

## LIQUID NITROGEN COOLED (*CRYOGENIC*) INDUSTRIAL FREEZERS

Russells CB series cryogenic freezers are capable of achieving temperatures of -300°F (-185°C) and can repeatedly withstand this extreme temperature. Russells has incorporated special construction techniques in addition to welded structural steel framing and heavy duty welded stainless steel liners.

If a standard product design does not fit your requirements, Russells engineers will work with you to design a freezer to meet your exact needs, thus maximizing your throughput.



### TEMPERATURE RANGE: AMBIENT TO -300°F (-185°C)

model	cubic feet	lid style	Dimensions (in) W x D x H	cooling capacity*	voltage	shipping weight
CB15	15	top opening	int.: 30x30x30 ext.: 90x52x43	100 lbs. in 15 min.	230 / 3 / 60 460 / 3 / 60	1,400 lbs
CB36	30	top opening	int.: 48x36x36 ext.: 93x50x52	500 lbs. in 30 min. 1,000 lbs. in 60 min.	230 / 3 / 60 460 / 3 / 60	1,800 lbs
CB45	45	top opening	int.: 54x40x36 ext.: 92x74x54	500 lbs. in 30 min. 1,000 lbs. in 60 min.	230 / 3 / 60 460 / 3 / 60	2,200 lbs
CB60	60	top opening	int.: 60x48x36 ext.: 114x83x53	1,000 lbs. in 60 min.	230 / 3 / 60 460 / 3 / 60	2,800 lbs
CBF60	60	front opening	int.: 42x55x46 ext.: 90x76x163	1,000 lbs. in 60 min. 2,000 lbs. 120 min.	230 / 3 / 60 460 / 3 / 60	3,800 lbs

\*Notes 1. Cooling capacity is based on using vaporized liquid nitrogen and forced air convection for rapid cooling.

2. Prechilled freezers have sufficient cooling capacity to return the air temperature to -300°F (-185°C) in the stated times with the steel loads shown (load at +75°F (+24°C)).

3. The production capacity of the freezer may vary with the size, shape, of load geometry, and temperature of the load when entering the freezer. Varying ambient temperatures may also affect the capacity.

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### Standard Features:

- Continuous Tig welded type 304 stainless steel liner is vapor tight. Standard freezer floors are capable of supporting 300 PSF (or higher) of uniform static load.
- Insulation is high density FOAM.
- Nitrogen vents.
- Freezer workspace to freezer exterior drain.
- Welded structural frame with removable access panels.
- Base of freezer is designed for fork lift handling, in most cases.
- Air/Hydraulic lift lid with a built-in safety system.
- Special gaskets to withstand the -300°F (-185°C) internal freezer workspace temperature.
- Heated mullion to eliminate frosting around the lid perimeter.
- Durable blue enamel finishes (custom colors available).

### Cooling:

- Customer supplied liquid nitrogen vaporized through stainless steel spray manifold and nozzles.
- Manifold located in the fan/blower wheel conditioning plenum, LN<sub>2</sub> is NOT sprayed directly on the product/parts.
- Low pressure supply is controlled by cryogenic solenoid(s); low pressure supply provides most efficient use of liquid nitrogen.
- Air circulation by propeller type fan(s), or heavy duty reverse inclined aluminum blower wheel(s), both types with externally mounted circulator motor(s).
- Low temperature fail safe limit.

### Controls:

- Temperature control provided by a microprocessor based controller.
- Programmable controller with profile(s) ramping capability available.

### Electrical:

- All Wiring meets N.E.C. standards.
- Systems branch circuits individually fused.
- 115 volt control circuits.
- System function switches and indicating lights.
- All wiring color coded and labeled.
- High temperature fail safe.

### Optional Accessories:

- Electric heat to 500°F (260°C).
- Recorders and or, data loggers.
- Cycle timer with beacon
- Load temperature monitor.
- Access ports.
- Running time meter.
- Electric Defrost.
- Compressed air conditioning unit.
- Main power disconnect switch, with tag-out lock-out option.
- Casters.
- Conveyor systems.
- Industrial electrical and control systems per NFPA 79.

*Note: Certain accessories may not be available on all models. Please contact a Russells Application Engineer for assistance.*