

**BLAST CHILLERS & FREEZERS**



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Blast chillers and freezers 140

## BLAST CHILLERS & FREEZERS

### BLAST CHILLERS: WHY IS IT NECESSARY TO USE?

All fresh organic food products contain a natural bacterial load which, in favourable ambient conditions (temperature and humidity), multiplies producing hazardous effects on consumer health.

The most dangerous thermal threshold is between **+90°C** and **+35°C**: in this temperature range, bacterial multiplication is accelerated.

Micro-organisms begin to develop between **+35°C** and **+10°C**.

**Blast chilling means lowering the temperature in the centre of the product from +90°C to +3°C as quickly as possible, and in any case within 90 minutes.**

The critical temperature range between +90 °C and +10 °C, where the highest bacterial proliferation occurs, is thus passed through so quickly that food safety is not affected, and indeed the product can be stored for 5-8 days.

Blast chilling of a cooked product not only prevents bacterial proliferation but also prolongs product conservation time.

The quality of the food is not affected, and **the product can be stored up to a couple of month.**



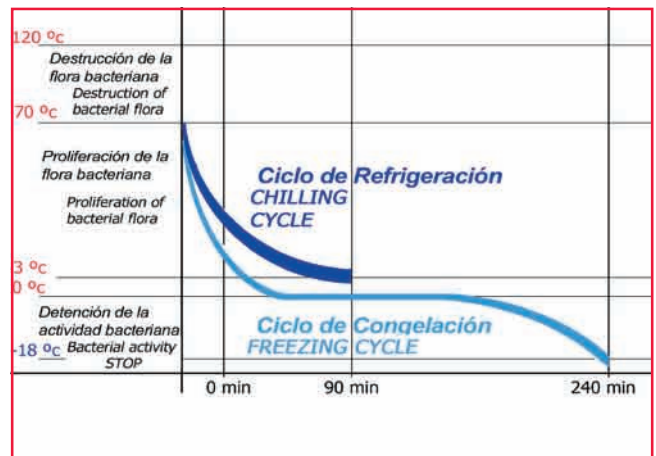
### DEEP-FREEZING OR FREEZING

These two terms are often confused but the end result is the same in both cases: the temperature of a food product is lowered but the water contained in it does not freeze completely.

The difference is that with freezing there are no time limits and macrocrystals are formed internally, whereas **deep-freezing means reaching a temperature of -18°C in the centre of the product within 4 hours, avoiding the formation of macrocrystals.**

As the macrocrystals form, they break the cell membrane and in the thawing phase mineral salts and nutritional substances are lost in the form of liquids.

There are two deep-freezing cycles: hard and soft, both are manual and therefore programmed by the operator according to his specific requirements.



## CORRECT USE OF THE BLAST CHILLER-FREEZER

This is an important choice not only from the point of view of rules and regulations, but also and above all in terms of working methods.

Correct use of the blast chiller/freezer limits the weight loss of the product in the cooling phase (positive chilling) which must be performed by lowering the product temperature from +90°C to +3°C as quickly as possible and in any case within 90 minutes.

The result will be a **soft succulent product which can be kept for longer and, after regeneration, will have all the flavour of a freshly cooked product.**

The blast chiller also allows you to **program your work in the kitchen, using the time to build up stocks for the rest of the week.**

Correct use of the blast chiller ensures **less waste, greater saving on time, higher earnings and a healthy tasty product.**

## BLAST CHILLING

### Soft Cycle (standard) - 90 ‘

As the term «soft» suggest, this is a gentle cycle specifically designed for light and thin products.

### Hard Cycle (intensive) - 90 ‘

The «hard» cycle enables to reduce the overall blast chilling time and is ideal for products that have a high density or a high fat content, as well as for packaged food.

## SHOCK FREEZING

### Soft Cycle (standard) - 240 ‘

This cycle freezes the food product more homogeneously, therefore it is suitable for food that should not be exposed to temperature shocks or that is made with different ingredients.

### Hard Cycle (intensive) - 240 ‘

This cycle is ideal for semi-finished food or raw materials. It enables to have flexible long-term stocks of products available any time of the year.

## EXAMPLE OF CYCLE OF CHILLING-FREEZING AND REGENERATION

**COOKING**  
(> 90 °C)

VPG-202



**BLAST CHILLING**  
(+3 °C)  
**DEEP FREEZING**  
(- 18 °C)

CMCS-202A-1P



**MAINTENANCE**  
+2 °C / -20 °C

AFN-1602



**REGENERATION**  
(> 70 °C)

VPG-202



# BLAST CHILLERS & FREEZERS

## BLAST CHILLERS & FREEZERS



Made of austenitic stainless steel.  
Adjustable legs in stainless steel.  
Sliding guides for Gastronorm trays and Euronorm trays (60x40 cm).  
Doors with automatic locking device.  
**Blast chiller / freezer** models designed to reduce the temperature from +70°C to +3°C (**chilling**) or from +20°C to -18°C (**freezing**).

A choice of hard or soft chilling programmes.  
Two chilling and two freezing cycles:

- Hard cycle:** for products of more than 2 cm of thickness.
- Soft cycle:** for products of less than 2 cm of thickness, or low density.

This cycle is made in two programmed steps.  
The soft cycle avoids the frost formation in the product.

- Duration of the cycles:**
- Chilling: 90 minutes.
  - Freezing: 240 minutes (4 hours).

Electronic timer and temperature probe standard on all models.  
Probe controlled or time controlled blast chilling options.  
Automatic end-of cycle alarm.  
At the end of a cycle the chiller functions as a storage cabinet, maintaining temperatures of +2/+4°C when chilling, and -18°C when freezing.

Removable, ventilated airtight compressor.  
**R-404 A** cooler, CFC free.  
60 mm thick injected polyurethane insulation, 40 kg/m<sup>3</sup> density.  
No CFC.  
Copper evaporator with aluminium fins.  
**Forced draught.**  
Automatic evaporation of water during defrosting.

In option :

- CORE PROBE WITH HEATING SYSTEM
- PRINTER FOR HACCP

Model	Reference	Levels			Production Kg/cycle		Voltage Refr. Power - W	Dimensions mm	
		1/1	2/1	60x40	+90/+3°C	+90/-18°C			
ATM-031 S	143300000000	3	-	-	8	5	230V 1+N - 490	560x700x514	
ATM-051 VCH	143315000000	5	-	5	12	8	230V 1+N - 700	790x700x850	
ATM-081 VCH	143317000000	8	-	8	25	16	230V 1+N - 1.300	790x800x1,290	
ATM-101 VCH	143321000000	10	-	10	30	20	230V 1+N - 1.300	790x800x1,420	
ATM-121 VCH	143322000000	12	-	12	36	24	230V 1+N - 2.830	790x800x1,600	
ATM-161 VCH	143323000000	16	-	16	40	28	400V 3+N - 2.850	790x800x1,950	
ATM-102	143325000000	20	10	10	70	50	400V 3+N - 4.200	1,270x1,090x1,800	

(\*) Production by cycle: Kg of product / cycle

## EQUIPMENT OF COMBI OVEN AND BLAS CHILLER



### Example 1 :

- 061 size oven and support SH-1011
- Blast chiller ATM-051

### Example 2 :

- 101 size oven and support SH-1011
- Blast chiller ATM-101

### Example 3 :

- 102 size oven and support SH-21
- Blast chiller ATM-102



## SHOCK FREEZERS COLD ROOM FOR TROLLEYS - REMOTE UNIT

### Electronic control shock freezer cold room ( + 90° to +3°C / +90° to -18°C)

Made of austenitic stainless steel.  
80 mm and 100 mm thick polyurethan insulation.  
Density 40 Kg/m3. No CFC. R404a cooler.  
Automatic door lock. Perimetral magnetic gasket.  
Chamber with floor, for trolleys,  
with rounded corners R80 for easier cleaning.

**Blast chiller / freezer** models designed to reduce  
the temperature from +70°C to +3°C (**chilling**)  
or from +20°C to -18°C (**freezing**).

#### Duration of the cycles:

- Chilling: 90 minutes.
- Freezing: 240 minutes (4 hours).

Electronic timer and temperature core probe.  
Automatic end-of cycle alarm.

In option: ramp for access to the chamber.

#### Remote condenser unit not included.

In option: cover for the external condenser unit.



**SAY US YOUR REQUIREMENTS AND WE WILL PROJECT THE MOST CONVENIENT EQUIPMENT FOR YOU**

