

Food Process Systems





Spreads Vessels Ethnic Meals Innovation Condiments Absorption  
Pâtés Pump Fill Station Compote Relish Clean In Place Agitator Sauces  
Mayonnaise Pesto Hummus RotaChill Cooking  
Minestrone Marmalade Kettle Rice Pudding  
Pie Fillings Ready Meals Cheese Sauce Vacuum  
Sweet sauces Penne Pet Food  
Atmospheric Fish Savoury Fillings  
Jams Preserves Smoothies Steam  
Apple pie filling Cheese Pressure  
Chocolate sauce Vegetables Chickpeas Cake Toppings Orbiter  
Chilli Con Carne Custards  
Cooling Desserts Mixing Ketchup Casserole Tilting Soups  
Pastry Fillings CIP Dips Bratt Pan Dosing  
Sweet Fillings Evaporator Noodles Pasta Béchamel Rice Curry  
Fruit Toppings Sausage Roll Fillings Meat Blending

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# Welcome to BCH

Established in 1835, BCH are industry leaders in the supply of food and confectionery process solutions, catering to a worldwide clientele.

BCH specialises in advanced cooking, mixing and cooling technology for the production of chilled and frozen meals, soups sauces, sweet & savoury fillings, and fruit toppings.

BCH also provide single machines and turnkey systems for the manufacture of starch gel-based liquorice, 100% fruit products, caramel, syrups, jams and preserves.

An extensive range of skills, machinery and workshops, enable BCH to undertake bespoke and tailor-made equipment to be built within strict completion deadlines. Offering a total 'in-house' service for the design, manufacture, installation, and commissioning of complete process systems, incorporating the most up-to-date modern process & control technology available.





# Investing In The Future

BCH have over 190 years of experience in food and confectionery processing systems.

In 2000 we opened our Innovation Centre to assist our worldwide customers with meeting the many challenges faced in today's fast changing food industry. Our unique Innovation Centre is available for assistance with new product and process development, as well as equipment evaluation before initial investment.

The Centre houses a wide range of equipment, services and facilities, all of which are supported by in-house personnel with a wealth of knowledge to provide support in process design, food science, engineering and software.

BCH know-how enables all of our clients to develop new and exciting products, to test feasibility, then up-scale production – ultimately enabling the end product to reach the wider marketplace at a much faster pace.



# Cooking Kettle

Our range of kettles have been designed to meet the stringent quality assurance and hygiene requirements of the food manufacturing industry.

They cover a wide variety of food cooking, mixing and blending applications across a whole range of products for the food, pet food, confectionery and pharmaceutical industries. An impressive basic build specification is complimented by an extensive choice of optional features, adding yet further processing versatility.



## Standard Features

- Fabricated throughout in stainless steel
- Steam jacket pressures of up to 4 bar G
- Built to PED or ASME standards
- Working capacities range between 10 and 5000 litres
- Choice of agitation position
- Single piece hinged PTFE scrapers
- Polished internal with beadblast external finish
- Atmospheric, pressure & vacuum versions available
- Tilting options also available



## Products

- Pie fillings
- Casseroles
- Stews
- Soups
- Fruit
- Vegetables
- Sauces
- Meat



All kettles are fully compliant with the latest PED regulations and are manufactured in accordance with PD5500.

# Vacuum Cooling

BCH Vacuum Cooling System ensures a complete high performance system, providing the fastest and most effective means of heat removal from a batch process.

BCH's Vacuum Cooling System can typically cool products from 90°C to 5°C within 45 minutes, without the need for expensive refrigeration used with scrape surface pouch cooling and traditional blast chilling rooms.

A vacuum cooling system operates at around 30% of the cost of comparable refrigeration systems. The vacuum system can be supplied with a seal water recovery system, thus reducing operating costs further.

The speed of cooling in a sealed environment offers food safety attributes and swift passage through the temperature danger zone.

The combination of BCH Cooking and Vacuum Cooling into one complete system means you can guarantee foods are cooked and cooled rapidly with repeatability and food safety in mind. Manufacturers can also benefit from a smaller footprint with reduced labour and energy costs.



## Technical Specification

- High quality stainless steel construction throughout
- Working capacities range from between 10 and 5000 Litres
- Variable agitation function for maximum product quality
- Indirect cooling plant
- Designed for full CIP application
- Fully automated with recipe control
- Engineered in line with the latest safety standards





# Cook / Cool System

BCH have developed a range of industrial combined cook and cool systems to meet the challenges presented across a wide range of products.

The equipment incorporates all the features and benefits that can be gained from the independent cook and cool machinery, including atmospheric, pressure and vacuum cooking, direct culinary steam injection, vacuum and jacket cooling.

## Typical Products

- Savoury Pie & Pasty Fillings
- Sweet Fillings
- Absorption Cooked Rice Mashed Potato
- Spring Roll & Samosa Filling
- Soups & Sauces
- Pet Food
- Stock Preparation



## Key Advantages

- Rapid cooling - typically 45 minutes or less
- Low operating and maintenance costs
- Small footprint (vacuum set can be located outside)
- Reduced labour costs and increased production capacity
- Hygienic operation with CIP System
- PLC controlled with latest technology





# Bratt Pan

The term “Bratting” is usually associated with the rapid sealing or searing of meat and vegetables.

## Developing The Flavour

Bratting is also referred to as pan frying, stir frying or sautéing. This quick, hot cooking method seals in the flavours of the foods, as well as their colour and texture.

BCH's Bratt Pans can be utilised for a wide range of cooking functions including shallow or stir frying, braising, boiling, steaming, poaching or stewing. This versatile pan is also used extensively in the ethnic ready meal industry for cooking basmati and pilau rice using the total absorption method. It can also be used for the production of curry sauces.

## Technical Specification

- Flat heated base with vertical or sloping front face, which enables all cooked products to be easily discharged into trays.
- Tips both ways - forwards into high care for product discharge and backwards into low risk for removal of wash water via the liquid output valve.
- Hinged cover option to retain heat and minimise steam emissions.
- Simple operation - the pan is manually tilted using manual or powered hydraulic pump and cylinder.
- Manual stirring operation



## The Equipment

The Bratt Pan comprises of a flatbed, rectangular-shaped vessel with a jacket on the underside for heating the product. Liquid draw-off valves are provided front and rear, and the vessel is supplied with hinged covers to retain heat and minimise steam emission.

Heating is achieved using either a high pressure steam supply, or thermal oil media.

**Two standard sizes are available:**

- 100 litre working volume (200L brim capacity)
- 200 litre working volume (400L brim capacity)

# Vacuum Cooker

BCH Vacuum Cooking process solutions are suitable for wide range of high quality products.

From a standalone machine, to a full turnkey system with pre-mixing, cooking, holding and final treatment, the process can be matched to the users exact requirements.

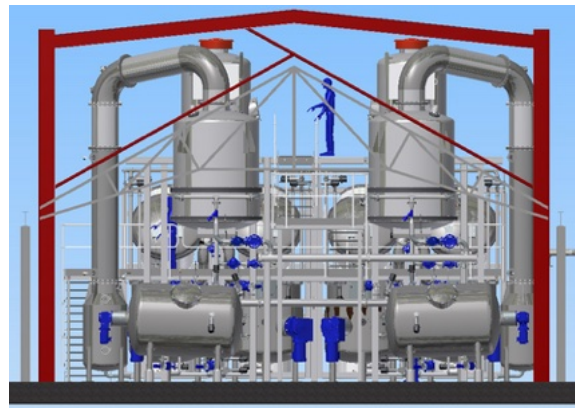


## Standard Features

- High quality stainless steel construction throughout
- Steam Jacket Pressures up to 10 bar G
- Built to PED or ASME standards
- Working capacities range from 10 to 3000 litres

## Typical Products

- Jams and Preserves
- Relishes and Chutneys
- Marinades
- Stock Preparation
- Concentrated Fruit Purées
- Vapour Reduction
- Bakery Caramel and Toffee



# RotaChill

The BCH RotaChill Pouch Cooling System is a high efficiency, rotary tumble chilling unit designed for use with freshly cooked products which have been deposited into pre-packed pouches or bags.

It is ideal for products requiring an extended shelf-life within the manufacturing process, for example sauces, soups, casseroles, fillings, desserts, ethnic meals and toppings.

The RotaChill is available as a turnkey package in 300/ 500/ 750/ 1000 or 1500 litre batch configurations.



## Technical Specification

- Incorporates a bag filling and clipping system
- User-friendly operation
- Hygienic design
- Factory tested
- Robust stainless steel construction
- Remote water chiller system and controls included
- Self-contained pre-wired controls
- Pre-piped internal cooling system
- Automatic coolant recovery storage





# Optima Processing System

More than simply a mixing vessel - the BCH Optima is the ultimate all-in-one system with more processing options than ever before.

## All-In-One Processing System

Suitable for all your food manufacturing requirements, the Optima provides customers with the freedom to become independently creative with their own unique process and products. Equipped with both tilting and pump-out options, the machine can handle an impressive range of viscosities and consistencies; anything from smooth liquids to dry cake mixes with inclusions.

The BCH Optima is a batch process machine which can be relied upon to perform an extensive range of process steps - all brought together in a single machine.

Ideal for the manufacture of a countless variety of food products including confectionery, convenience foods and spreads. The list of current and future possibilities is as endless and diverse as our customers' imagination.

## Process Options Include:

Jacket heating / Jacket Cooling / Pressure Cooking / Vacuum Cooking / Vacuum Frying / Vacuum Chill / Cutting / Blending / Dissolving / Pasteurising / Emulsifying / Powder Wetting



# Orbiter Kettle

BCH's Orbiter range was designed for start-up food producers, as well as industrial manufacturers who require a kettle for smaller batch sizes.

## Sauce Cooking Kettle

A robust and sturdy construction enables these kettles to meet the varied performance requirements of today's busy food service kitchen environment.

These highly versatile kettles are jacketed for use on either steam or thermal oil and are provided with a simple operator friendly control interface.

**An electrically heated version is also now available.**

The kettles come in standard sizes of 100 / 200 / 300 / 400 / 500 litres and are ideal for the production of a wide range of products including soups and sauces.

## Features

- High quality stainless steel construction throughout
- Control interface with:
  - Programmable temperature controller
  - Agitator controls with variable speed options
- Pressure jacket suitable for operating at up to 6 bar steam pressure enabling a fast and energy efficient heat up time.
- Insulated steam jacket, providing operator protection and improved thermal efficiency.
- Electrically operated on/off jacket service control valves enable automatic control of the jacket heating process.
- Fully hinged, spring loaded safety interlock lid fitted with viewing cover.



- Kettles are designed to meet UK & International safety standards.
- Wiring and Circuit design to meet UK & International standards.
- Jacket design meets UK, European and North American pressure vessel regulations (PESR, PED & ASME).

# Mixing & Blending

BCH can provide a wide range of mixing and blending solutions for heating, cooling and ambient processes.

## Features

- Horizontal ring agitator
- Vertical anchor/gate agitator
- Propeller mixers
- In-tank recirculation high shear mixers
- High pressure homogenisation
- Powder entrainment option

## Typical Products

- Pizza sauces & salsas
- Cheese sauces
- Quiche fillings
- Mayonnaise
- Condiments (Ketchup)
- Sweet & savoury toppings
- Hummus
- Batter



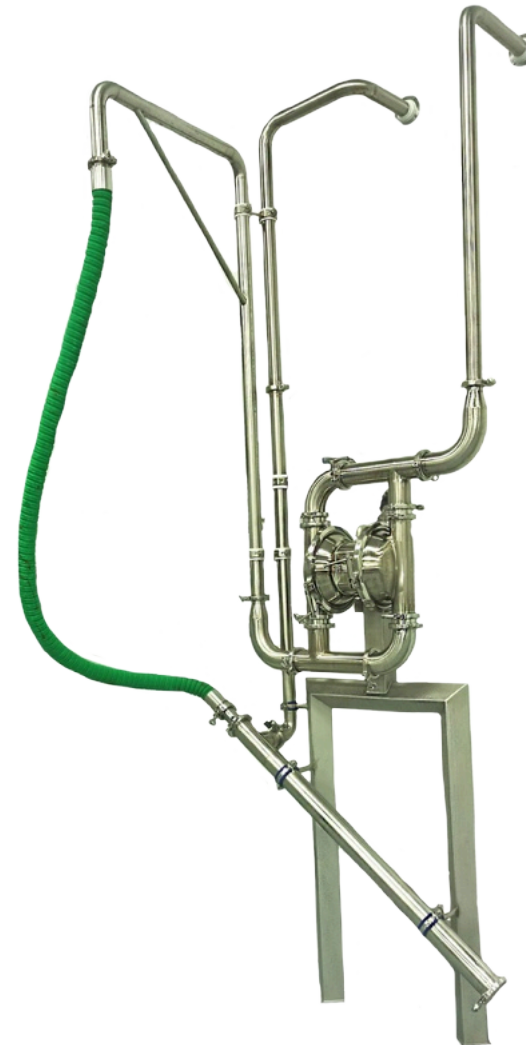


# Dosing & Handling

BCH can provide a wide range of dosing and handling equipment to complement customer projects. These can be standalone solutions or integrated into automated systems.

## Typical Solutions

- Metered liquid feeds , chilled or heated from existing or new bulk storage tanks or IBC delivery stations
- Granular / powder handling systems using a wide variety of solutions to match the product.
- Hoist Loading systems using hygienic bins up to 1000kg capacity.
- Colour and flavour dosing systems.

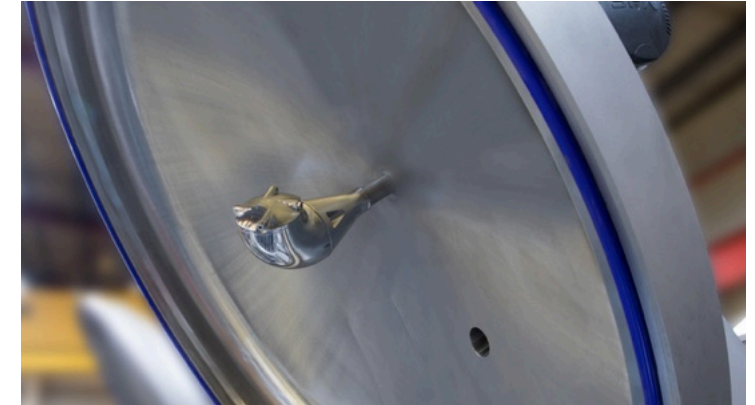


# CIP (Clean In Place) System

Built to recognised industry codes of practice, BCH work in conjunction with our customers ensuring that every system is tailored to meet the specific process application, whether it be a simple once through total loss rinse system - or a fully automated multi-channel recovery system.

Many BCH CIP systems have been supplied specifically for the sanitary standards required in the ready meals industry, with a typical washing process consisting of several rinsing cycles where the cleaning material is circulated through the pipework, valves, pumps, cooking, cooling and holding equipment. High levels of plant cleanliness are required as minimum standard.

Integrated CIP systems can offer efficiencies in terms of increasing the line production time available, reduction of cleaning materials (water, detergent and manpower) and effluent charges.



## Technical Specification

- Stainless steel construction throughout
- Up to 10,000 litre capacity feed and recovery tanks
- Fully automated sequencing of the cleaning process along with complete integration with the core food process
- On-board HMI controls with standalone PLC connected to the main process plant
- Automatic detergent dosing, with full monitoring of outgoing and incoming detergent strength (pH conductivity probes)
- Multi-channel options, each with variable speed delivery pump and temperature control
- Automatic monitoring of water flow rate and temperature on the flow return feed of each individual channel provided
- On-board steam heated heat exchanger systems complete with modulated steam control



# Process Automation

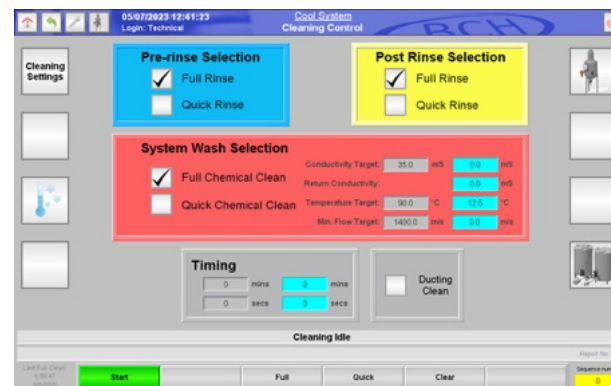
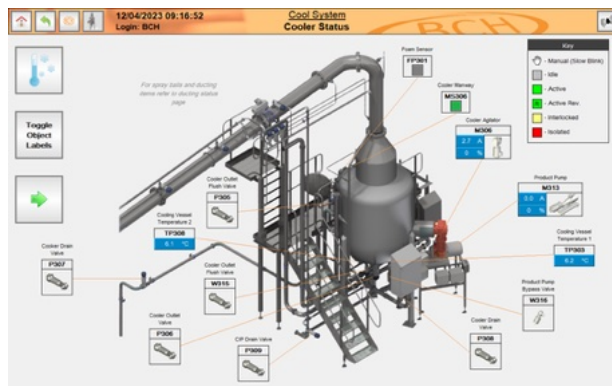
Calling on our vast experience in the industry, our electrical and software engineers develop control systems using the most up-to-date technology available.

## FlexiChef

FlexiChef provides flexibility in the creation of a vast range of products, as well as providing consistency in the procedure, quality and product yield.

## Features

- Windows based recipe management and reporting system
- Latest PLC & HMI technology with options available from Siemens, Allen Bradley and Mitsubishi
- IIoT and cloud connectivity options available
- Plant status and diagnostics shown on operator terminal
- HMI stored recipes: store up to 90 recipes locally
- Scalable recipes i.e a nominal batch size of 1000kg can be scaled up or down for the desired batch size removing the need for holding multiple batch sizes of the same recipe.





# Spares & Service

BCH is fully committed to providing all of its customers with a world class after-sales service. As part of this service, we offer a full range of replacement parts for both new and existing plant and equipment, as well as service packages.

## Spares Department

The BCH spares department is available for replacement parts on BCH equipment.

All new equipment is supplied with a detailed spare parts list, with all critical items clearly identifiable, as well as delivery timescales. The spare parts supplied are of guaranteed quality to ensure our equipment remains achieving optimum performance.

An extensive range of stock of frequently used parts are held at our manufacturing facility for quick delivery and to ensure equipment can be back up and running as fast as possible. Fast-track, in house manufacture of critical components allows us to ensure we always hit our delivery commitments. For other parts, a world wide shipment is offered using the most efficient transportation methods.



## Service, Commissioning & Installation

Our service department is on hand to offer assistance with the installation of spare parts on site, which can dramatically cut down time. For urgent issues, our calibration engineers are available as a priority.

The service department can also provide health checks on equipment to assess plant efficiency and identify and solve any issues before they affect production.

BCH also offer installation and commissioning packages on equipment to ensure machinery is fitted correctly and to a high standard, so production can begin quickly. On-site training can also be included to make sure staff are confident in using BCH equipment.



# Find Out More...

BCH also offer additional equipment for the Food and Confectionery process industries. This includes equipment for the production of liquorice, caramel, hard candy, 100% extruded fruit, fondant and medicated confectionery.



**Discover some of our popular confectionery lines below:**

## Premix Systems

A BCH premix system can be utilised in both food and confectionery production. It is particularly useful in the liquorice, starch gels, jam, extruded fruit, fondant and caramel industries.

Manufactured from a hygienic stainless steel design and including automatic discharge valves, the range includes a Slurry Mixing Vessel, Slurry Holding Vessel and Rework Processing System.



## Cooling Tunnels

Originally designed for extruded liquorice confections. BCH has launched a modular range of conveyors and tunnels for the efficient transport, cooling and conditioning of food products.

A BCH cooling tunnel or process conveyor can be incorporated into a full process line using a fast and simple installation. This can be used for products such as pet food, fruit straps or chocolate.



## Guillotines

BCH offer Standard, Automatic, High Speed and Ultrasonic Cut Guillotines to maximise flexibility in any production line. A hygienic design; they are user friendly and easy to clean and maintain.

Specially designed to cut both soft and sticky products without adhering to the blade and with minimal crumbling of the product. They can be used for products such as sausage rolls and sponge.



**For more information on BCH's confectionery production equipment please contact us today.**



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