

Consumable Packaging: Bio System & NanoCool

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Biosystem Boxes

- Marken's BIOSystem box has been designed and engineered specifically for the transportation of frozen and controlled ambient biologics.
- Working with industry-leading engineers, Marken developed the innovative BIOSystem box with the perfect balance between payload and temperature control. This exclusive custom-engineered solution achieves a new level of quality and sensitivity to global environmental issues and has been globally qualified to the highest standards.
- The BIOSystem series has the slimmest carbon footprint on the market with up to a 40% reduction over comparative solutions. This small footprint is achieved by reducing cardboard, styrene and dry ice consumption to volumetric payload ratios.
- Available in three sizes:

Type	External Dimensions	Internal Dimensions	Tare (kg)	Validation/ hrs
BIOSystem I	32.5 x 30.0 x 31.0cm	19.7 x 16.8 x 17.8cm	0.9	Depends on dry ice level
BIOSystem II	37.5 x 33.5 x 43.0cm	23.4 x 19.0 x 28.5cm	1.5	
BIOSystem III	47.0 x 47.0 x 41.5cm	30.7 x 30.7 x 24.0cm	2.5	



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BIOSYSTEMS CLOSING INSTRUCTIONS

1. Place your leak-proof Primary Receptacles (whether contained in a Cryobox or not) and sufficient absorbent Material into the 95kPa Transport Bag.
If multiple fragile primary Vials are used, these must be individually wrapped or separated.
2. Dry Ice must never be placed into a hermetically sealed Container.
Adding Dry Ice could rupture the Packaging, due to pressure build-up.
3. Seal the 95kPa Transport Bag as per the Closure Instructions printed on it.
4. Add a thin layer of dry Ice at the bottom of the Cooler and Place a sealed 95kPa Transport Bag inside
5. Place U-shaped Fiberboard Pad on top of the sealed 95kPa Transport Bag so to secure Bag in the original Position.
6. Fill the cooler with Dry Ice to the top of the Box. Use special Gloves 6 offering Protection against minus 80°C (-80°C) Temperatures
7. Place Lid onto the Cooler and enclose your itemized List of Contents 7 between Lid and Outer Fiberboard Box
8. Close the Outer Box and secure with tape. 8 Do not to tape over any Labels or Markings carried by the external Surface



Nanocool



- Using innovative technology to create cost-effective, compact, and uncomplicated packaging systems.
- These systems rely on evaporative cooling technology for thermal protection.
- It works by transferring internal heat to the outside through evaporation of a small amount of water stored at low pressure inside the package.
- Because the cooling engine is built into the lid with no gel packs, these systems are much smaller and lighter than traditional refrigerated shipping systems.
- Dims and weights:

Product	Temperature (Celsius)	Duration (Hours)	Outer dimensions (millimeters) (inches)	Usable space (millimeters) (inches)	Weight (kilograms) (pounds)	Dim weight (pounds)
2-85225	2-8°	48	307 x 201 x 129 12.1 x 7.9 x 5.1	216 x 119 x 41 8.5 x 4.7 x 1.6	1.7 3.8	4
2-85228	2-8°	72	307 x 201 x 129 12.1 x 7.9 x 5.1	216 x 119 x 41 8.5 x 4.7 x 1.6	1.9 4.2	4
2-85401	2-8°	72	307 x 201 x 189 12.1 x 7.9 x 7.4	216 x 119 x 102 8.5 x 4.7 x 4	2.3 5.1	5
2-85408	2-8°	92	307 x 201 x 189 12.1 x 7.9 x 7.4	216 x 119 x 102 8.5 x 4.7 x 4	2.5 5.5	5
2-98601	2-8°	48	352 x 305 x 262 13.9 x 12 x 10.3	241 x 221 x 155 9.5 x 8.7 x 6.1	4.3 9.4	13
2-98608	2-8°	87	352 x 305 x 262 13.9 x 12 x 10.3	241 x 221 x 155 9.5 x 8.7 x 6.1	4.9 10.6	13
2-98801	2-10°	48	360 x 305 x 305 14.2 x 12 x 12	241 x 221 x 196 9.5 x 8.7 x 7.7	4.7 10.4	15

Nanocool activation instructions



1. Open the package, remove the item with the silver foil (this is the cooler), and place it, foil side down, on a hard, flat, clean surface. The white actuator button should be pointing upward.
2. In one motion, press the actuator button straight down with a thumb (not a sharp object). Only a moderate amount of force is necessary.
3. Depending on the ambient temperature, the Nanocool logo should turn blue between 30 seconds and 3 minutes after activation. The blue indicates that the cooling action has begun which can be confirmed by touching the surface of the cooler near the button.
4. Pack your product in the payload compartment.
5. Replace the cooler in its original position in the package, press firmly and evenly to ensure a snug fit.
6. Close the package and insert the flaps. Tape the lid shut in the appropriate locations.





FOR MORE INFORMATION



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