

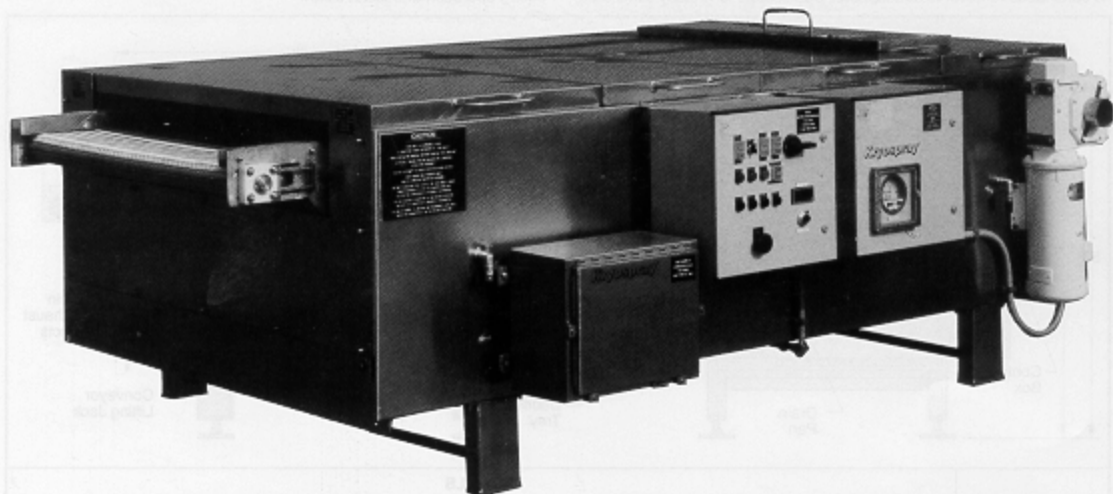
Direct Contact Bath Freezer

Model CBF Series LN₂ Immersion Freezer

*Innovative Products
for the Cryogenic World*

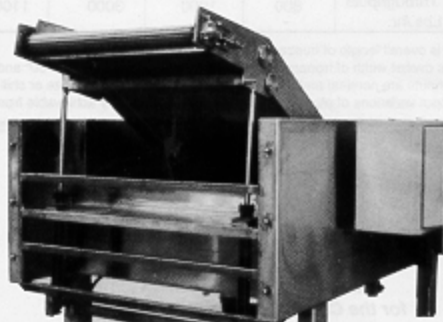


A Versatile Design Concept In Liquid Nitrogen Immersion Freezing



Features

- * Maximum Efficiency
- * Rugged Construction
- * All Electronic Controls
- * Minimum Bath Capacity
- * Complete Gas Extraction
- * Conveyor or Top Loading
- * Flighted Conveyor Standard
- * Easy to Clean and Operate
- * Automatic Debris Removal
- * Multi Position Loading Port
- * Powerful Direct DC Belt Drive
- * Powered Automatic Belt Raising
- * Separate Belt and Bath Arrangement



*Belt shown in raised position for cleaning
and maintenance.*

DIRECT CONTACT BATH FREEZER MODEL CBF SERIES

General Description

The liquid nitrogen direct contact bath freezer, is manufactured entirely from heavy duty type 304 stainless steel. The bath is double wall, hermetically sealed, expanded polyurethane foam insulated construction. The belt carriage assembly is totally separate secured in the bath by the drive shaft which forms part of the belt carriage raising system.

Product may be fed into the freezer via the entry end conveyor extension or through the top loading port, where it contacts liquid nitrogen immediately, enhancing individual quick frozen quality. The product is conveyed through the freezer on an all stainless steel belt, specifically developed for operation at -320°F (-196°C). The belt is fitted with flights and UHMW inserts as standard, to reduce the amount of product debris entering the liquid bath. Debris is continuously removed by the belt. The belt is designed to operate continuously at speeds up to 60 feet per minute. This feature, coupled with a multi-positioned top loading port enables a very wide range of residence times to be achieved, even a few seconds.

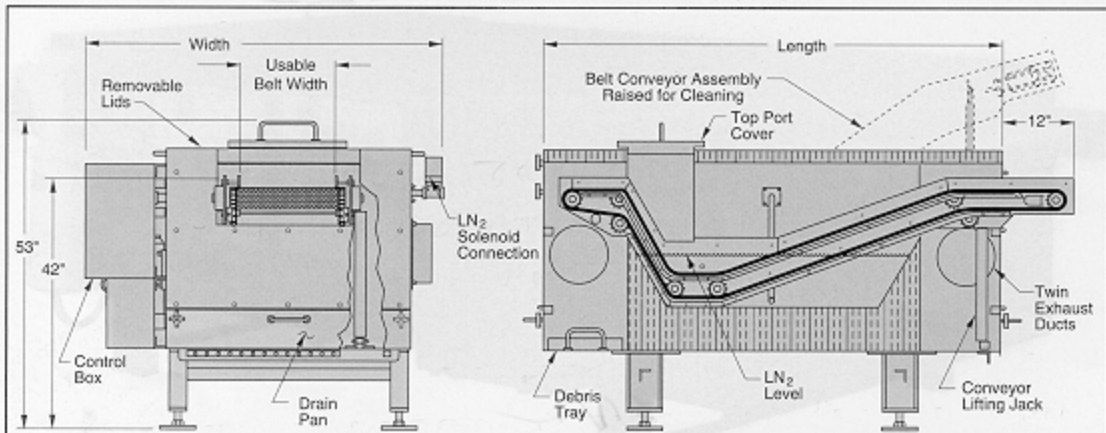
The freezer is fitted with removable lids and exhaust plenums at each end of the freezer. The plenums are effectively sealed, completely in the case of a top loading application, and, therefore, the evolving gas is trapped prior to its continuous removal to atmosphere. Gas escape is virtually eliminated.

The freezer has been specifically designed to enable fast, easy and total clean down, minimizing down time. The design features which facilitate "easy clean down" are the minimum capacity bath, separate bath and belt carriage arrangement, easy access to and around the belt carriage and the automatic powered raising of the belt carriage out of the bath.

The raising of the belt is achieved by jacks which raise the belt carriage eighteen inches out of the bath. The belt may be run in this position and the entire bottom of the bath can be seen and thus total clean down is possible. A large drain line facilitates wash water removal.

The simple all electronic controls are situated on the side of the freezer for operator convenience. The conveyor belt speed is continuously variable utilizing a DC electronic speed controller. The liquid level is variable between zero and five inches and is controlled by an electro/pneumatic level sensing arrangement. Full process indication lamps and a series of safety interlocks complete the control system.

The freezer has been designed with a drive system incorporating all UHMW bearings to give reliable durable service. The freezer requires a minimum of maintenance and is designed for operator convenience both during operation and clean down.



MODELS

	CBF 1806	CBF 1808	CBF 1810	CBF 2406	CBF 2408	CBF 2410	CBF3608	CBF 3610	CBF 4808	CBF 4810
Usable Belt Width (Inches)	16	16	16	22	22	22	34	34	46	46
Length (Feet)	6.5	8	10	6.5	8	10	8	10	8	10
Width (Feet)	4.5	4.5	4.5	5	5	5	6	6	7	7
Nom. Throughputs Lbs./hr.	800	1900	3000	1100	2500	4000	4800	6000	5400	8500

Length is overall length of freezer.

Width is overall width of freezer including control panel. Belt width of 30" and 42" also available.

Throughputs are nominal and are dependent on the degree of freeze or chill required and product inlet temperatures. The contact bath freezer is extremely versatile and throughput variations of plus or minus 20% are economically achievable from the stated figures above.



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Cryoquip manufactures a complete range of cryogenic food freezing equipment including Tunnels, Tri-Dek Tunnels, Spirals, Immersion and Batch Freezers and special custom designed freezers for the effective and efficient chilling and freezing of a wide range of food products.