Panasonic

VIXELL

Contribute to the pharmaceutical transportation
by the extraordinary cooling performance & robustness

Problem? VIXELL can provide the solutions

1 Is there any better way to eliminate the troubles from active cooling containers or trucks?

2 Need a cold chain shipping, but I don't know where to start..

3 Want to save time for the preparation of a cold shipper, as it's only for one-time transport.

4 Worry about temperature deviation risks during an international transport.

5 Want to know the right timing to replace the shipper.

1 VIXELL enables you to use regular consolidate delivery truck at ambient temperature.

No need for refrigerated or frozen vehicles for land transportation, thanks to its high cooling performance.

2 Panasonic provides professional consultation for your cold chain transport.

Cold chain experts provide one-stop support for planning, box procurement, forwarding and data logging services.

3 Panasonic provides "One time usage" service.

Simply use the required number of boxes only when needed.
It helps to reduce both initial and operational costs of refrigerated transportation.

4 VIXELL can keep preset temperature for 120 hours by box and 240 hours by pallet and container.

The high cooling performance minimizes the risks in case of delays.

5 The embedded RFID inspection function informs you of the condition of VIXELL.

It helps you to avoid the risk of transporting with a damaged box unnoticed.

Contact

From Japan
and Other regions

Panasonic Corporation
Refrigeration and Insulation
Devices Business Unit

E-mail:
vixell_inq@gg.jp.panasonic.com

WEB:
https://www.panasonic.com/global/business/vixell/

Published Sep 2025

Re-define the reusable shipper

VIXELL Container

VIXELL Pallet

VIXELL Box

VIXELL is the next generation of thermal insulated shipper,
that solves the issues with pharmaceutical transportation.
It features Panasonic's Vacuum Insulated Panel（VIP）technology,
the product of 20 years' experience in the refrigeration business.

High cooling performance

- Joint-free design of the Vacuum Insulated Case（VIC）prevents cold air leakage from VIXELL Box, resulting excellent thermal performance.
- Achieves up to 10 days of cooling performance for VIXELL Pallet & Container, which is the longest in the industry.

Robust

- The envelope is 3-10 times thicker than those in conventional VIPs.
- Robustness is verified by ISTA-6-FedEx-A test or ASTM D4169.

Reliability

- Inspection board enables users to instantly check condition of VIXELL Container, VIXELL Pallet and VIXELL Box before transportation.
- Metal-free design enables tracking devices to be fitted, with location and temperature data available during transportation.

Environmentally friendly

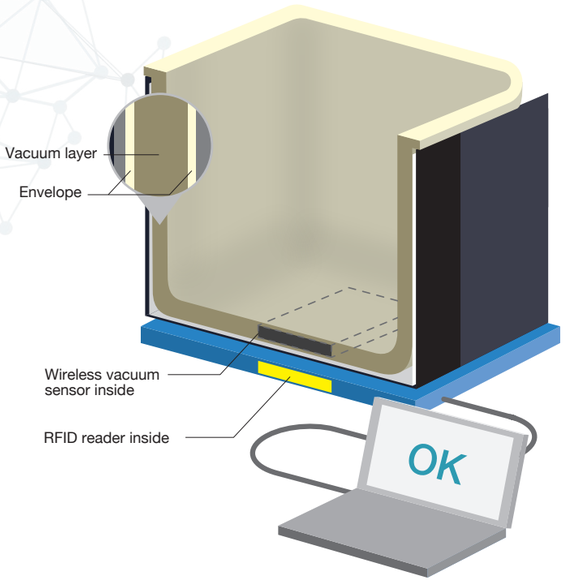
- 95% of the materials can be recycled.
- The reusability of VIXELL significantly reduces material waste.

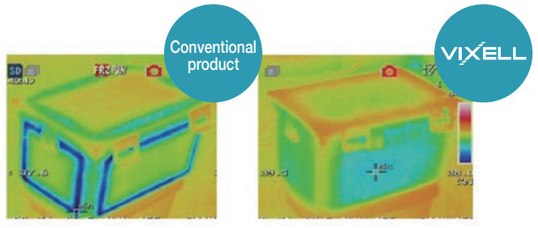
Affordable & Easy to use service

- Panasonic's 'Circular Transportation System' is an end-to-end international pharma transportation service, available at an affordable price.
- Optional pre-cooling and tracking services available.

Unique technologies

VIC Vacuum Insulated Case





Joint-free design

Joint-free design of the VIC prevents cold air from escaping, resulting in excellent thermal performance.

Robust structure

Rugged VIC design mitigates the risk of internal temperature change which sometimes occurs by the damage of falling & crush during the transportation.

Seamless tracking

Metal-free design enables tracking devices to be fitted, with location and temperature data available in realtime during transportation.*

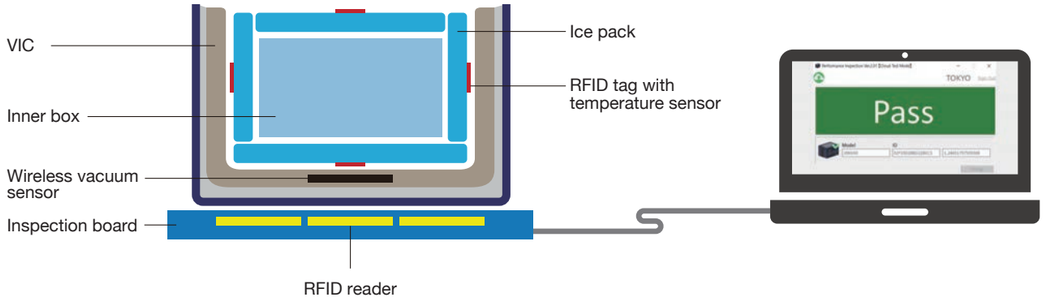
*Real-time monitoring is dependent on available cellular signal.

Wireless vacuum sensor

The VIC is fitted with a wireless vacuum sensor. When placed on the the inspection board, the performance of the VIC can be monitored instantly.

On site inspection

The on-site performance inspection mechanism involves reading the information from the Vacuum Insulated Case (VIC) built-in vacuum sensor and the information from the RFID tag with temperature sensor attached to the ice pack on a dedicated inspection board with a built-in RFID reader. The information read is determined by an application on a PC, and the inspection results are stored on the PC.



Transport packaging tests for insulated boxes

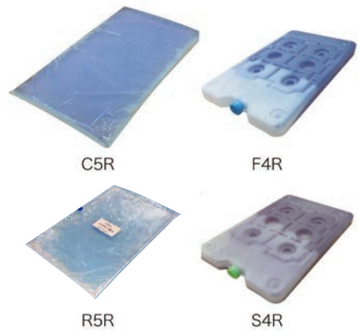
Transport packaging tests for insulated containers and pallets

Robustness

The outer shell of VIC is 3 to 10 times thicker than that of conventional VIPs, protecting the vacuum state—which is vital for insulation performance—from impacts and drops during transportation.

The box type undergoes third-party evaluation tests for drop, compression, and vibration based on the ISTA-6-FedEx-A standard of the International Safe Transit Association.
In addition, large container and pallet types are tested for drop, handling, and vibration in accordance with the ASTM D4169 standard.

Ice pack



A wide range of temperature zone

We offer ice packs for all standard temperature ranges commonly used in the transportation of pharmaceuticals and chemicals.
Each ice pack is capable of maintaining the target temperature for extended periods.
Since there is no need to mix multiple ice packs or adjust the quantity based on the season, operation is simple and efficient.

Ice pack that freezes at 5°C

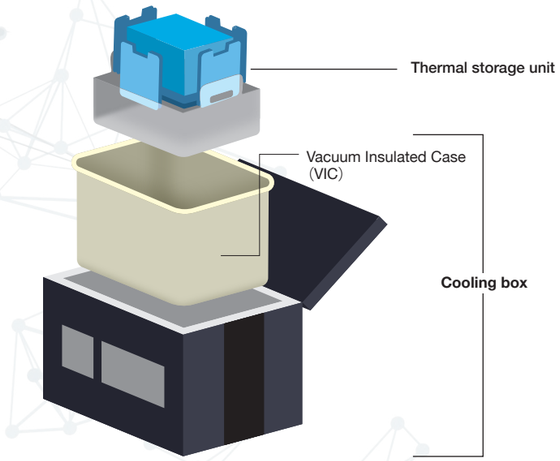
Freezes in the pharmaceutical storage area and can be used as-is without temperature tuning

In many cases, pharmaceuticals that require temperature control of 2°C to 8°C are stored in a 5°C environment, but the 2°C to 8°C ice pack used during transportation generally do not freeze at 5°C. Therefore, it is necessary to freeze the product in a 2°C to 8°C cold storage or refrigerator, or to freeze the product in a freezer and then adjust the temperature in a 2°C to 8°C environment.This product is an ice pack that freezes at 5°C. Since the ice pack freezes naturally in the storage area of pharmaceutical products (5°C), there is no need to purchase special equipment for freezing.
(AE-V06B1R, AE-V12B3R, AE-V12B1R)

VIXELL Box

Composition of VIXELL Box

VIXELL Box is constructed of a cooling box and thermal storage unit. The box, termed 'Vacuum Insulated Case' (VIC), is designed by integral moulding, providing excellent durability. Up to four temperature ranges are available with VIXELL, thanks to exchangeable thermal storage units.



Type-S

Cold Storage Box

AE-V06GXR

Example of 2–8°C Model (AE-V06C5R)
External Dimensions：W480 x D350 x H355mm
Internal Dimensions：W300 x D163 x H164mm
Payload ：8L

Thermal Storage Unit

Dry ice	-20°C	2°C~8°C	15°C~25°C
AE-V06DXR Maximum Cooling Duration: 9 days	AE-V06F4R Cooling Duration: 4 days	AE-V06C5R Cooling Duration: 5 days	AE-V06R5R Cooling Duration: 5 days
	AE-V06S4R Cooling Duration: 4 days	AE-V06C2R Cooling Duration: 2 days Lightweight	
		AE-V06B1R Cooling Duration: 1 day Frozen at 5°C	

Type-L

Cold Storage Box

AE-V12UXR

Example of 2–8°C Model (AE-V12C5R)
External Dimensions：W545 x D495 x H450mm
Internal Dimensions：W336 x D292 x H255mm
Payload：25L

Thermal Storage Unit

Dry ice	-20°C	2°C~8°C	15°C~25°C
AE-V12DXR Maximum Cooling Duration: 18 days	AE-V12F4R Cooling Duration: 4 days	AE-V12C5R Cooling Duration: 5 days	AE-V12R5R Cooling Duration: 5 days
	AE-V12S4R Cooling Duration: 4 days	AE-V12B3R Cooling Duration: 3 days Frozen at 5°C	
		AE-V12B1R Cooling Duration: 1 day Frozen at 5°C	

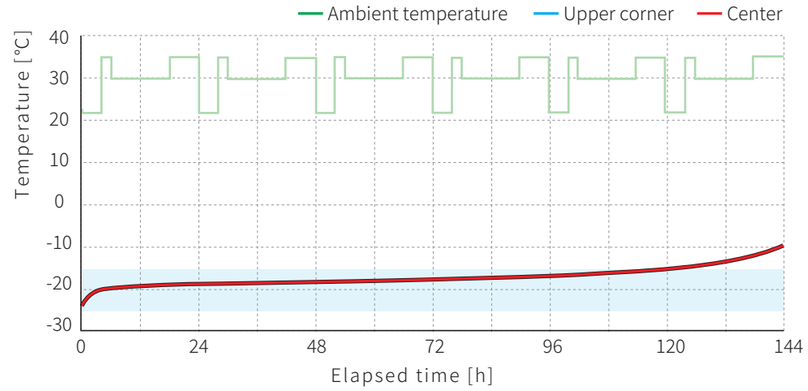
Performance

Test conditions : ISTA 7D Summer Profile

-20°C

Type-S

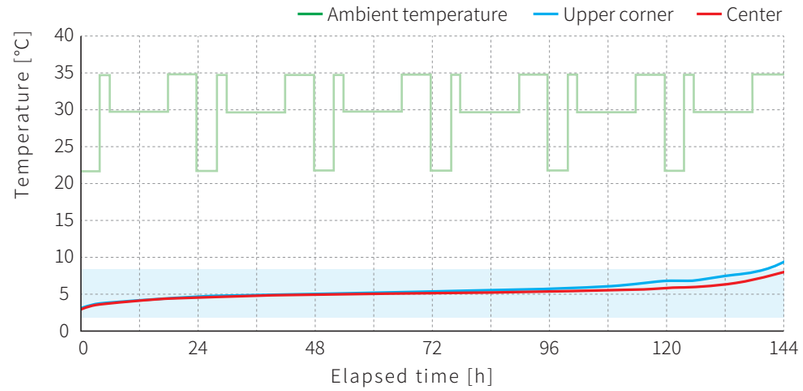
Maintains -25°C
to -15°C for 4 days



2°C~ 8°C

Type-S

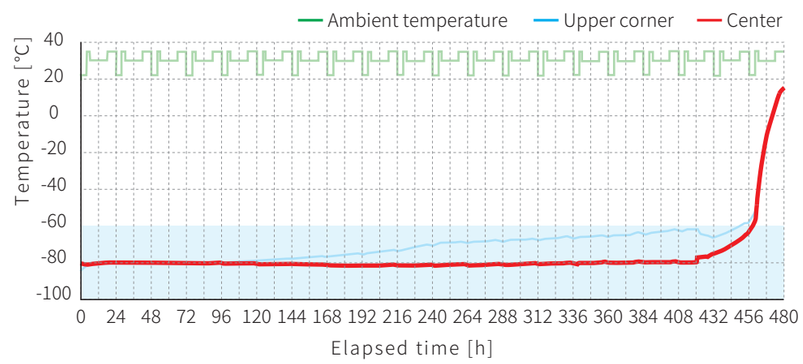
Maintains 2°C
to 8°C for 5 days



Dry ice

Type-L

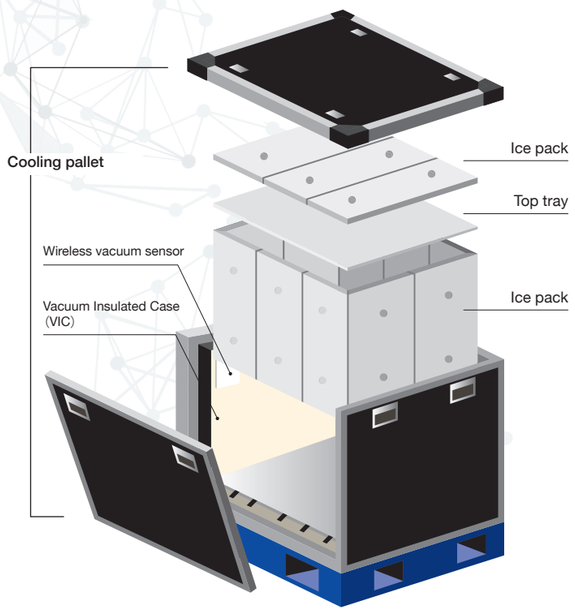
Maintains below -60°C
for up to 18 days



VIXELL Pallet

Composition of VIXELL Pallet

VIXELL Pallet is ideal for larger volumes of refrigerated transport.
It consists of a six-sided Vacuum Insulated Case (VIC) and ice packs. The VIC on the bottom is fixed to the pallet. As with the VIXELL Box, it is possible to change the temperature zone required for transport by replacing the ice packs.



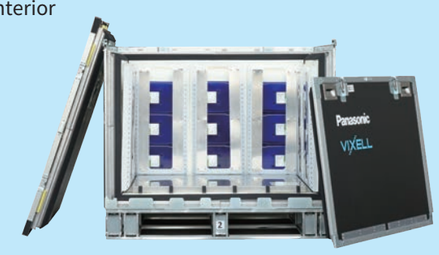
Pallet

Exterior

AE-VU0GPR

External Dimensions：W1210 x D1005 x H1019mm

Interior



Internal Dimensions：W930 x D735 x H608mm
(AE-VU0F8R　W802 x D671 x H608mm)

Ice Pack

-20°C	2°C～8°C	15°C～25°C
AE-VU0F8R	AE-VU0C0R	AE-VU0R0R
Cooling Duration: 8 days	Cooling Duration: 10 days	Cooling Duration: 10 days

Ice Pack Case

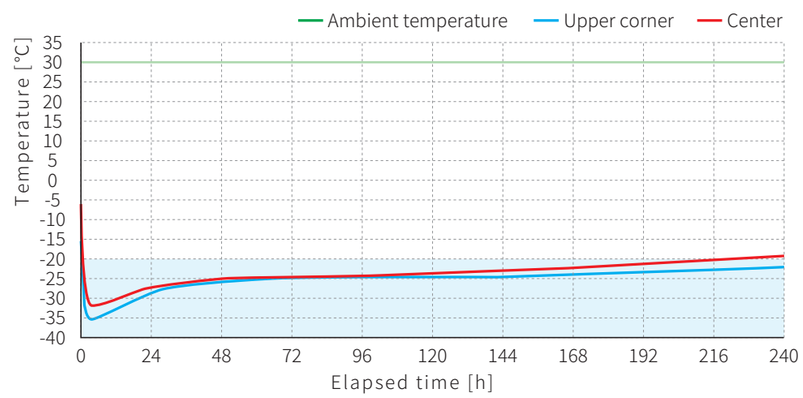
When AE-VU0F8R is inserted

Performance

Test conditions : Constant environment at 30°C

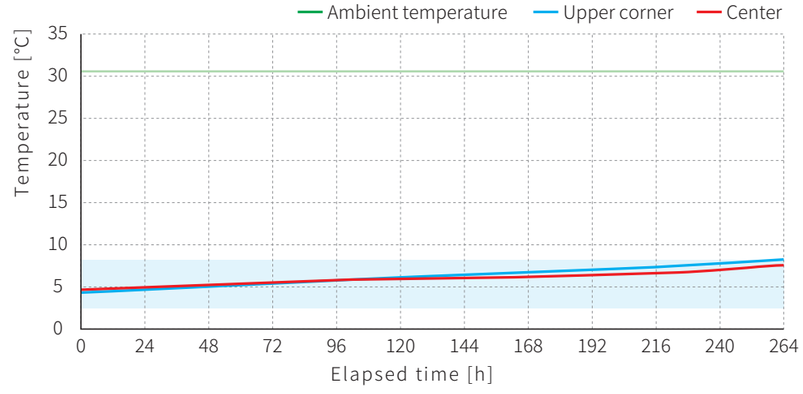
-20°C

Maintains below -20°C for 8 days



2°C～8°C

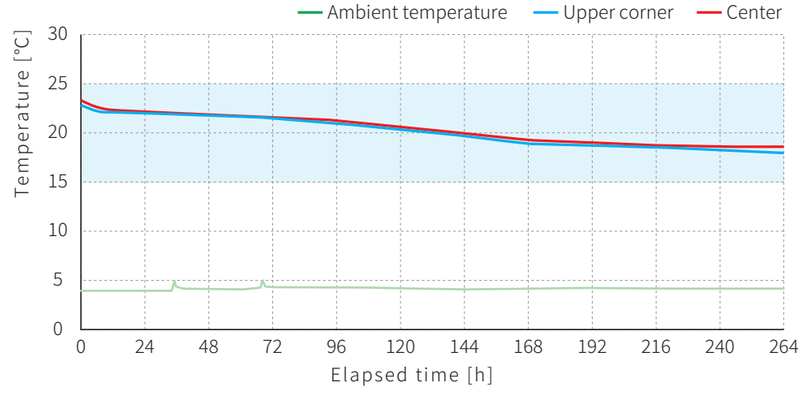
Maintains 2°C to 8°C for 10 days



Test conditions : Constant environment at 5 °C

15°C～25°C

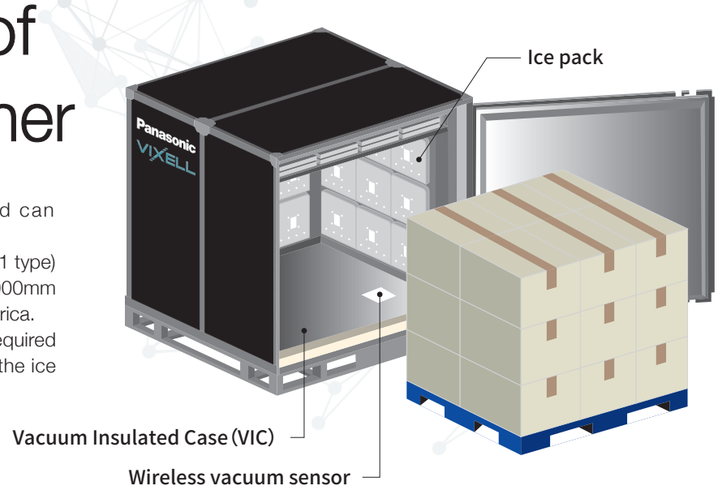
Maintains 15°C to 25°C for 10 days



VIXELL Container

Composition of VIXELL Container

VIXELL Container has a large capacity and can accommodate cargo loaded directly onto pallets.
It can store not only the 1,100mm x 1,100mm (T11 type) pallets commonly used in Japan, but also the 1,000mm x 1,200mm pallets used in Europe and North America.
Similar to VIXELL Pallet, the temperature range required for transportation can be adjusted by replacing the ice packs.



Container

Exterior

AE-V35GPR

External Dimensions：W1549 x D1462 x H1567mm

Interior

Internal Dimensions：W1246×D1135×H1090

Ice pack

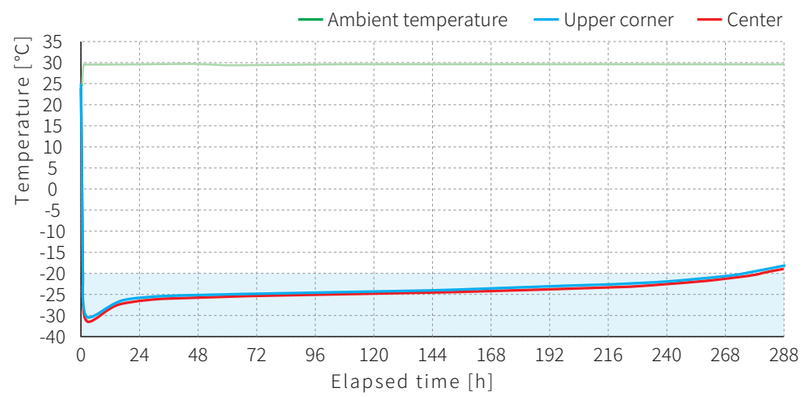
-20°C	2°C～8°C	15°C～25°C
AE-V35F0R	AE-V35C0R	AE-V35R0R
Cooling Duration: 10 days	Cooling Duration: 10 days	Cooling Duration: 10 days

Performance

Test conditions : Constant environment at 30°C

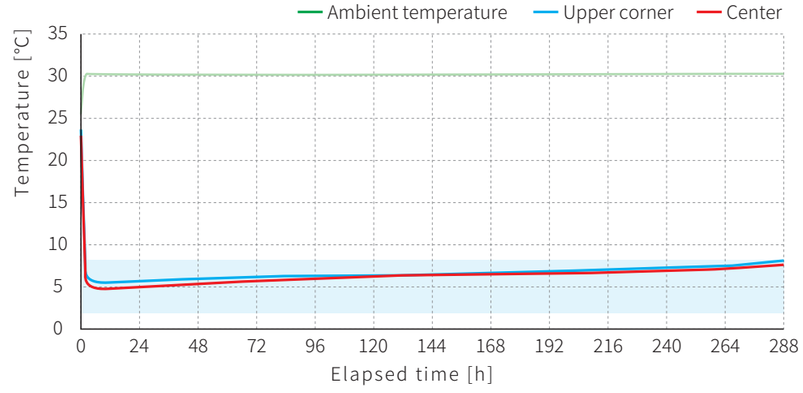
-20°C

Maintains below -20°C for 10 days



2°C～ 8°C

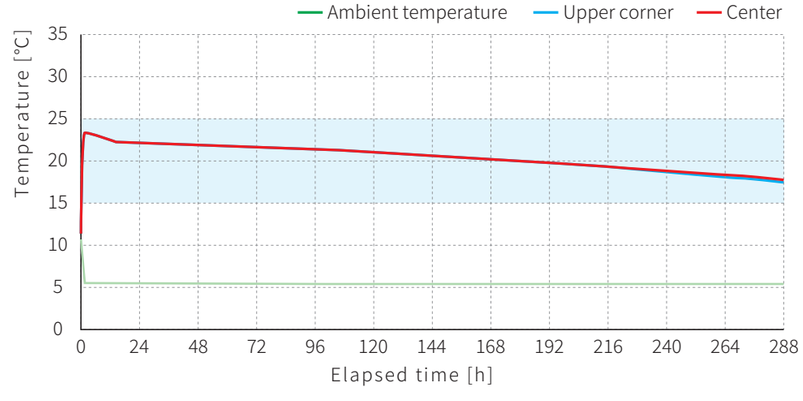
Maintains 2°C to 8°C for 10 days



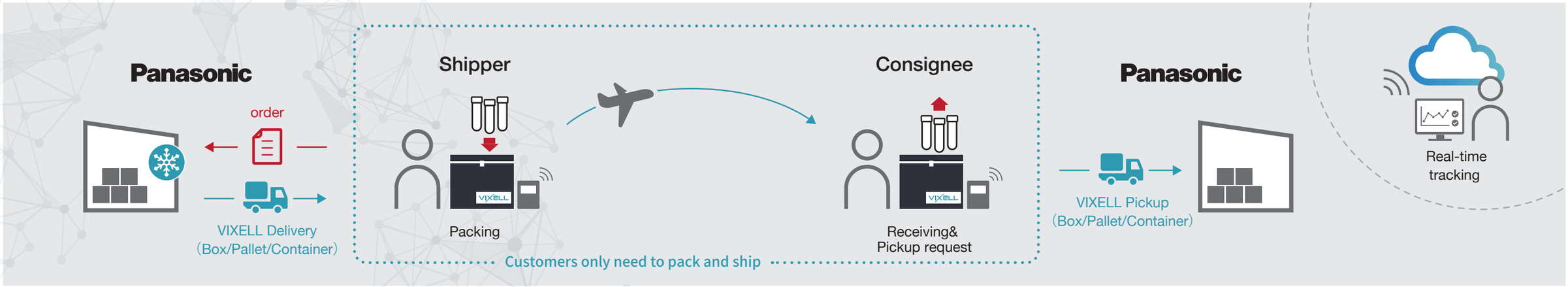
Test conditions : Constant environment at 5 °C

15°C～ 25°C

Maintains 15°C to 25°C for 10 days



Circular Transportation System



Circular Transportation System is a VIXELL reusable transportation service that connects continents.
Panasonic covers the cost of returning VIXELL, and will sanitize the returned VIXELL to ensure it's in optimal condition before being re-used.
For the details of our service & conditions, please contact us through our global web site. https://www.panasonic.com/global/business/vixell/

Case Study

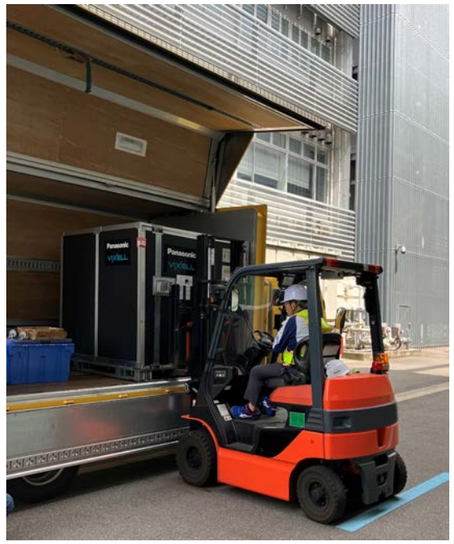
Pharmaceutical company
Clinical trial logistics from Switzerland to Japan

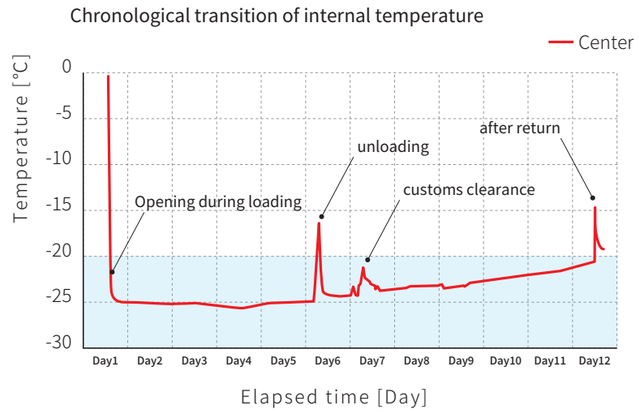
Box 2°C～8°C 15°C～25°C

This is the case which VIXELL provided the solutions for the clients who had been suffering from high cost of transportation & temperature excursion incidents derived from the wrong selection of spec & size of the cooling box by local 3rd party. Panasonic established a warehouse in Switzerland from where we can supply perfect spec & size of VIXELL with appropriate pre-cooling conditions for the client. With this set up, the client now enjoys less expensive transportation cost without temperature deviations.

Takara Bio Inc.
-20°C Transportation from Japan to the United States

Container **Pallet** -20°C 2°C～8°C





The VIXELL Container was used for international transportation from Japan to the United States.
After loading the products, the container maintained -20°C for approximately 6 days until unloading.
Despite being opened during customs clearance, the container consistently maintained below -20°C for over 11 days until its return.

VIXELL Box Specifications

Main Unit		
Model Number	External Dimensions (W×D×H mm)	Weight (kg)
AE-V06GXR	480×350×355	5

Thermal Storage Unit				
Model Number	Temperature Range	Internal Dimensions (W×D×H mm)	Payload (ℓ)	Weight (kg)
AE-V06R5R	15°C～25°C	328×191×192	12	6
AE-V06C5R	2°C～8°C	300×163×164	8	8
AE-V06C2R		333×199×198	13	4
AE-V06B1R*2		333×199×198	13	4
AE-V06S4R	-25°C～-15°C	265×130×135	5	11
AE-V06F4R	Below -20°C	265×130×135	5	11
AE-V06DXR	Below -60°C (Dry ice)	299×157×211	10	8*3
			1 (231×115×40)	16*3

Main Unit＋Thermal Storage Unit	
Total Weight (kg)	Duration (h) *1
11	120
13	120
9	48
9	24
16	96
16	72
13	72
21	216*4

Main Unit		
Model Number	External Dimensions (W×D×H mm)	Weight (kg)
AE-V12UXR	545×495×450	7

Thermal Storage Unit				
Model Number	Temperature Range	Internal Dimensions (W×D×H mm)	Payload (ℓ)	Weight (kg)
AE-V12R5R	15°C～25°C	345×300×262	27	8
AE-V12C5R	2°C～8°C	336×292×255	25	11
AE-V12B3R*2		336×292×255	25	11
AE-V12B1R*2		345×300×262	27	8
AE-V12S4R	-25°C～-15°C	316×269×209	18	16
AE-V12F4R	Below -20°C	316×269×209	18	16
AE-V12DXR	Below -60°C (Dry ice)	320×270×296	26	16*3
			2 (231×231×40)	38*3

Main Unit＋Thermal Storage Unit	
Total Weight (kg)	Duration (h) *1
15	120
18	120
18	72
15	24
23	96
23	72
23	120
45	432*5

VIXELL Pallet Specifications

Main Unit					
Model Number	External Dimensions (W×D×Hmm)	Internal Dimensions (W×D×H mm)		Payload (ℓ)	Weight (kg)
AE-VU0GPR	1,210×1,005×1,019	Standard	930×735×608	416ℓ	130
		AE-VU0F8R	802×671×608	327ℓ	

Ice Pack					
Model Number	Temperature Range	Ice Pack Size (mm)	Ice Pack Weight (kg)	Number of Ice Packs	Total Weight (kg) *6 (Including Case)
AE-VU0R0R	15°C～25°C	285×180×35	1.3	42	70
AE-VU0C0R	2°C～8°C	365×285×35	2.5	6	80
		365×300×35	2.7	8	
		300×285×35	2.1	12	
AE-VU0B3R*2		670×330×45	5.0	3	70
		670×390×45	5.2	4	
		790×330×45	4.1	6	
AE-VU0S3R	-25°C～-15°C	290×180×32	1.3	46	70
AE-VU0F4R	Below -20°C	280×180×32	1.5	42	80
AE-VU0F8R		280×180×32	1.5	74	130

Main Unit＋Ice Pack	
Total Weight (kg)	Duration (h) *1
200	240
210	240
200	72
200	72
210	96
260	192

VIXELL Container Specifications

Main Unit				
Model Number	External Dimensions (W×D×H mm)	Internal Dimensions (W×D×H mm)	Payload (ℓ)	Weight (kg)
AE-V35GPR	1,549×1,462×1,567	1,246×1,135×1,090	1,541	390

Ice Pack					
Model Number	Temperature Range	Ice Pack Size (mm)	Ice Pack Weight (kg)	Number of Ice Packs	Total Weight (kg) *6 (Including Case)
AE-V35R0R	15-25°C	350×325×38	3.0	60	175
AE-V35C0R	2-8°C	350×325×38	3.0	60	175
AE-V35F0R	Below -20°C	350×325×38	4.1	60	245

Main Unit＋Ice Pack	
Total Weight (kg)	Duration (h) *1
565	240
565	240
635	240

*1 Temperature inside the container was measured by our company under external conditions of 5°C for the 15°C–25°C range, and 30°C for other temperature ranges. The duration of temperature retention varies depending on the external temperature.
*2 Ice pack that freezes in a 5°C environment was used
*3 Includes the quantity of dry ice used
*4 Our company measured the temperature retention time under the condition of placing 14 kg of dry ice inside and outside the thermal storage unit, with a mock product of 231 x 115 x 40 mm, maintaining -75°C ±15°C at an ambient temperature of 30°C
*5 Our company measured the temperature retention time under the condition of placing 34 kg of dry ice inside and outside the thermal storage unit, with a mock product of 231x231x40 mm, maintaining -75°C ±15°C at an ambient temperature of 30°C
*6 Total weight of the ice pack and its storage case

Optional services

Pre-cooling

Dry ice and pre-cooled ice pack can be prepared by Panasonic.

Logger

Both USB & cloud type loggers are ready for service.

Forwarding

Simply call Panasonic for the forwarding service which will be coordinated with Nissin Corporation.*

*Nissin Corporation has over 30 years of experience in international pharmaceutical transportation. They have GDP license & 162 offices in 24 countries.

Manual Movie

https://www.panasonic.com/global/business/vixell/movie/

Technical Report

https://www.panasonic.com/global/business/vixell/download/