



williams

Williams
Professional Refrigeration

Blast Chiller Series

From small sized caterers to large food
service providers, Williams offers compact or
modular roll-in type blast chillers



Why use Blast Chiller or Freezer ?

Food safety is of utmost importance in all food industries. Time and temperature relationship are critical to the growth and spread of contamination. Bacteria multiplies very fast between $+8^{\circ}\text{C}$ and $+68^{\circ}\text{C}$ (Danger Zone). The faster cooked foods chills and passes through this danger zone, the less chance there will be of bacteria growth. As a bacterium can split into 2 in every 20 minutes and multiply almost 69 million within 12 hours.



Standard storage fridges and cold rooms are designed for holding previously chilled foods, but not for chilling hot foods. To put hot food in a fridge or cold room already holding chilled foods is extremely dangerous, because of the rise of the fridge's temperature lifting the temperature of previously chilled foods and risking by bacterial contamination of all products in the fridge.

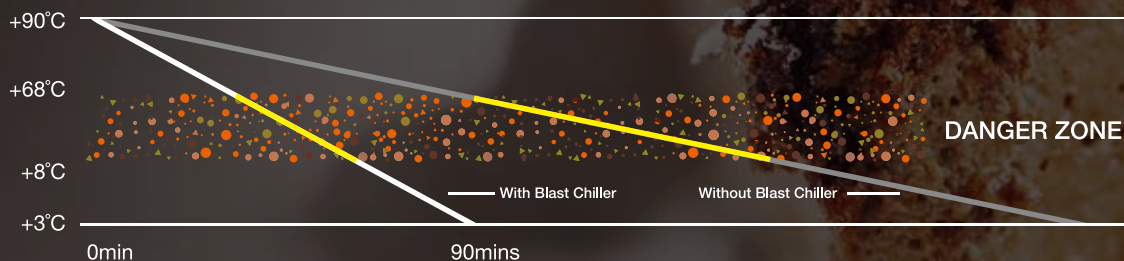
Blast Chilling

+90°C → +3°C in 90 minutes

The only way to rapidly chill cooked foods safely is by using blast chillers. The principal feature of blast chillers is that they are capable of rapidly reducing the temperature of hot foods (+90°C) to a low, safe temperature (+3°C) in 90 minutes. This eliminates the risk of bacterial proliferation from slow cooling, and retains the foods' quality, nutritional value, flavour, appearance and also extends its shelf life.



Blast Chilling +90°C → +3°C in 90 minutes



Williams Blast Chillers offer options of Soft Blast Chilling and Hard Blast Chilling for different types of foods.

SOFT BLAST CHILLING

Soft Blast Chilling is to gently chill delicate and light products from +90°C to +3°C in 90 minutes with the air temperature remaining above 0°C. Examples include fish, fruits, vegetables, cream, desserts and fried foods. It ensures the texture, flavour, aroma, appearance and nutritional value are preserved.



HARD BLAST CHILLING

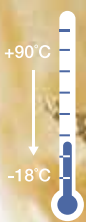
Hard Blast Chilling is to chill dense and large products with higher fat contents such as meat joints, meat based sauces, mashed potato and lasagne. The air temperature drops below freezing point during the cycle ensuring the products reach the required +3°C within 90 minutes without the risk of freezing or damaging the foods.



Blast Freezing

+90°C → -18°C in 240 minutes

By using a blast freezer, the temperature of the foods can be rapidly reduced from +90°C to -18°C within the guideline time of 240 minutes. 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. This enables you to store the foods ready for thaw, regeneration and service for up to several months. Blast freezing can also be applied for raw materials and semi manufactured products.



Blast Freezing +90°C → -18°C in 240 minutes



The Benefits

All of the benefits can make the operation more efficient while offering customers greater choice and better quality. It allows the caterers to cope with large numbers of customers and at short notice. This will result in increased turnover and profitability.

1 Effective Time Management

Using the blast chiller, it is easy to prepare large quantities of foods in advance for later. Chefs no longer repeat the cooking process every day and it also helps the efficient use of other cooking equipment.



2 Enhanced Quality of Foods

Blast chilling immediately preserves the moisture level of goods and prevents bacterial growth. Blast freezing prevents the food molecules from being damaged by macro-crystallization. The moisture, firmness and flavour can be maintained after defrosting.



3 Effective Resource Management

Labour and equipment can be used more efficiently while ingredients can be brought in larger quantities, providing economies of scale.



4 Reduced Food Wastage

Food can be chilled safely with a longer shelf life. Portions can be made precisely and foods can then be regenerated as required.



6 Prevents Food Weight Loss

The natural evaporation of moisture from cooked food would lead to weight loss. Using a blast chiller after the cooking process would stop evaporation and thus help to stop the loss of water and the foods weight.



5 Wider Menu

Using a blast chiller allows the chefs to prepare a greater selection of dishes, offering customers more choices while still maintaining the quality.



7 Increased Profitability

If the meal turnover is limited by the number of meals you are able to cook and serve within your existing kitchen, using a blast chiller is a fast way to increase the business' capacity without necessarily expanding the kitchen or employing extra kitchen staff.

Why Williams?

Williams Easy Blast 1-2-3 Controller

The unique Williams Easy Blast 1-2-3 controller has been designed to make our equipment easy to operate with a clear and easy to read digital display and just 3 simple steps to initiate a blast chill or blast freeze cycle.



1 3 Simple Steps to start ...

- (1) Select Soft Chill, Hard Chill or Freeze cycle (for blast chiller freezer model)
- (2) Select time cycle (90 minutes for chill, 240 minutes for freeze) or food temperature probe controlled cycle
- (3) Press to start cycle

2 Time Display

Displays the time elapsed during cycle, offering more flexibility, enabling the cycle to be stopped for half loads or delicate products

3 Temperature Display

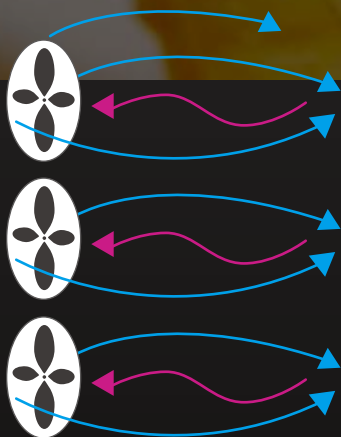
Shows the food probe/ air temperature

Williams Easy Blast Controller offers many users and engineering benefits:

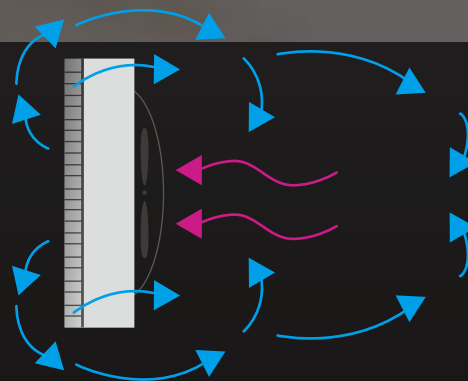
- Simple to repeat last programme
- Equipment can be customised locally by commissioning the control panel parameters to suit different product type or site requirements—for enhancing user flexibility
- Controller diagnostics enable quick fault finding for easy servicing and maintenance
- Audible alarm at the end of each cycle and when error occurs

Williams Unique AirSmart Advanced Airflow System

Airflow (elevation view)



Airflow (top view)



- Powerful, energy efficient fans and the equalised air pressure chamber design ensures that the air flows evenly over all products
- Guaranteed uniform rapid chilling prevents the risk of dehydrating or skinning of the products
- Ensures the food products stay in perfect condition by preserving their flavour, texture, aroma, appearance and nutritional value
- If using a blast chiller or freezer and a full load is not required, reducing the food thickness and distributing over more pans/ shelves can speed up chilling times

Features



Built-in Thermal Printer (Roll-in type only)

Standard on modular roll-in products, easy to print out blast cycle record for HACCP requirement. The high quality thermal IP65 rated printer with a protective cover, features longer lasting print quality and clear recording of all blast chill/ freeze and storage information with space for user to show specific product detail. The printer is designed to store up to 7-days worth of data, thus the data can be safely stored even if the printer paper runs out.



Core Food Temperature Probes

The precise food probes make it easy to monitor core temperature and ensures perfect temperature control every time.



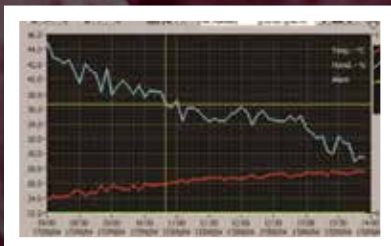
High Velocity Fans

Large diameter energy efficient, high velocity fans offer advanced airflow for uniform chilling and freezing across all products thus preventing cell damage and dehydration, ensuring excellent product quality every time.



Easy Access Evaporator

Designed to make servicing and maintenance simple with easy access to fan for inspection, repair or replacement.



HACCP Control Software

The optional dedicated software is designed for temperature monitoring, blast cycle data storage and printing and alarm management.

Others:

- Full 304 grade stainless steel construction for assured food safety and hygiene
- Automatic defrost at the end of each cycle and every six hours in storage mode ensuring efficient and effective performance
- All models automatically switch to storage mode at the end of each blast chill cycle offering additional storage capacity
- Range of models to suit all types of requirements and environments

POD System (optional)

The Williams unique POD system offers an excellent energy efficient solution should the Roll-in type Blast Chillers, Chiller Freezers and Freezers be used for supplementary or overnight storage and reduces the wear and tear on the Blast Chiller system, extending its life.

Benefits:

- Designed to give maximum storage with no wasted refrigerated space – lower running costs
- Serviced from outside cabinet – door can remain closed during service and repairs
- Defrost heaters outside cabinet – minimal temperature increase on defrost
- Available with pre-installed condensing unit – reducing on site costs
- Low-level systems available where height is restricted – flexibility ensured

Thawing

Along with blast chilling, the thawing of frozen products can often be a food safety issue unless the correct equipment is used. While thawing the products in a warm kitchen for several hours or overnight, water molecules will concentrate and wet the surface of products. The warm temperature plus the high humidity will accelerate the growth of bacteria.

Using a standard refrigerator to thaw frozen products is also not effective. As the cool temperature keeps constant and without forced air circulation inside the cabinet, the temperature difference between the frozen products and the cabinet inside is not effective enough to bring the heat into the core of products.

In addition, cooking thawed food is quicker and safer than from frozen as it can eliminate the risk of cold spots once cooking has finished, making the cook-chill process more effective and energy efficient.

Please refer to the Overnight Thaw series to know more about our products.



Roll-in Key Features

Modular construction design blast chiller / freezer allows easy transportation, flexible installation and easy access of trolley



01. Choice of Blast Chiller Freezer models (90kg to 320kg) and Blast Freezer models (100kg and 200kg) to accommodate 2/1 GN size trolley to suit any catering requirement (Optional combi size models accommodate most of the combi trolleys in the market)
02. Easy to use, 1-2-3 state of the art control panel - 3 simple steps to initiate blast cycle
03. Clear LED display for the time and temperature
04. Choice of hard chill, soft chill, blast freeze and core food temperature probe controlled cycles with audible alarm indicating end of cycle
05. Cam-lock modular panels allow the ease of on-site installation and disassembly for delivery
06. High quality thermal printer for blast cycle data storage and print out for full HACCP compliance (IP65 protected)
07. Large, high velocity fans and large area evaporator offering advanced airflow design enabling uniform freezing across the product for consistent product quality
08. Three core food temperature probes for simple operation, accurate measurement and control

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09. Easy to access expansion valve for superheat adjustment making commissioning easier
 10. Easy to access evaporator for servicing and maintenance
 11. Automatic defrost at the end of every blast cycle and every 6 hours in storage mode ensuring efficient and effective performance
 12. Automatically switches to storage mode at the end of each cycle before transferring to appropriate storage cabinet, maximising the efficient working practices
 13. Optional energy efficient POD refrigeration system designed for overnight storage and reducing the wear and tear on the refrigeration system, extending its life
 14. Fitted with 90mm thick insulated floor for an uneven floor or avoid condensation occurring on the ceiling of lower floor *
 15. Excellent thermal efficiency, high density 90mm thick polyurethane insulation with Zero ODP (Ozone Depletion Potential) and Low GWP (Global Warming Potential)
 16. Anti-condensation door mullion heaters
 17. Removable balloon type magnetic door gasket with air release points provides an excellent seal to prevent heat ingress, easy replacement and avoiding dirt traps
 18. Evaporator with Cataphoresis plated coils provides high corrosion resistance properties
 19. Accurate helium leak detection system ensures the quality of the evaporator
 20. Designed for environmental-friendly CFC-free refrigerant (R404a)
 21. HACCP compliant

* Available for WMBCF and WMBF only

Note: Products are NOT designed for outdoor application, please contact Williams team for any special requirement.

Roll-in

Specification

- Accommodates 2/1 GN size trolley (Trolley is not included)
- Foodsafe 304 grade stainless steel exterior (including back) and interior
- Blast Chiller blast chill from +90°C to +3°C in 90 minutes
- Blast Chiller Freezer / Blast Freezer blast freeze from +90°C to -18°C in 240 minutes
- Fitted with 22ømm drainage for defrost water

Note: Condensing unit and refrigerant (R404a) are not included, suggested specification please check with Williams team.

Options

1. Storage POD system (add 200mm to height)
2. Roll through door
3. Ramp
4. 90mm thick insulated floor (with heater) *
5. Accomodate combi size trolley (add 200mm to width)
6. 380V / 60HZ / 3PH

* Included as standard for WMBCF and WMBF

Product List

**WMBC/F90, 120, 160, 200 and
WMBF100**



**WMBC/F240, 320 and
WMBF200**



Roll-in Technical Data

Model	WMBC/F90	WMBC/F120	WMBC/F160	WMBC/F200
Temp Range (°C)				
Blast Chill	+90 to +3 in 90 mins			
Blast Freeze	+90 to -18 in 240 mins			
External Dimension (mm)				
Width	1470 (1670 for combi size)			
Depth	1250			
Height	2295 (WMBC) 2385 (WMBCF)			
Internal Dimension (mm)				
Width	680 (880 for combi size)			
Depth	1036			
Height	1875			
Thickness of 304 grade stainless steel (mm)				
Exterior	0.7			
Interior	0.7			
Door	0.7			
Opening Depth (mm)	2095			
Capacity (kg)	90	120	160	200
Capacity (2/1 GN trolley)	1			
Evaporator Fans	2		3	
Power Supply	380V / 50HZ / 3PH			
	16 amp direct connection			
Power Input - Running (amps) *				
Blast	4.3		5.2	
Defrost	13.7			
Rating Power (watts) *				
Blast	2830		3423	
Defrost	3014			
Maximum pipe length work (m)	25			
Refrigerant	R404a			

* 20% increase for 60HZ power supply

Note:

1. All models are fitted with 22ømm drainage for defrost water
2. Suggested maximum food product thickness for blast chilling/ freezing is 40mm, and the elapsed time may vary based on the product type, size, density, entry temperature and environmental factors

Roll-in Technical Data

Model	WMBC/F240	WMBC/F320	WMBF100 #	WMBF200 #	
Temp Range (°C)					
Blast Chill	+90 to +3 in 90 mins		N/A		
Blast Freeze	+90 to -18 in 240 mins				
External Dimension (mm)					
Width	1470 (1670 for combi size)				
Depth	2350		1250	2350	
Height	2295 (WMBC) / 2385 (WMBCF)		2385		
Internal Dimension (mm)					
Width	680 (880 for combi size)				
Depth	2136		1036	2136	
Height	1875				
Thickness of 304 grade stainless steel (mm)					
Exterior	0.7	Interior	0.7	Door	0.7
Opening Depth (mm)		3195		2095	3195
Capacity (kg)		240	320	100	200
Capacity (2/1 GN trolley)		2		1	2
Evaporator Fans		4	6	3	6
Power Supply		380V / 50HZ / 3PH			
		20 amp direct connection		16 amp direct connection	20 amp direct connection
Power Input - Running (amps) *					
Blast	7.7		5	9	
Defrost	16.3		14	17	
Rating Power (watts) *					
Blast	5068		3291	5924	
Defrost	3586		3080	3740	
Refrigerant Pipe Size (inch)					
Suction pipe	1 1/8				
Pressure pipe	1/2				
Max. Pipe Length Work (m)			25		
Refrigerant	R404a				

* 20% increase for 60HZ power supply

The blast freeze cycle (from +90°C to -18°C) of WMBF models is within 90-240 minutes. The blast freezing efficiency of WMBF models are higher than WMBC/F models due to WMBF models are equipped with an extra evaporator fan in each chamber

Note:

1. All models are fitted with 22ømm drainage for defrost water
2. Suggested maximum food product thickness for blast chilling/ freezing is 40mm, and the elapsed time may vary based on the product type, size, density, entry temperature and environmental factors