



## Blast Chillers/Shock Freezers



## Blast Chilling / Freezing

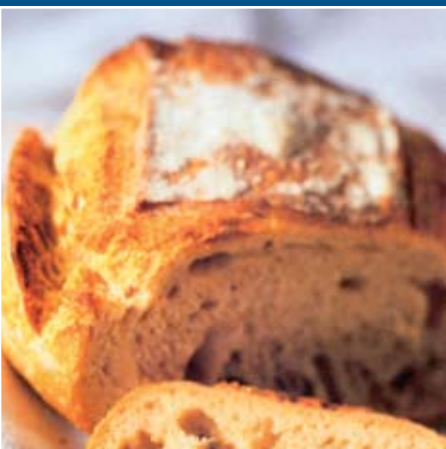


Blast chilling and shock freezing are the best natural systems to extend the shelf life of food. This is why Delfield, utilizing its experience in refrigeration, created the **ConvoChill** range of blast chillers/freezers. These machines are designed to improve the quality and organization of the work in restaurants, confectioneries, bakeries and ice-cream shops.

Great power, versatility and reliability are the most evident features of **ConvoChill** blast chillers/freezers. Thousands of operators all over the world are already successfully using Delfield blast chillers/freezers, thus improving their work, leaving more time for creativity.



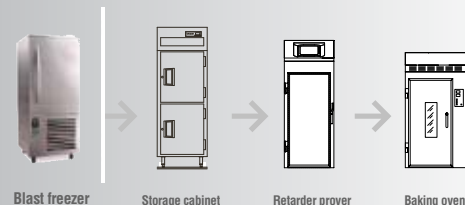




## Bakery

During recent years the bakery field has undergone deep transformations due to the increased use of the refrigeration technology. The need of reducing night-shifts, manpower, overtime hours and most of all, offering end users a wider choice of products, are among the main reasons why blast freezers have become an essential tool in all modern bakery workrooms.

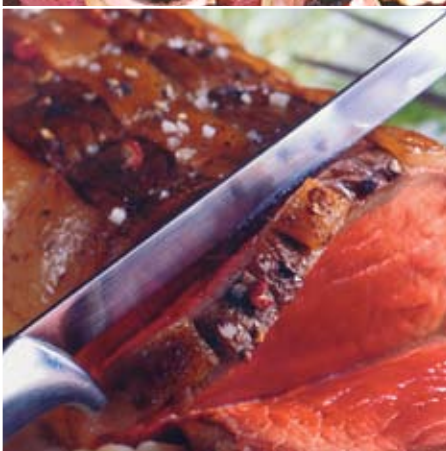
Besides the blast freezing of raw, pre-cooked and cooked products, the power and quality of Delfield blast freezers allow freezing pre-leavened products ready to be put in the oven (special kinds of bread, pizzas, focaccia bread, etc.), thus taking maximum advantage of the potentials offered by the "refrigeration techniques".



## Confectionery

A modern confectionery shop cannot avoid taking advantage of blast freezing techniques. Not only shock freezing at 0°F, but also blast chilling at +38°F, enables them to work more efficiently, reduce preparation times, diminish storage space and increase food quality and safety.

Thanks to the excellent performances of ConvoChill blast chillers/freezers, chilling cycles are quick but gentle, and guarantee perfect results for every confectionery product, raw or cooked, finished or semi-finished.



## Foodservice

Blast chillers are indispensable tools for chefs, since they give restaurateurs the opportunity of planning and organizing their activity in advance, offering customers a full and varied menu, fast and efficient service, with total respect for the fragrance and freshness of food.

The main advantage, besides the increased food safety (HACCP), is the reorganization of kitchen work by eliminating work peaks and the useless everyday repetition of the same preparations, for a more efficient and effective working environment.



## Ice cream

The creaminess of ice cream mainly depends on the presence of micro air-bubbles and micro ice-crystals.

In order to maintain these special features, ice cream must be shock frozen as soon as it leaves the whisker.

This operation, besides contributing to the formation of micro ice-crystals, permits the formation of a thin surface barrier that prevents both product "flattening" and air emission.

The outcome is a creamy, soft ice cream, ready to be served or stored. Delfield blast freezers have a special shock freezing function for ice cream.



## Shock freezing

**+194°F** → **-0°F**

We all know what frozen food is, but perhaps we don't all know that the food's organoleptic qualities are maintained only if the freezing is done quickly (shock freezing).

During the process of freezing, all the water molecules turn into crystals, the faster the freezing, the smaller the crystals: it is only with a micro-crystallization of the water that the food molecules are not destroyed.

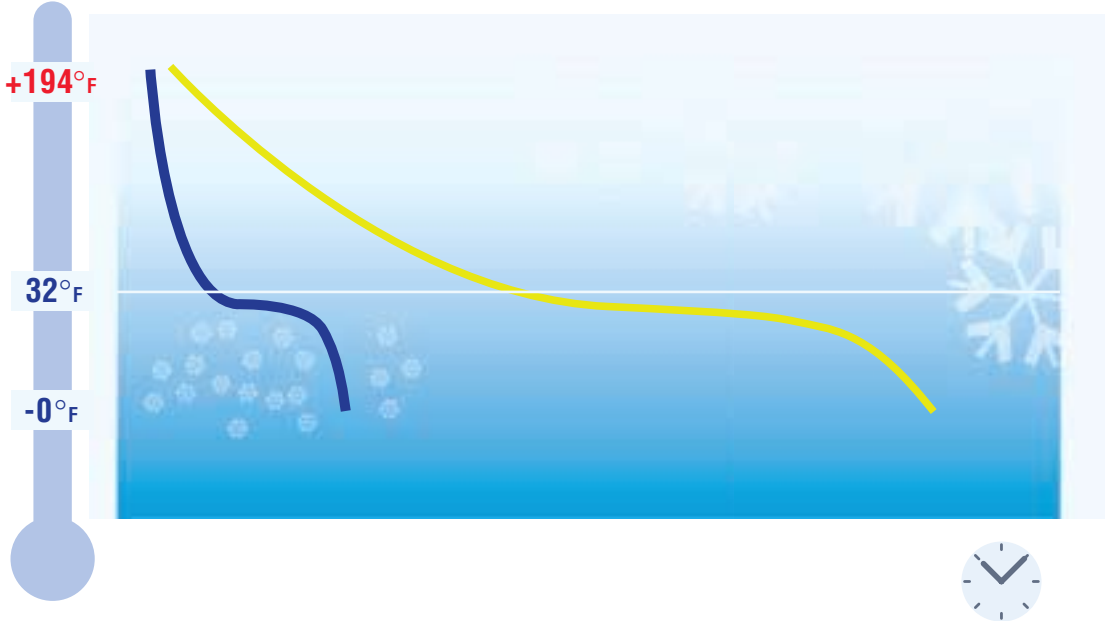
Thanks to an air temperature of -40°F, the ConvoChill blast freezer lowers the temperature at the core of the food to 0°F in approximately 240 minutes, a sufficient time to obtain micro-crystallization, keeping all the qualities of the food whole. After defrosting, there will be no loss of liquid, firmness or flavor.



WITHOUT BLAST FREEZER:  
MACRO-CRYSTALS



WITH BLAST FREEZER:  
MICRO-CRYSTALS



# Blast chilling

**+194°F** → **+38°F**

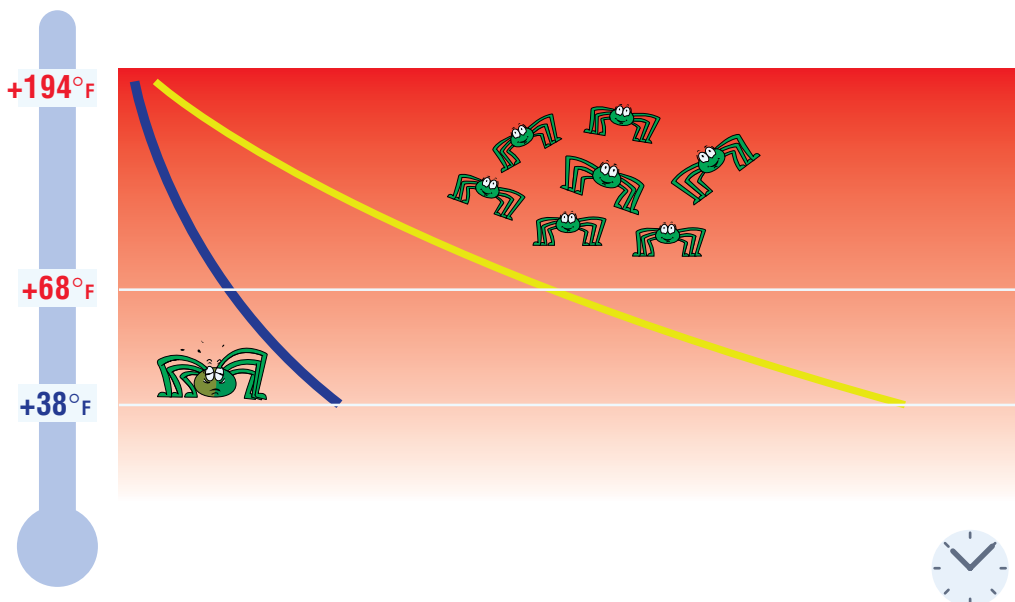
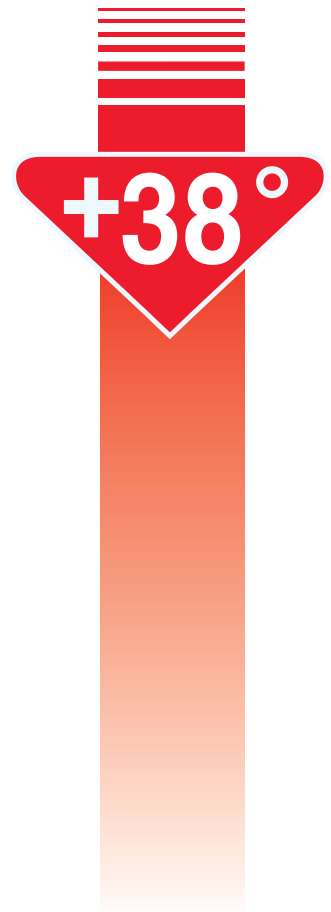
All food cooked and left to cool slowly, to be served later on, loses its finest qualities.

The main reason is the extremely high bacterial growth that takes place while the food is at a temperature of between +150°F and +50°F.

The ConvoChill blast chiller makes it possible to lower the temperature at the core of foods that have just been cooked, down to +38°F in approximately 90 minutes, reducing bacterial proliferation and dehydration of the food.

The final result is the preservation of the quality, color and fragrance of the food, extending its shelf life.

All this enables the chef to work with a better organization and more calmly, leaving more time for creativity.



WITHOUT BLAST CHILLER:  
BACTERIA RISK

WITH BLAST CHILLER:  
FOOD SAFETY



## Greater Profits

### WASTE REDUCTION

Blast chilling/freezing increases shelf life of foods, leaving all the time to use the foods prepared in advance and the raw materials, with high reduction of waste.



### TIME SAVINGS UP TO 30%

Thanks to the longer shelf life of blast chilled food, it is possible to plan production better and prepare larger quantities of dishes and semi-processed foods in advance, without having to repeat the process every day. All this while always keeping the quality of the served foods high.



### SAVINGS ON PURCHASES

Thanks to the long shelf life of shock frozen foods, keeping their original qualities unchanged, it is possible to purchase seasonal ingredients when they are less expensive and of better quality.



### LESS WEIGHT LOSS

After cooking, food releases moisture by evaporation. Blast chilling immediately after cooking stops evaporation, thereby reducing the loss of water and therefore weight.

If the product is sold by weight, revenue can be increased by up to 7%.



# Quality Improvement

## REDUCTION IN BACTERIAL GROWTH

Bacterial proliferation is very high when food is at a temperature of between +150°F and +50°F. Around +100°F the number of bacteria doubles every 20 minutes.

The Delfield blast chiller makes it possible to “cross” the range of hazardous temperatures quickly, taking the core of the food to +38°F in approximately 90 minutes. This reduces the quantity of bacteria in food after cooking to a minimum, improving food quality, organoleptic properties and safety.

## COMPLIANCE WITH HACCP STANDARDS

The blast chiller considerably improves food safety, ensuring full compliance with HACCP standards

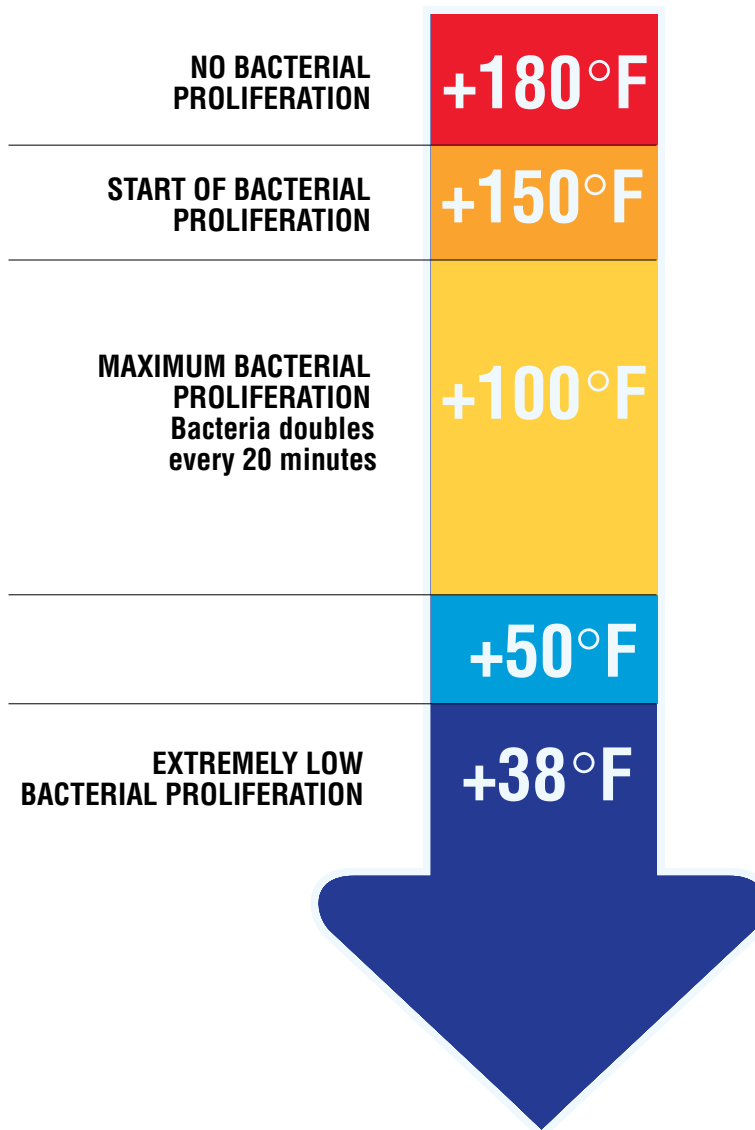


## LESS DEHYDRATION

Blast chilling immediately stops the moisture in food from evaporating, thereby preventing dehydration. The fragrance and flavor of foods is often linked to the right amount of moisture contained in the food.

## WIDER MENU

The longer shelf life of blast chilled foods and semi-finished items makes possible to increase the number of courses offered, without complicating production organization.





### Control panel

Extremely easy to use, but comprehensive of all the functions necessary for the different processes

Cycle control with core probe or timer

Temperature and time display

Status display (Blast Chilling / Preserving)

Integrated printer

99 programs

Hot gas defrosting

### SPECIAL FEATURES

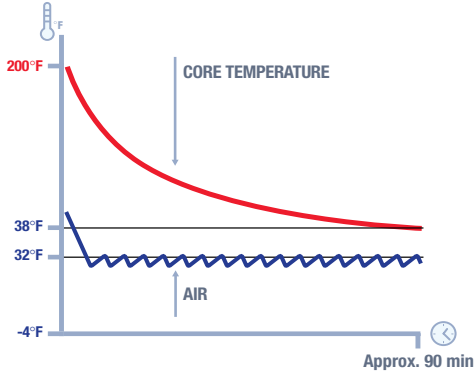
- HACCP ALARMS MEMORY
- ICE CREAM BLAST FREEZING FUNCTION
- AUTOMATIC CORE PROBE INSERTION CHECK



# Working cycles

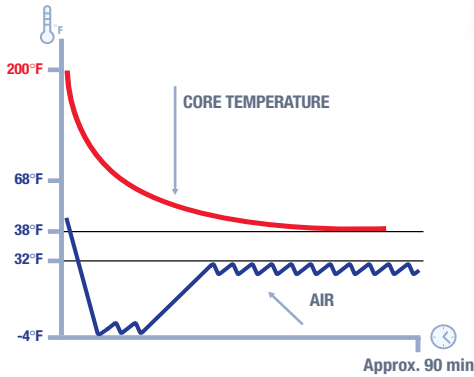
## **+38°** "SOFT" BLAST CHILLING

Suited for delicate or thin foods such as rice, vegetables, fried foods.



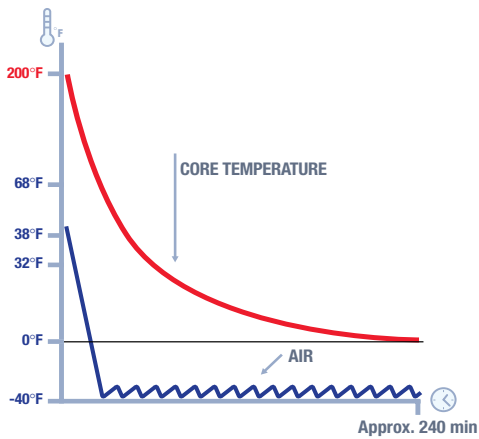
## **+38°** "HARD" BLAST CHILLING

Very effective for dense, greasy and large-sized foods.



## **0°** SHOCK FREEZING

Suited for any food product.



# Standard Features



## Core probe

Automatically controls the length of the blast chilling cycle; conic shaped, it is easily removed after shock freezing cycle, without heating it.

## Dual suitability

Tray rack for the T14D Easily removable for cleaning, it is designed to facilitate the chilling air flow, increasing the machine efficiency. Suitable for both 12"x20" and 18"x26" pans.

## Printer

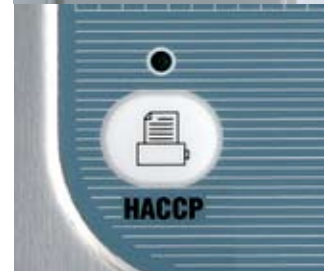
The date, temperature and times during all the blast chilling and preservation cycles are printed out.

## HACCP memory

Standard on all machines, it permits saving all the HACCP alarms automatically.

## Evaporator

with easy access and indirect air flow which ensures the least dehydration possible.



- Automatic hot gas defrosting
- Models for Combi-steamer trolleys

# The Offering



## T5

### CAPACITY

44lbs. - Blast Chill- 5 12"x20"x2.5" pans  
26lbs. - Shock Freeze

### DIMENSIONS

31.5"W X 27.5"D X 35.5"H

### ELECTRICAL SPECS

Voltage	Comp. HP	Max. Amp.	Max Fuse Size	Av. Heat Rejected (W)
220-230/1/60	.75	10.0	12.0	2475

SELF-CONTAINED CONDENSING UNIT

REVERSIBLE DOOR

COMPANION PIECE TO:

OES 6.10  
OEB 6.10  
OGS 6.10  
OGB 6.10



## T14D

### CAPACITY

154lbs. - Blast Chill- 26 12"x20"x2.5" pans  
or 13 18"x26" pans or 10.10 rack  
120lbs. - Shock Freeze

### DIMENSIONS

31.5"W X 43.5"D X 71.7"H

### ELECTRICAL SPECS

Voltage	Comp. HP	Max. Amp.	Max Fuse Size	Av. Heat Rejected (W)
220-230/3/60	3.0	20.0	25.0	9900

SELF-CONTAINED CONDENSING UNIT

REVERSIBLE DOOR

COMPANION PIECE TO:

OES 10.10 OES 6.20 OES 10.20  
OEB 10.10 OEB 6.20 OEB 10.20  
OGS 10.10 OGS 6.20 OGS 10.20  
OGB 10.10 OGB 6.20 OGB 10.20



## T40C

### CAPACITY

440lbs. - Blast Chill- accommodates  
mobile racks up to 35" w X 42" d X 78" h  
385lbs. - Shock Freeze

### DIMENSIONS

61"W X 54"D X 89.5"H

### ELECTRICAL SPECS

Voltage	Comp. HP	Max. Amp.	Max Fuse Size	Av. Heat Rejected (W)
220-230/1/60	7.5	43.0	50.0	22330

REMOTE CONDENSING UNIT (OPTIONAL)

RIGHT HINGED DOOR

COMPANION PIECE TO:

OES 20.20  
OEB 20.20  
OGS 20.20  
OGB 20.20







#### SOLUTIONS

*Delfield provides many of the operational solutions from Manitowoc Foodservice, a global company dedicated to bringing value to foodservice operators by equipping them with highly individualized real-world answers that enhance menus, service, profits and efficiency.*



#### SERVICE

*Delfield products are backed nationwide by STAR Service. This network of certified service agents provides fast response with factory-trained experts to assure your equipment will be fixed right the first time. STAR service agents guarantee their work and use genuine OEM parts for best equipment performance and longer life.*

To learn how Manitowoc Foodservice and its leading brands can equip you, visit our global web site at [www.manitowocfsg.com](http://www.manitowocfsg.com) then find the regional or local resources available to you.

