

Product Name:	Non-ice Box
Product Application:	1. It uses no electricity (other than freezer), no ice required for low-temperature protection for biological samples. · Ideal for the low temperature collection of biological samples. · It can also be used in helping to preserve the unstable nucleic acid samples. 2. Its compact design and ice-free technology make it ideal for use in a tissue culture incubator, bio-safety cabinet and any other application with limited space.
Product Materials:	aluminum alloy shell (Ice core)
product Specifications:	Temperature range: stored at room temperature Shelf life: 3 Years after date of production (ensure package is in good)
Sterilization:	No
BSE/TSE:	These products are deemed animal free.
Performance Testing:	Each manufacturing lot is sampled and tested in accordance with standard operating procedures. Appearance inspection: pass Packaging inspection: pass
Features	1. Non-ice Box is a new type of energy-saving, environmentally friendly, safer, and standardized with no additives, cooling equipment. 2. Provides low-temperature protection for biological samples. 3. Ice core aluminum alloy shell with a high thermal conductivity of the alloy module to ensure that the sample can be quickly cooled. 4. The temperature difference between the sample holes is less than 0.1 °C. It maintains a uniform temperature between the samples. 5. It can be used with different ice cores and a variety of thermal test tube module for usage in different samples and temperature. 6. Easy to clean and disinfect. 7. Ice-free, Lightweight, easy to carry, suitable for the collection of biological samples. 8. Its compact design and ice-free technology make it ideal for use in a tissue culture incubator, bio-safety cabinet and any other application with limited space. 9. Highly durable, suitable for frequent and repeated use.

Product Range

Non-ice Box:

Cat. No.	Name	Size(mm)	Weight(g)	Application
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Nest Scientific (MENA) FZE (Sharjah, United Arab Emirates)

200103	Non-ice Box	152x170x123	1300	One ice core (200902) and one 2ml module (200904) respectively
200901	Non-ice Box	152x170x123	140	Free of ice core and modules, various refrigeration sources and modules are available

Core:

Cat. No.	Name	Temperature Range	Ultra cold storage freezer temperature	Freezing time	Size (mm)
200902	Cold core	0.5°C~4°C	-20°C	4h+	105 x 100 x 26
		0.5°C~4°C	-80°C	2h+	105 x 100 x 26
200903	Frozen core	-18°C~-4°C	-20°C	6h+	105 x 100 x 26
		-18°C~-4°C	-80°C	3h+	105 x 100 x 26

Module:

Cat. No.	Name	Size (mm)	Application
200904	2ml module	119*101*38	30 well*2ml Cryogenic Vials
200905	1.5ml module	119*101*38	48 well*1.5ml Cryogenic Vials
200906	5ml module	119*101*38	30 well*5ml Cryogenic Vials
200907	PCR module	119*101*38	96 well PCR

Use method

By selecting from several ice core cooling options, samples can be maintained within a variety of temperature bands that range from -78°C to 4°C.

Temperature Range	Cooling Sources	Insulation Time (open cover)	Insulation time (close cover)
0.5oC~4oC	Cooling Core (CL)	Over 4 hours	Over 6 hours
-18oC~ -4oC	Freezing Core (CF)	Over 3 hours	Over 4 hours
-78oC	Dry Ice	Over 4 hours	Over 5 hours

NOTE: Actual performance may vary depending upon ambient temperature, start-up parameters, sample load, initial sample temperature, air currents, radiant energy sources, and other conditions.

1. 0.5°C~4°C (Cooling Core, CL)

Freeze the Cooling Core (CL) in a -20°C freezer for a minimum of four hours. Pre-chill the tube module to 0.5°C to 4°C in a refrigerator for approximately 30 minutes. Remove the CL from the freezer and allow it to sit at room temperature for approximately 10 minutes. Place a pre-chilled CL in the Non-ice Box base followed by a tube module. The module temperature should equilibrate between 0.5°C to 4°C. Keep the lid on the Non-ice Box to prolong the cooling duration.

Head Office

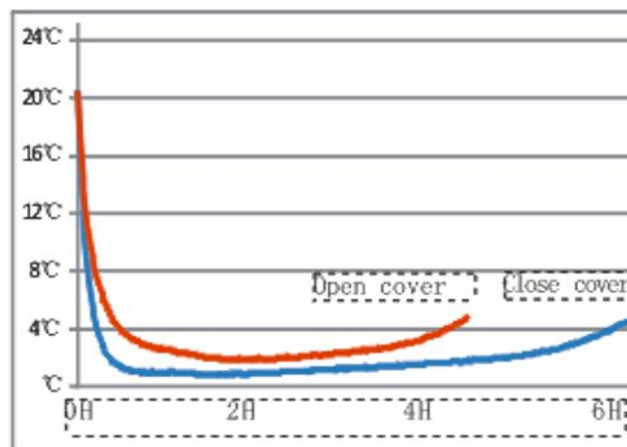
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Note: Cooling Core (CL) and tube module processing is shown in the table below.

Temp. Range	Cooling Source	Cooling Source Processing	Module Processing	Insulation Time (Open Cover)	Insulation Time (Close Cover)
0.5℃~ 4℃	Cooling Core (CL)	Place CL at -20℃ for 4 hours, use after 10mins at room temp.	Precooling at 0.5℃ ~ 4℃ for 30mins	4 hours	6 hours
		Place CL at -20℃ for 4 hours, use after 10mins at room temp.	Room Temp.		
		Place CL at -80℃ for 2 hours			



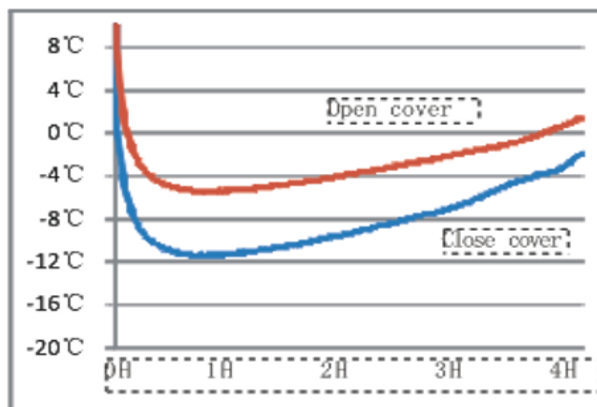
Performance Diagram

2. -18℃~ -4℃ (Freeze Core, CF)

Freeze the Freezing core (CF) in a -20℃ freezer for a minimum of 6 hours. Pre-chill the tube module in the -20 freezer for approximately one-half hour. Place a pre-chilled CF in the Non-ice Box followed by the pre-chilled tube module. Keep the lid on the Non-ice Box to prolong the cooling duration.

Note: Freezing Core (CF) and tube module processing is shown in the table below

Temp. Range	Cooling Source	Cooling Source Processing	Module Processing	Insulation Time (Open Cover)	Insulation Time (Close Cover)
-18℃~ -4℃	Freezing Core (CF)	Place CF at -20oC for 6 hours	Precooling at -20oC for 30mins	3 hours	4 hours
		Place CF at -80oC for 3 hours			



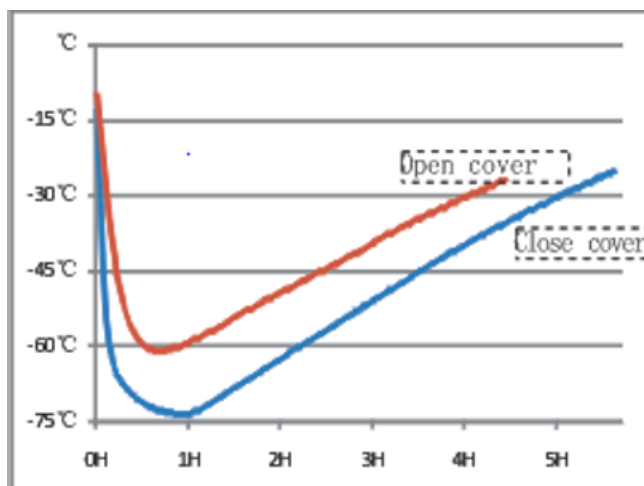
Performance Diagram

3. -78°C~ -20°C (Dry ice)

Fill the Non-ice Box cavity with pulverized dry ice and level it at the bottom. Place the heat shield onto the dry ice than place the tube module on top of the heat shield. Tube module temperatures will quickly equilibrate to approximately -20°C and solely drop to -30°C as the dry ice sublimates. Place the tube module directly onto dry ice. Tube module temperatures will quickly reach dry ice temperatures. Closing the lid will not further decrease the tube module temperatures, however, it will extend the cooling duration.

Note: Dry ice and tube module processing is shown in the table below

Temp. Range	Cooling Source	Cooling Source Processing	Module Processing	Insulation Time (Open Cover)	Insulation Time (Close Cover)
-78°C~ -20°C	Dry Ice	About 200g directly into the bottom of the box	Directly place room temp. module	4 hours	5 hours



Performance Diagram

Care and cleaning

Non-ice Box is constructed from high density closed cell polyethylene foam. Non-ice Box is compatible with prolonged cryogenic temperature exposure. The foam may be cleaned by water and mild soap. Rinse thoroughly. The Non-ice Box is resistant to alcohol and 10% bleach solutions. Avoid abrasive or sharp objects. Do not use the Non-ice Box for pulverizing

dry ice storage. Do not autoclave. Maximum temperature exposure: 60. Avoid exposure to UV light sources. The Non-ice Box is not recommended for the shipping of temperature-sensitive samples.

Test Equipment

Temperature prove with small thermal mass such as a thermocouple probe.

Digital thermometer to match probe.

Ensure that the product is sealed during testing.

Test procedure

Drill a small hole in the center of the sample tube cap with a diameter that provides a snug fit for the temperature probe wire so there will be minimal ambient air influx into the tube.

Fill the sample tube with 1 ml of water.

Place the cap on a sample tube and insert a temperature probe.

Place the instrumented sample tube in any well of the tube module.

Rack temperatures can be measured by direct contact of the probe in any of the rack wells.

Caution

The products described here are intended for the exclusive use the methods described require the use of dry ice. Direct skin contacts with dry ice or metal components that have been touching dry ice can cause freezing injury. Always use appropriate protective equipment for eyes and skin when handling dry ice and cold metal components.

Product picture:



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