scanning the product number QR code of the data logger attached to the outside of the cargo.

- Set Profile
- Battery status
- CSV/PDF sharing

You can check the downloaded data from CAVU HUB.

CERTIFICATE



PERFORMANCE QUALITY SAFETY



E006: Temperature monitoring devices
PQS code: E006/040
Description: User programmable temperature data logger
Manufacturer's ref: i-PLUG pdf B10
Manufacturer's ref: Switzerland
Company: Swissline SA
Address: Swissline SA, (CHE-257,142,822)
 Via F. Calanvati 5
 CH - 8850 Mendrisio
 Switzerland



E006: Temperature monitoring devices
PQS code: E006/064
Description: Electronic Shipping Indicator Type 2
Manufacturer's ref: Endicate Type 2
Manufacturer's ref: Switzerland
Company: Swissline SA
Address: Swissline SA, (CHE-257,142,822)
 Via F. Calanvati 5
 CH - 8850 Mendrisio
 Switzerland



E006: Temperature monitoring devices
PQS code: E006/055
Description: User Programmable data logger
Manufacturer's ref: BT360
Manufacturer's ref: Switzerland
Company: Swissline SA
Address: Swissline SA, (CHE-257,142,822)
 Via F. Calanvati 5
 CH - 8850 Mendrisio
 Switzerland



E006: Temperature monitoring devices
PQS code: E006/063
Description: Electronic Shipping Indicator Type 1
Manufacturer's ref: Endicate Type 1
Manufacturer's ref: Switzerland
Company: Swissline SA
Address: Swissline SA, (CHE-257,142,822)
 Via F. Calanvati 5
 CH - 8850 Mendrisio
 Switzerland



E006: Temperature monitoring devices
PQS code: E006/062
Description: Electronic Freeze Indicator
Manufacturer's ref: Endicate Freeze
Manufacturer's ref: Switzerland
Company: Swissline SA
Address: Swissline SA, (CHE-257,142,822)
 Via F. Calanvati 5
 CH - 8850 Mendrisio
 Switzerland



World Health Organization

The World Health Organization (WHO) Prequalified Devices

GCC general conformity certificate

GENERAL CONFORMITY CERTIFICATE

Product of the EU CE mark (the symbol marked in black) is used for identification only. It does not constitute a declaration of conformity with the CE mark. The CE mark is a symbol of the European Union and is not a trademark of the European Union.

Model No. (E006):

1) Name of the manufacturer or authorized representative (Name and address):

2) Name of the importer or distributor (Name and address):

3) Name of the importer or distributor (Name and address):

4) Name of the importer or distributor (Name and address):

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GENERAL CONFORMITY CERTIFICATE

Product of the EU CE mark (the symbol marked in black) is used for identification only. It does not constitute a declaration of conformity with the CE mark. The CE mark is a symbol of the European Union and is not a trademark of the European Union.

Model No. (E006):

1) Name of the manufacturer or authorized representative (Name and address):

2) Name of the importer or distributor (Name and address):

3) Name of the importer or distributor (Name and address):

4) Name of the importer or distributor (Name and address):

5) Name of the importer or distributor (Name and address):

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GENERAL CONFORMITY CERTIFICATE

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Model No. (E006):

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10) Name of the importer or distributor (Name and address):

PERRY JOHNSON REGISTRARS, INC.

Certificate of Registration

Perry Johnson Registrars, Inc., has audited the Quality Management System of:

ATI
microtek

2400 East River Road, Dayton, OH 45439 United States

(Hereinafter called the Organization) and hereby declares that Organization is in conformance with:

ISO 9001:2015

This Registration is in respect to the following scope:

Design, Manufacture, and Sale of Temperature Indicators, Temperature Monitors, and Thermal Management Materials for Life Sciences, Cold Chain, Industrial, Drug Screening, Medical, Textiles, Bedding, Electronics, and Energy Applications

This Registration is granted subject to the system rules governing the Registration referred to above, and the Organization hereby accepts with the Assessment body duty to adhere and comply with the said rules.

Verny Boonje

Perry Johnson Registrars, Inc. (PJI)
191 Westing House Blvd, Suite 1248
Troy, Michigan 48064
(248) 539-1300

Issue Date
November 26, 2019

Review Date
September 21, 2023

Expiration Date
November 23, 2022

Certificate No.
C2109-02825-81

The use of the UKAS accreditation symbol is in respect to the activities covered by the Accreditation Certificate Number 01101.
The validity of this certificate is dependent upon ongoing surveillance.



The Most Technologically Advanced
Temperature Monitoring System



FUTURE-PROOF YOUR Healthcare Monitoring System

Automate meeting temperature, humidity, differential pressure, and more compliance standards with 24/7 real-time continuous monitoring & alert notifications.



Important Features of Sensoscientific's Temperature Systems

Our wide range of temperature sensors and temperature **probes** will provide you with the data and control you need for real-time management, audit tracking, and automating regulatory compliance. Whether for a **hospital**, pharmacy, laboratory, food safety, or in transit application, you will be sure to find the perfect temperature monitoring system for your needs. Our sensors enable your organization to monitor real-time environmental conditions, enterprise-wide.

Fully automated data logging

Say goodbye to manual data logging. Our continuous monitoring system does the work for you.

Cloud-Based Monitoring with Real-Time Alerts

Know the moment environments fall outside range and take action, immediately.

Automated Reporting & Customizable Reports

Receive automatic monthly, weekly, and two-point monitoring reports directly to your inbox.

A2LA Accredited & NIST Traceable Calibration

Meet calibration requirements from our in-house A2LA Accredited, ISO/IEC 17025 certified lab.

24/7 Customer and Technical Support

Receive support for a wide variety of probes and custom sensors matched to your facility's needs.

Government-Grade Security

Protect your data with the only environmental monitoring solution backed by Microsoft® Azure.

NEXT GENERATION MONITORING



Sensoscientific is an enterprise-wide solution equipped with a wide range of sensors to meet all your environmental monitoring needs.

Nodes are Wi-Fi compatible, designed to piggyback off your existing Wi-Fi network. Nodes measure data locally then upload readings to the Sensoscientific Validated Cloud for comprehensive visibility and report generation. 24/7 customizable alerts & notifications let you know the moment data goes out of range.

This all-in-one, CDC and VFC compliant system streamlines the task of meeting regulatory requirements.

Data is perpetually stored in the Microsoft® Azure cloud platform, accessible from any internet-ready device.

Data loggers come equipped with onboard features that ensure seamless compliance automation.

✓ STANDARDIZE YOUR MONITORING SYSTEM

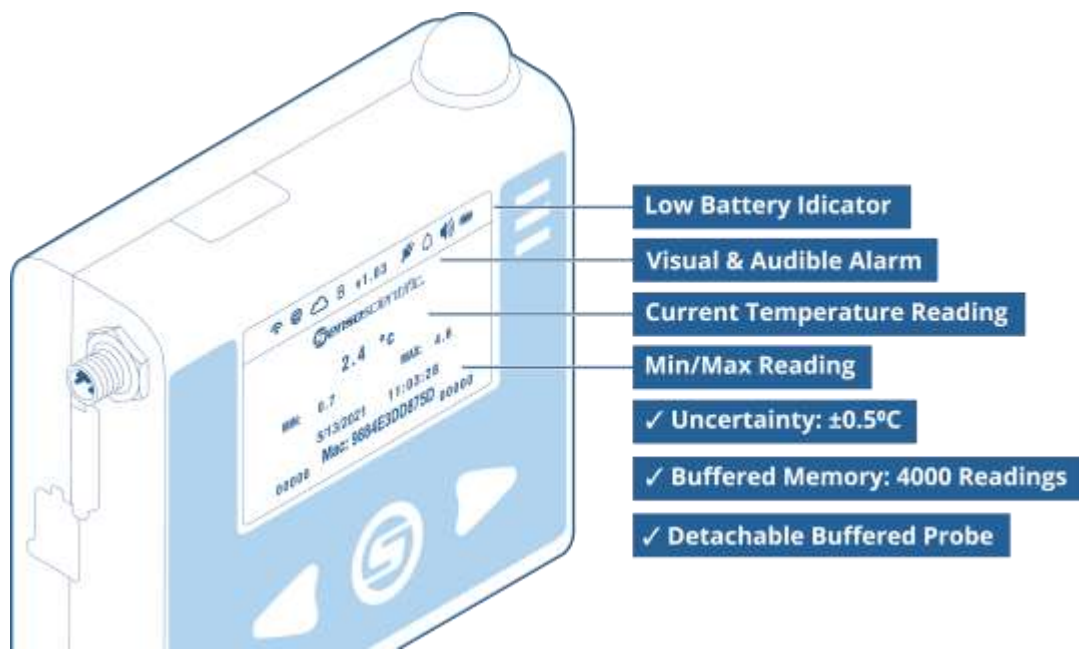
✓ EXCEED COMPLIANCE STANDARD

✓ RECEIVE IMMEDIATE ALERTS

Temperature / Humidity / Differential pressure / Light /
Dey contact – Open/Close / Universal

Key Features

- Wi-Fi Compatible
- On-board E-ink Display
- Detachable Probe in Thermal Buffer
- Current & Min/Max Readings
- Real-Time Alerts Notifications
- A2LA Accredited & NIST Traceable Calibration Certificates
- Accuracy $\pm 0.5^{\circ}\text{C}$
- Push Button for Real-Time Readings
- Audio and Visual Alerts on Device
- Buffered Data up to 4000 Readings
- Dual Power - Battery/AC Power
- Low-battery indicator
- Multi-Led for Connectivity Status
- Lowest Total Cost of Ownership
- In-house ISO/IEC 17025 Certified Calibration Lab
- FDA 21 CFR Part 11 Compliant



COMPLIANCE AUTOMATION EXPERTS



Let us worry about meeting your compliance standards. Sensoscientific provides a comprehensive solution to meeting regulatory requirements, no matter how strict.

IMMEDIATE ALERT NOTIFICATIONS

Receive notifications the moment temperatures fall outside the desirable range. 24 Hours a day, 7 days a week, alerts notifications are sent via email, phone, text, SMS, pager, fax, and more!

A2LA ACCREDITED CALIBRATION LAB

Our in-house ISO/IEC 17025 certified and A2LA Accredited Calibration Lab sends NIST traceable probes to your facility and automatically uploads new calibration certificates to the Sensoscientific Cloud for immediate use.

GOVERNMENT-GRADE VALIDATED CLOUD PLATFORM

In partnership with the Microsoft® Azure cloud platform, Sensoscientific utilized government-grade security to provide unparalleled reliability.

IQ OQ PQ VALIDATION

At your request, the Sensoscientific Technical Support Team comes on-site to install devices and authenticate installation, operational, and performance quality according to IQ OQ PQ validation standards.

COMPLIES WITH

- ✓ HACCP (Hazard Analysis Critical Control Point)
- ✓ FDA (Food and Drug Administration)
- ✓ FSMA (FDA Food Safety Modernization Act)
- ✓ CDC (Center for Disease Control and Prevention)
- ✓ FDA 21 CFR PART 11 (ERES)
- ✓ ISO/IEC 17025
- ✓ VFC (Vaccines for Children) Programs
- ✓ NIST (National Institute of Standards and Technology)
- ✓ ISO/IEC 9001
- ✓ JCAHO (The Joint Commission on Accreditation of Healthcare Organizations)
- ✓ USP (United States Pharmacopoeia)
- ✓ CDC Storage and Handling of Vaccines
- ✓ WHO (World Health Organization)
- ✓ State Board of Health
- ✓ DSCSA (Drug Supply Chain Security Act)
- ✓ cGMP (Current Good Manufacturing Practices)
- ✓ GDP (Good Distribution Practices)
- + And More!

www.sensoscientific.com

SENSOSCIENTIFIC VALIDATED CLOUD

FDA 21 CFR Part 11 Compliant



SENSOSCIENTIFIC VALIDATED CLOUD

- ✓ Validated Cloud
- ✓ FIPS Compliant
- ✓ Government-Grade Security
- ✓ Full Auditability
- ✓ 99.95% Up-Time
- ✓ Failover Disaster Recovery
- ✓ LDAP Single Sign-On
- ✓ Unlimited Data



FDA 21 CFR Part 11 Compliant

In partnership with the Microsoft® Azure cloud platform, Sensoscscientific utilizes government-grade security to provide unparalleled reliability. Sensoscscientific Validated Cloud services include LDAP Single Sign-on and Fail-over Disaster Recovery at client's request.

- ✓ LDAP Single Sign-on
- ✓ Fail-over Disaster Recovery

SNAP CALIBRATION

Certificate of Calibration For SENSOSCIENTIFIC CLIENT DEMO
685 Conchran St,
Sunny Valley, CA 95065
Complies with ISO/IEC 17025:2005 Certificate # 22263

Instrument Identification:
Description: **Humid Probe (40°C to 120°C) (1 to 90%RH)** Model # **HT01-C-3071-0** Serial # **18085481** Manufacturer # **88**

Certificate Information:
Test Conditions: **23°C 55%RH** Calibration Type: **Temperature & Humidity** Calibrated: **01/20/18** Due Date: **01/20/19**
Calibration Procedure: **GCP-03P-C2** Service: **Calibrated to customer specs**

Units	Min In Val	Std	Out Val	Fnd As	L.R As	Min	Max	Accuracy	Pass/Fail
%RH	23.0	±1.0	23.0	23.1	23.1	26.04	26.00	±1.0	Pass
°C	24.0	±0.04	24.1	24.2	24.2	24.08	24.00	±0.1	Pass

Equipment Used in Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number
ESPEC	Hum/Temp Chamber	Espeo	HTX-475	1630749
USDALE_HMT027	Hum/Temp Tr	USDALE	HMT027	0300046

Notes: In Value = Test Point, Out Value = Standard Reading, Found As = Unit Under Test's Reading, Left As = Unit Under Test's Reading After Adjustment, Min = Out Value - Accuracy, Max = Out Value + Accuracy, cu = Expanded Measurement Uncertainty, AM = Accuracy.

Calibration Technician: Gary Rumpf
Quality Manager: Michael Dack

Certification Statement
Sensoscscientific's laboratory is an ISO/IEC 17025:2005 Calibration Laboratory Accredited by American Global Standards (AGS) & The American Association for Laboratory Accreditation (A2LA). This Accreditation demonstrates technical competence for a defined scope and the operation of laboratory quality management systems. The standards that have been utilized in this calibration are certified by, or are traceable to, the National Institute of Standards and Technology (NIST), and meet or exceed manufacturers' requirements for the above mentioned item. Although the item calibrated meets the specification and performance at the time of calibration, due to any number of factors like aging, temperature, shock and contamination, the recommended due date of the item calibrated does not imply continuing conformance to specification during the recommended interval. Should any change or additional recalibration be required, please contact Sensoscscientific for factory calibration and re-certification traceable to NIST.

This Certificate shall not be reproduced except in full, without written approval of Sensoscscientific Inc.

Sensoscscientific's SNAP Calibration program is a convenient and cost-efficient solution to meeting regulatory compliance.

Sensoscscientific automates calibration requirements by sending newly calibrated, NIST traceable, and A2LA Accredited probes and devices in the mail, then uploading your calibration certificates to the Sensoscscientific Validated Cloud.



Cryogenic Logistics System

Who is Cryoport?



Business Description	Leading cold chain logistics solutions provider for the life sciences industry with a focus on the regenerative medicine market (CAR-T)
Clientele	Pharmaceutical and biotechnology companies
Business Segments	Biopharma, Reproductive Medicine, and Animal Health
Commercial Biopharma Agreements	Novartis and Gilead/Kite
Number of Clinical Trials Currently Supported	602+
Market Cap	~ \$3 billion
NASDAQ	CRYX
Headquarters	Brentwood TN

Strong and Growing Client Base

Biopharma

Reproductive Medicine/IVF

Animal Health



Can You Ship Biological Samples Currently Stored or Shipped with Dry Ice (-0 to -80°C) in Cryoport's Dry Vapor Shipper at -150°C?

Sustain temperatures below the glass point (-136°C)

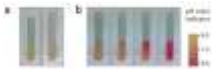
All metabolic processes and certain degradative reactions will cease at these lower temperatures, which will extend the viability and function of the specimen

LN2 does not affect the samples

The specimens placed into a Cryoport Express® dry vapor shipper do not come into contact with the liquid nitrogen. Typically, the specimens will not come in contact with the nitrogen gas either, as they are usually packaged in a leak-proof, pressure-proof shipping enclosure in compliance with the IATA (International Air Transport Association (IATA) such as a medical grade Tyvek® bag

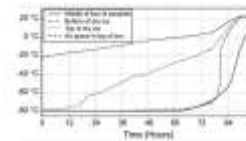
Packaging and logistics decisions directly impact the quality of your samples

- 30% of the biomarkers tested require cryogenic transport for consistent recovery.
- Cryogenic logistics significantly reduces thermal cycling during transport when compared to dry ice shipping (undocumented freeze-thaw cycles).
- Sample pH is impacted at a directly proportional level to the duration of shipment on dry ice.



Clinical efficacy, bioanalytical and manufacturing issues encountered may in fact be logistics issues

Cryogenic shipping significantly lowered the standard deviation of the samples tested in this study when compared to dry ice shipping.



- Bio specimens are subject to different temperature bands inside dry ice boxes, as Dry Ice sublimates quickly and settles to the bottom by gravity.
- Refilling with dry ice causes cold-warm-cold thermal cycling, detrimental to stability and integrity of shipments.

Environmentally safe and non-hazardous

Styrofoam® is non-biodegradable and considered a leading source of hazardous waste. In addition, this packaging used with dry ice typically is used once and thrown away. Cryoport, in contrast, cleans and reuses its aluminum dewars more than 100 times before recycling.



A strategic packaging consideration and approach for your global supply chain is critical and considering a fully integrated cryogenic shipping solution providing a chain of custody; condition and compliance for your time and temperature-sensitive biological materials.



✓ After returning of Cryoport vessel, all the vessels are cleaned, tested, and validated before the next operation.

Cryoport's Quality Management System



Cryoport has a long history of working with ISTA, IATA, ASTM, as well as other internationally recognized & accredited bodies, to design, develop, and execute verification and validation studies demonstrating adherence and conformance to standards. This includes equipment, accessories, and the combination(s) thereof.

- ✓ ISO 9001:2015 Certified
- ✓ Instituting Good Manufacturing Practice (GMP) standards
- ✓ Instituting Good Distribution Practice (GDP) standards
- ✓ Complete temperature record history maintained for 10 years, minimally
- ✓ Involvement with FACT (Foundation for the Accreditation of Cellular Therapy) & SCB (Standards Coordinating Body)
- ✓ Cryoport's procedures and processes are consistent with ISO 21973:2020 (Biotechnology —General requirements for transportation of cells for therapeutic use)

Capabilities of Cryoport

- ✓ **Most reliable cold chain logistics solution for pharma and life science**
 - Shipping lane, flight, and documentation planning for global clinical trials and commercial fulfillment.
- ✓ **Informatics, Security, Real-time monitoring, and In-time intervention**
 - Avoid costly degradation and losses to shipment.
- ✓ **Regulatory Compliance in Data Recording, Management, and Analysis**
 - 21 CFR, Part 11 compliant data integrity and completeness
- ✓ **Backend integrates with Client's manufacturing for storage, shipping, and data.**
 - Can collocate with client for refill, top-off, and emergency shipping.
 - Can dedicate and manage shipper fleet on client site.
- ✓ **Global customs, quarantine, anti-terrorism compliance management.**
 - Documentation pre-clearance with foreign government agencies
 - Special handling through local network

The Science Behind Our Logistics Solutions

Comprehensive Cold Chain Logistics Solutions for the Life Sciences Industry

Packaging



Informatics



Logistics



Cryoport Express® shippers and our C³™ 2-8 C solution improve the reliability of cold chain shipping, simplify the logistics process and reduce the clients' overall operating costs.

< Packaging >

Packaging: Cryoport Express® and C³™ shippers are scientifically engineered to ensure materials are shipped safely and securely.

< Informatics >

Informatics: Cryoport's cloud-based Cryoport[™] Logistics Management Platform and SmartpakII[™] Condition Monitoring System provide unsurpassed analytics for planning, enroute mitigation and reporting

< Logistics >

Logistics: Cryoport's expertise logistics team provides 24/7/365 live support, is carrier-agnostic, and has performance data on a lane-specific basis

Cryoport Express Shippers Standard (EXP6)

- Novel liquid nitrogen dry vapor technology
- No cell degradation - Designed for fragile biologic transport. Virtually eliminates degradation.
- Cold Temperature Consistency - Consistent and stable cryogenic temperature below -150°C (below the glass transition point)
- Sustainable - 10 days 'dynamic' holding time without need for intervention
- Certified-International Air Transport Association (IATA) certified, non-hazardous and "green"

Dimensions of the Internal Core

Internal Core

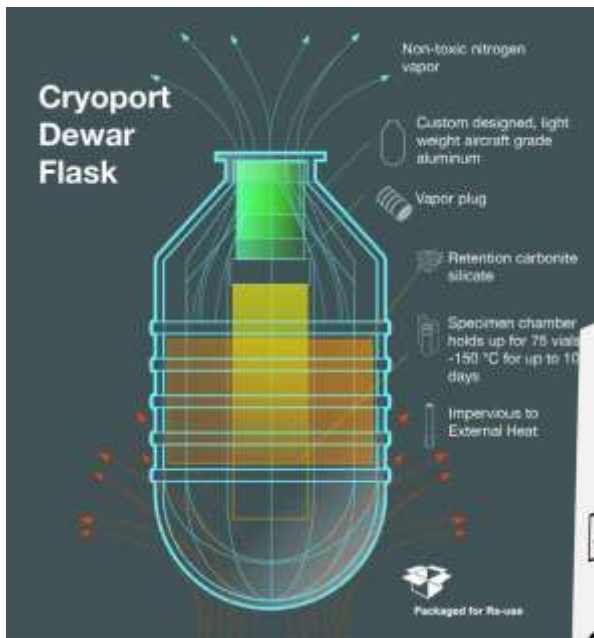
2.8" (71 mm) diameter
11.5" (292 mm) depth

Weight

Dry 15lbs / 6.8kg
Charged 20lbs / 9.07kg

Storage Capacity

75 of 1.8 & 2.0 ml vials
- 15 canes with 5 vials clips
- 75 cryovials, 2.0 ml



Cryoport High Volume (CXHVO) Shipper

- Novel liquid nitrogen dry vapor technology
- For larger-scale clinical trials, manufacturing, and shipping.
- Unit cost savings.
- More liquid nitrogen capacity.
- More durable to mechanical shocks and impacts
- Hold up to 500 units of 2ml vials or other containers fitting into its inner chamber.

Dimensions of the Internal Core



CRYOMAX® SHIPPER

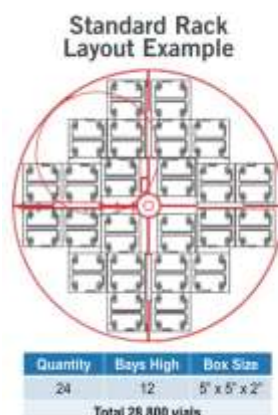
When you need to move cryogenic commodities from one laboratory facility to another, consolidate your collection or relocate your biorepository, Cryoport is your complete logistics solution. Cryoport's CryoMax® palletized dry shipper provides large sample capacity and is easily moved with a pallet jack or forklift. The solution includes Cryoport's state-of-the-art SmartPak II® Condition Monitoring System to track and record the most important attributes of the shipment. With Cryoport's temperature-controlled logistics expertise and dedicated 24/7/365 client support team proactively monitoring your shipment, you can have peace of mind when transporting and relocating your samples.



Maximum Storage Capacity	
1.2 & 2 mL vials (internally threaded)	28,800
Number of Racks – 100 cell boxes	24
Number of Stages per Rack	12
Performance	
Absorbed LN2 Capacity	133 liters
Unit Dimensions	
Neck Opening	17.5" (444 mm)
Usable Internal Height	30" (762 mm)
Inner Diameter	38.5" (978 mm)
Overall Height, with Frame	64" (1625 mm)
Liftover Height	42.1" (1070 mm)
Footprint	52" x 52" (1321 x 1321 mm)
Step Height	20.5" (521 mm)
Depth of Fold Down Step	10.8" (274 mm)
Weight Empty	1,600 lb. (726 kg)
Weight Full	2,044 lb. (927 kg)

CRYOMAX® SOLUTION FEATURES

- Hold time up to 21 days at -150°C or colder
- Inventory tray locks to prevent rotation during transit
- Easily moved with pallet jack or forklift
- Complies with Special Provision A152
- Includes the SmartPak II® Condition Monitoring System
- Dedicated 24/7/365 client support team proactively monitors your shipment
- Intervention capabilities that mitigate risks when they occur
- CryoMax® also functions as a temperature storage unit to optimize your supply chain and relocate your inventory



Cryoport Proprietary Human Use Only LN2 shippers (HUO)



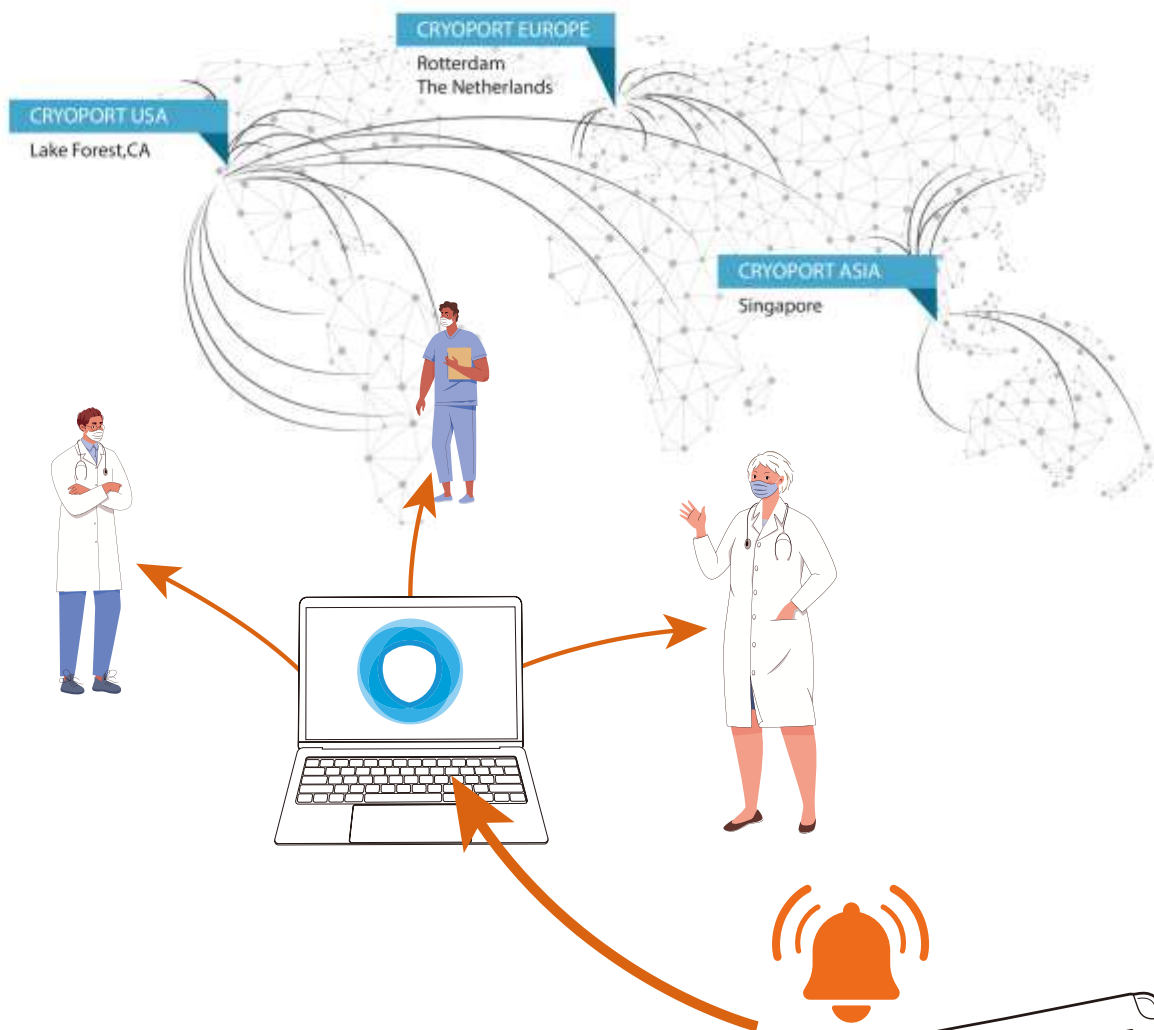
Cleaning and disinfection Compliance Program



- Cryoport has Developed a Cleaning Validation and Disinfection Validation for Cryo-shippers and all stainless steel accessories.
- This validation elements include:
 1. Initial Bioburden evaluation of environmental flora present after return of shippers (aerobic bacteria and fungi)
 2. Manual Cleaning Validation (protein and hemoglobin)
 3. Low-Level Disinfection Validation (Staphylococcus aureus, Escherichia coli)
- Resulting in >6 log reduction in environmental contaminants.

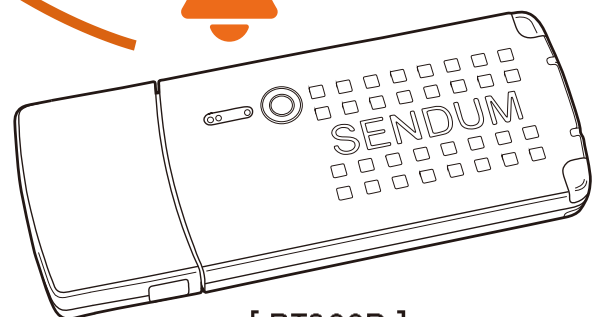
Smart Pak Ultra II Conditioning

- Includes Tracking Solution with Real-Time monitoring of
 - ✓Location – Temperature
 - ✓Pressure – Humidity
 - ✓Orientation
- Cellular-based tracker (CDMA and/or GSM) and data logger. Includes GPS location, environmental conditions (temperature, relative humidity, and barometric pressure) and variables that indicate proper care and handling (motion, shock, vibration, & orientation). It also includes light sensors that can detect when a trailer door or package is opened, even if that happens in the dark.



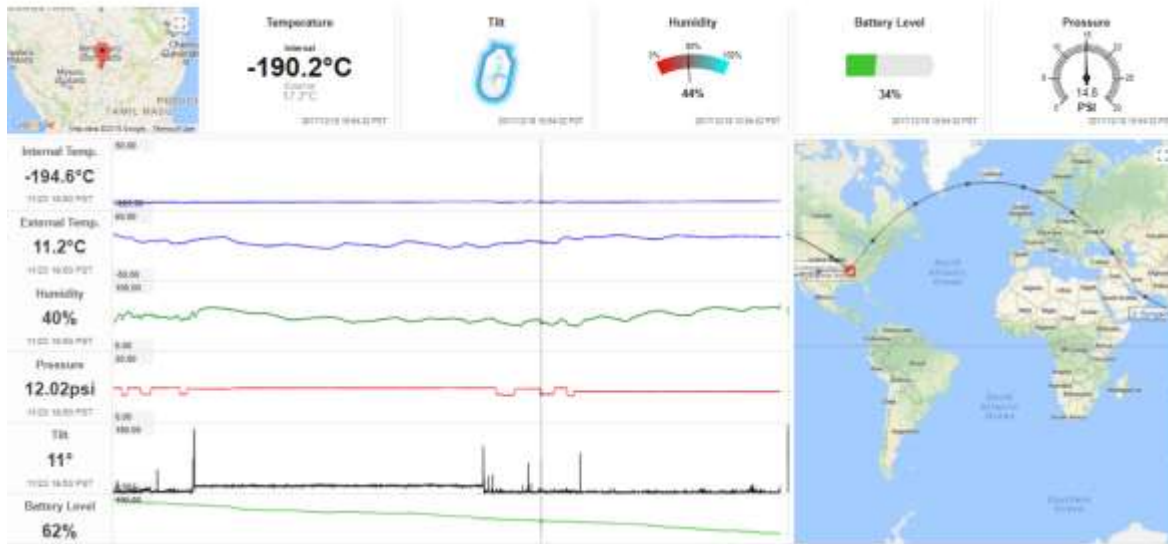
PT300D with Advanced Sensor Pack

Ideal for tracking and in-depth quality monitoring (with additional sensors) across the USA and worldwide.



[PT300D]

Live view Monitoring Interface



- Real-time 3-dimensional data
When-Where-What: Time-GPS location-Biomaterial Conditions
- Timely Intervention when SmarkPakII sends out distress messages

Anti-tempering and alert-reporting

Time in Transit 3d 5h | 1/10 10:43 PST | 1/22 16:02 PST | 1/24 17:08 PST

TIME (PST)	PROBE (°C)	DEVICE (°C)	BATTERY (V)	BATTERY (%)	HUMIDITY (%)	TILT (°)	SHOCK (G)	LIGHT
2018/01/23 04:50:14	-192.8	-14.1	3.995	72	54	0	N/A	0
2018/01/23 05:01:15	-192.8	-13.4	3.998	72	54	5	N/A	0
2018/01/23 05:06:02	-192.8	-12.7	3.954	73	54	6	N/A	0
2018/01/23 05:08:02	-192.8	-12.7	3.954	73	54	8	N/A	0
2018/01/23 05:08:13	-192.8	-12.7	3.989	73	54	8	N/A	0
2018/01/23 05:08:24	-192.8	-12.7	3.974	73	54	5	N/A	0
2018/01/23 05:11:14	-192.8	-12.1	3.993	73	54	4	N/A	0
2018/01/23 05:15:13	-192.8	-11.4	3.994	73	54	6	N/A	0.0122072175173
2018/01/23 05:21:01	-193.0	-10.7	3.981	73	55	3	N/A	0.0782951094834
2018/01/23 05:21:13	-193.0	-10.7	3.982	73	55	10	N/A	0.1037813488975
2018/01/23 05:28:13	-193.2	-9.9	3.995	73	55	12	N/A	0.0858137941557
2018/01/23 05:31:14	-193.2	-8.9	3.970	73	55	11	N/A	0.1022354487078
2018/01/23 05:38:14	-193.6	-7.5	3.972	73	57	2	N/A	0.0829249204318

- SmartPakII is equipped with high sensitivity light sensors.
- Opening/Closing package will trigger sensors.
- Difference in light readings shows package opening or closing.
- All data including light readings are uploaded to Cryoport's cloud servers, free from deletion, loss, or manipulation.

FDA requirement on data integrity

Title 21 CFR Part 11 is the part of Title 21 of the Code of Federal Regulations that establishes FDA regulations on electronic records and electronic signatures (ERES). Part 11 defines the criteria under which electronic records and electronic signatures are considered trustworthy, reliable, and equivalent to paper records.

Part 11 applies to drug makers, medical device manufacturers, biotech companies, biologics developers, CROs, and other FDA-regulated industries, with some specific exceptions. It requires that they implement controls, including audits, system validations, audit trails, electronic signatures, and documentation for software and systems involved in processing the electronic data that FDA predicate rules require them to maintain (From Wikipedia)



SmartPakII enables clients of Cryoport to access, download, and process all condition data generated during transit, features useful for regulatory compliance in clinical trials or commercial releases.

SmartPakII collects comprehensive condition data every 5 minutes, immediately uploads to temper-proof cloud servers, with no manual processing or manipulation. It gives the highest level of data integrity and credibility for future regulatory reviews and audits on a client's work.



DATA INTEGRITY



Providing a range of products developed to carry biological samples and specimens in a safe manner for all transport modes, including air freight.



bb bio-bottle
red top



The smallest of the bio-bottle range, the red bio-bottle offers strength and security. Manufactured to Packing Instruction 620 requirements, the red bio-bottle is great for small tubes or vials.

- » Capacity: 0.5L
- » Height: 165mm
- » Diameter: 75mm
- » Opening: 49mm
- » Complete weight: 0.18kg
- » Bottle only weight: 0.08kg

bb bio-bottle
Blue and white top



The blue bio-bottle and white bio-bottle are without-a-doubt our most popular, most recognized and most widely used bio-bottle products. They offer economy and optimized capacity with time tested reliability.

- » Capacity: 0.85L
- » Height: 165mm
- » Diameter: 95mm
- » Opening: 70mm
- » Complete weight: 0.22kg
- » Bottle only weight: 0.14kg

bb bio-bottle
orange top



The orange bio-bottle has been designed and tested with flexibility in mind. The added height combined with strong HDPE construction allows for larger long swabs, vacutainers and universal inners to be kept safe inside this durable package.

- » Capacity: 2.5L
- » Height: 230mm
- » Diameter: 120mm
- » Opening: 80mm
- » Complete weight: 0.320kg
- » Bottle only weight: 0.240kg

bb bio-bottle
yellow top



The yellow bio-bottle has proved to be one of the mainstay products of the medical and laboratory industries for the past 10 years. Designed specifically for long swabs, test tubes, petri dishes and vacutainers, the yellow top bio-bottle is easy to open and close.

- » Capacity: 3.0L
- » Height: 245mm
- » Diameter: 150mm
- » Opening: 110mm
- » Complete weight: 0.480kg
- » Bottle only weight: 0.380kg

bf bio-freeze



The bio-freeze transport kit offers industries a cost effective and proven method of transporting biological specimens under temperature controlled conditions. With no dry ice required this product may be transported by air freight as non-hazardous cargo resulting in significant cost savings.

Temperature range : between -20°C to 0°C for 48+ hours

- » Capacity: 1.0L
- » Height: 245mm
- » Diameter: 150mm
- » Opening: 110mm tapering to 75mm
- » Complete weight: 2.82kg

uf ultra-freeze



Product	Capacity	Height	Diameter	Opening	Complete weight	Temperature Range	time
Ultra-freeze	3.0L	245mm	150mm	80mm	14.40kg	$-80^{\circ}\text{C} \sim -20^{\circ}\text{C}$	+72 hrs
						Below 0°C	+100 hrs
Ultra-freeze MAX	1.0L	245mm	150mm	110mm~75mm	16.06kg	$-80^{\circ}\text{C} \sim -20^{\circ}\text{C}$	+96 hrs
						Below 0°C	+120 hrs
Ultra-freeze plus	3.0L	245mm	150mm	80mm	14.40kg	$-20^{\circ}\text{C} \sim 0^{\circ}\text{C}$	+168 hrs

bp bio-pouch 2nz



The smallest of the bio-pouch range, the 2NZ bio-pouch specimen transport pouch can be used for single tube shipments.

The landscape layout allows for the largest opening possible, to maximize the carrying capacity of this product.

- » Height: 185mm
- » Diameter: 260mm
- » Opening: 180mm

bp bio-pouch 5nz



The 5NZ bio-pouch specimen transport pouch can be used for single tube shipments.

Tested and approved for as a single use shipper only, this product is also available in a complete shipment kit.

- » Height: 365mm
- » Diameter: 260mm
- » Opening: 180mm

bp bio-pouch 10nz



The 10NZ bio-pouch specimen transport pouch can be used for single tube shipments.

Tested and approved for as a single use shipper only, this product is also available in a complete shipment kit.

- » Height: 445mm
- » Diameter: 335mm
- » Opening: 245mm

bp bio-pouch 5nz



The bio-pouch 5NZ complete transportation kit meets all domestic and international regulations (Class 6.2, Packing Instructions 620 & 650) for road, ocean and air transportation of diagnostic and infectious substances.

The bio-pouch is made from laminated LLDPE, is leak-proof and is 95Kpa pressure tested. The sealing method means the bio-pouch is a single-use transportation system.

| Contents |

- » 1 x bio-pouch 5nz
- » 1 x Absorbent cushioning pad
- » 1 x Class 6.2 label
- » 1 x UN 3373 label
- » 1 x Bubble wrap pouch
- » 1 x Outer fiberboard die-cut box

bp bio-pouch 10nz



The bio-pouch 10NZ complete transportation kit meets all domestic and international regulations (Class 6.2, Packing Instructions 620 & 650) for road, ocean and air transportation of diagnostic and infectious substances.

The bio-pouch is made from laminated LLDPE, is leak-proof and is 95Kpa pressure tested. The sealing method means the bio-pouch is a single-use transportation system.

| Contents |

- » 1 x bio-pouch 10nz
- » 1 x Absorbent cushioning pad
- » 1 x Class 6.2 label
- » 1 x UN 3373 label
- » 1 x Bubble wrap pouch
- » 1 x Outer fiberboard die-cut box



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