BSCRYOCBF Series

Cryogenic Blast Freezer



- By using a blast freezer, the temperature of the foods can be rapidly reduced. The blast freezing cycle transforms the liquid present in the foods into microcrystals (tiny crystals) which do not damage the tissue structure of the product and ensures the food does not lose its consistency and integrity.Blast freezing can also be applied for raw materials and semi manufactured products.
- BSCryoBlaster series cryogenic blast freezer are supplied with smart control system, humanized design and robust construction, meeting highest requirement for food treatment

Performance

- Temperature range -100°C～room temperature (temperature controllable)
- Temperature control accuracy ±2°C
- Temperature Uniformity ±3°C
- Cooling rate 1～20°C/min, temperature controllable

Constructions

- Opening method of the box door: adopt horizontal upper opening cover, and use gas spring to assist opening and closing the door.
- Door seal: special low-temperature resistant sealing device to ensure that the door can be opened freely under ultra-low temperature
- Freezing medium: liquid nitrogen (user-provided, non-recyclable)
- Exhaust system: when the pressure in the box is slightly positive, it will be automatically discharged

Controller

- The touch screen provides programmable control & makes the operation and input more convenient. It adopts human-machine interface, programmed intelligent control, and has PID automatic adjustment function. It can set multi-stage cooling and heating programs. After all programs are completed, it will automatically alarm and power off.
- The system also has its own process curve saving function, and the process curve can be downloaded via USB-disk.

Safety

- Electrical interlock.
- With phase sequence protection function.
- With over-temperature protection function.
- With process curve setting function.
- With timing function.
- Equipped with equipment grounding protection function.
- With safety pressure relief function.
- Equipped with equipment caster movement and braking functions.

Specification

Model	BSCRYOCBF 400	BSCRYOCBF 2700	BSCRYOCBF 4000	BSCRYOCBF 4800
Volume Inside[L]	400	2700	4000	4650
Inner Dimension(W×D×H)[mm]	700×820×700	1150×1150×2050	1260×1550×2050	1460×1550×2055
Dimensions(W×D×H)[mm]	1280×1120×914	1730×1450×2050	1840×1850×2265	2040×1850×2265
Door Opening Size(W×H)[mm]	550×700	900×2000	1050×2000	1250×2000
Weight[kg]	400	770	900	1000
Rated Power(380V/50Hz,3-phase)[W]	3000	6500	6500	6500
Trolley Maximum Size (W×D×H)[mm]	540×800×680 (Not for trolley, Trays only)	870×1150×1980	1020×1550×1980	1220×1550×1980
Liquid Nitrogen Supply [kg/h]	380kg/h	1750kg/h	1750kg/h	1750kg/h



BSCryoFiller Series

Automatic LN2 Doser



- BSCryoFiller automatic liquid nitrogen filling system is designed to inject LN2 into containers at required pace. After filling into container, liquid nitrogen vaporizes to nitrogen gas and expel air out of container. As a result, oxygen and humidity concentration are reduced, and a suitable pressure is built in container

Features

- Siemens touch screen controller and PLC platform, fully automatic operation.
- Adjustable filling pace, up to 600 CPM in discrete dosing mode or 2000 CPM in continuous injection mode.
- Speed sensor: real-time detection of bottle movement speed, filling speed will be adjusted accordingly.
- Product sensor: installed at upstream of the filling machine, detecting whether bottle is coming. If no bottle coming, liquid nitrogen will not be injected to avoid waste.
- ±5% accuracy of dose weight.
- Electric heating at nozzle, prevent condensation water and freezing ice.
- Various sizes nozzles are supplied as standard, customized nozzle available.
- Gas-liquid separator to guarantee liquid nitrogen is injected.
- Vacuum insulation for low liquid nitrogen consumption.
- Imported high quality electromagnetic valve for high reliability.
- Stainless steel SUS304 material for easy cleaning and no rust.



Benefits

- Inert packaging (low oxygen concentration) maintains product freshness and extends product shelf life.
- Reduce the gram weight of PET, lower cost and more environmentally friendly.
- Maintain the original shape of lightweight bottle, keep the hardness of the bottle wall consistent, and improve labeling efficiency.
- Build a suitable bottle pressure and eliminate the problem of flat bottles.
- Enhance product stacking capacity and improve warehouse space utilization.
- Maintain the high quality of organic products.

Containers applicable

- Plastic bottle: soft drink, edible oil, mineral water
- Aluminum can: soft drink
- Steel can: milk powder, protein powder, organic supplement powder
- Glass bottle: wine



Specification

Model	BSCryoFiller-L	BSCryoFiller-H
Type Low speed		High speed
Maximum Discrete Dosing Speed (CPM)	200	600
Continuous Stream Dosing Speed (CPM)	N/A	600~2000
Dose Duration	15 ~ 1000 ms	15 ~ 1000 ms
Nozzle Size	1.5mm, 2.0mm, 2.5mm, 3.0mm	1.0mm, 1.2mm, 1.5mm, 1.8mm, 2.5mm
Accuracy by Dose Weight	±5%	±5%
LN_2 per Dose	0.01-14 g	0.01-14 g
Touch Screen Display	Siemens	Siemens
PLC Platform	Siemens	Siemens
Speed Sync Compensation	√	√
Injection Positioning Tech	√	√
Fixed Delayed Injection	√	√
Constant Speed Mode	√	√
Vacuum Insulation	√	√
LN_2 Consumption	0.20 L/h	0.20 L/h
Material	SUS304	SUS304
Weight	15Kg	12Kg
Power	100W	100W
Power Supply	110~240V,50/60Hz	110~240V,50/60Hz
LN_2 Supply Pressure	≤0.15Mpa	≤0.15Mpa
Pressurized Air Pressure (N_2 recommended)	0.5~0.65Mpa	0.5~0.65Mpa

Cryogenic Preservation Accessories



1. Polycarbonate boxes & vials
2. Cryo cane
3. Visotube
4. CryoClip
5. Liquid nitrogen measuring stick
6. Roller base
7. Flexible metal hose without vacuum insulation
8. Flexible metal hose with vacuum insulation
9. Cryogenic gloves
10. Cryogenic apron
11. Cryogenic face shield
12. Cryogenic suit
13. Cryogenic shoes

Specification

Part Number	Description
Polycarbonate cryo box	
5211110	25-place box, 2" height, for 1.5~2.0ml vials
5211120	81-place box, 2" height, for 1.5~2.0ml vials
5211130	100-place box, 2" height, for 1.5~2.0ml vials (internal thread)
5211140	81-place box, 3.75" height, for 5ml vials
Cryo Cane	
5251000	Φ13*290mm, for 5 pcs of Φ13 vials, aluminum original color, 10 EA/bag
5252000	Φ13*290mm, for 2 pcs of Φ13 visotubes, aluminum original color, 10 EA/bag
5253000	Φ10*290mm, for 2 pcs of Φ10 visotubes, aluminum original color, 10 EA/bag
5254000	Φ10*290mm, for 2 pcs of Φ10 visotubes, 5 colors, 10 EA/bag
Visotube	
5261000	Φ13*108mm, white color, 100 EA/bag
5262000	Φ10*108mm, white color, 200 EA/bag
5263000	Φ10*108mm, white color, 20 EA/bag
Roller base	
2421000	For dewars 30 liter & 35 liter
2422000	For dewars 47 liter & 50 liter
2423000	For dewars 65 liter ~ 175 liter
Liquid nitrogen measuring stick	
2431000	Measuring length 100cm
CryoClip	
2415000	Retrieve fallen object in LN_2 containers
Flexible metal hose	
2413000	Flexible metal hose without vacuum insulation, 2 meter length
2414000	Flexible metal hose with vacuum insulation, 2 meter length
Cryogenic gloves	
4122000	38cm, mid-arm length, size M
4124000	38cm, mid-arm length, size XL
4132000	48cm, elbow length, size M
4134000	48cm, elbow length, size XL
4142000	68cm, shoulder length, size M
4144000	68cm, shoulder length, size XL
Cryogenic apron	
4211000	90cm length
4212000	105cm length
4213000	120cm length
4214000	130cm length