



**food
processing
innovation**



D C Norris & Company

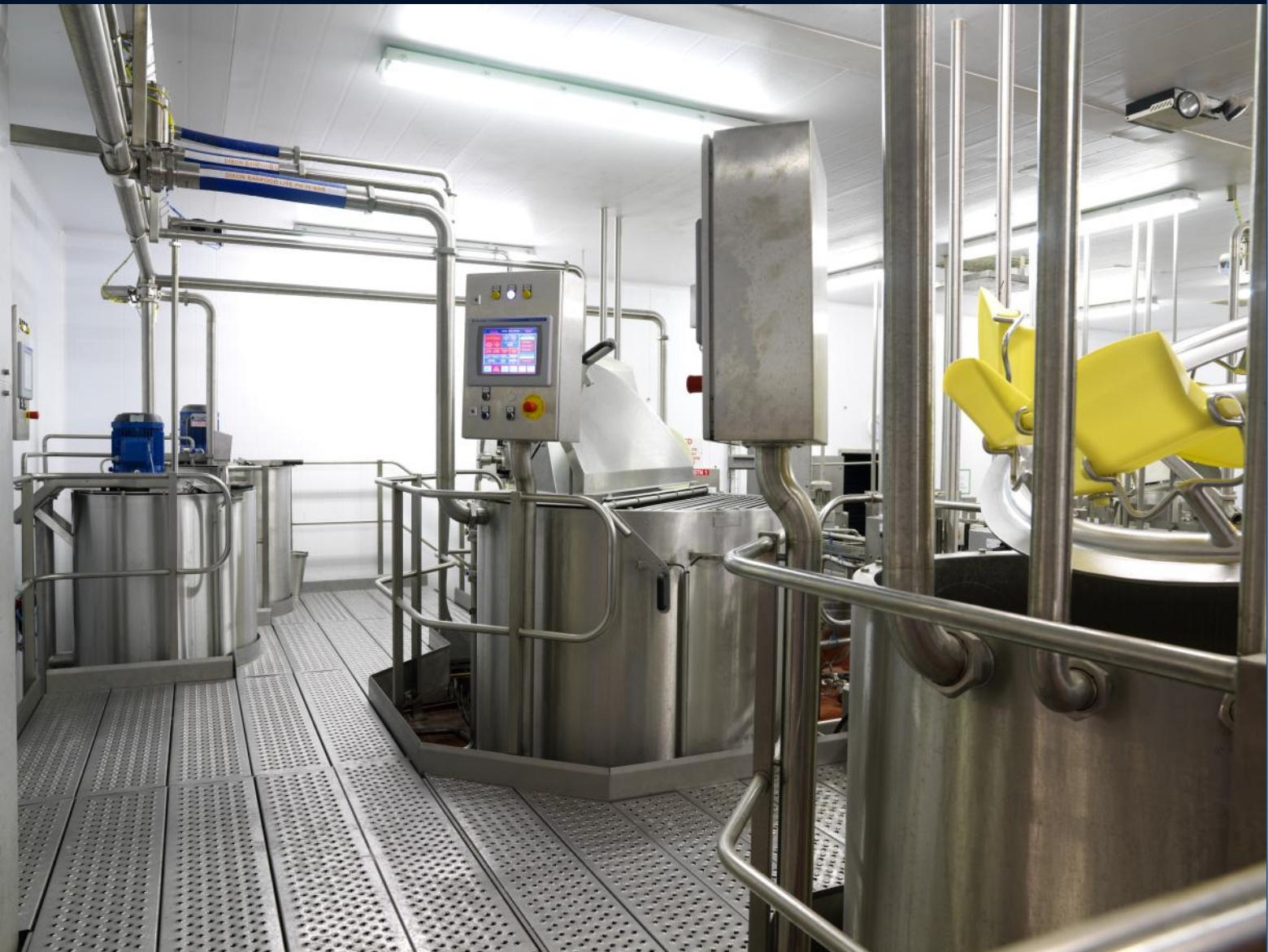


D C Norris & Company
www.dcnorris.com

food processing innovation

COOK-CHILL SYSTEMS

The Only Choice For Top Class Food Producers Around The World



- ✓ *High Volume*
- ✓ *High Production*
- ✓ *High Consistency*
- ✓ *Increased Efficiency*

Consistent Food Quality, Taste, Texture, Colour, Moisture Content & Nutritional Value

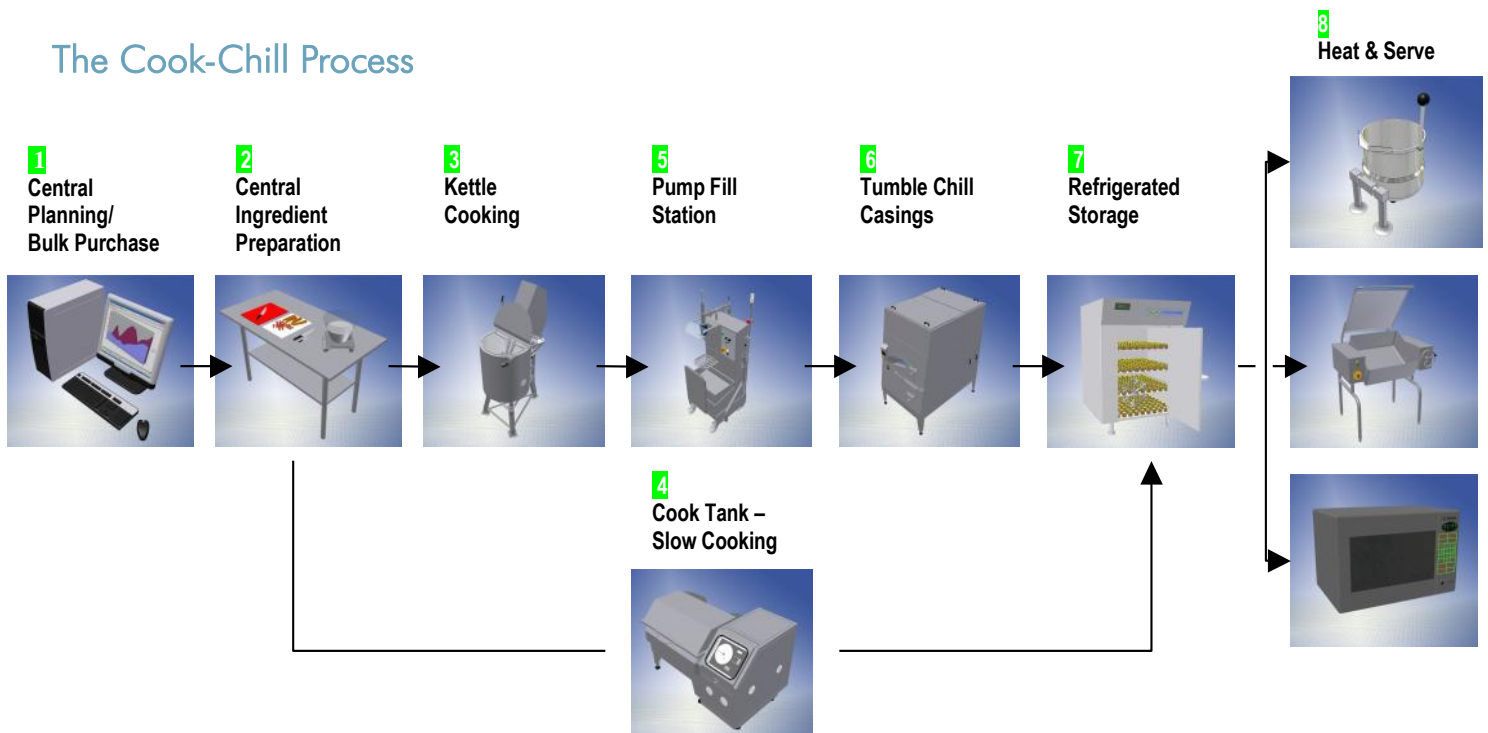
COOK-CHILL SYSTEM

DCN Cook-Chill System has become an industry benchmark delivering cooked and cooled food of the highest quality. Food retains the taste, texture and aroma of freshly prepared ingredients with a shelf life of up to 45 days.

The system is based on specially designed cooking, packaging and chilling equipment capable of processing both small and large volumes of ingredients with the minimum number of operators. With the Cook-Chill system you can make up to 250,000 meals a day. User friendly control systems monitor production and product status at all stages of the cook-chill process in order to ensure delivery of a reliable safe refrigerated product.

DCN customers who are currently benefiting from Cook-Chill are leading food producers, supermarkets, restaurant chains, schools, hospitals, correctional facilities, military, government, nursing homes, hotels, casinos and resorts.

The Cook-Chill Process



How Does Cook-Chill Work?

Cook-Chill follows a logical, fully documented production cycle, and delivers a range of important benefits. The key to safe extended storage of foods is to rapidly chill your cooked product through the 'danger zone' of 60 – 63°C to retard bacterial growth. This is how we do it:

1: Preparation: Production can be scheduled to meet sell-by-date requirements, allowing advance ordering or Just In Time delivery of meals.





2: Cooking: Using any of the range of [DCN Stainless Steel Kettles](#) or [Cook Tanks](#) (dependant on product) which can be full recipe driven or manually controlled. The system ensures that all times, temperatures and quality parameters are constantly monitored.

3: Packaging: When the cooking cycle is complete, a specially designed [DCN Pump Fill Station](#) or fully automated [Form Fill Seal Machine](#) transfers food at 95 °C from low to high-risk areas – this avoids particulate damage, and allows metered delivery into specially formulated laminated bags. A fully flexible system, bags can be filled with different volumes, prior to full pasteurisation. They are then sealed, dated and labelled.

4: Chill: Bags are conveyed into a [DCN Tumble Chiller](#), they are then gently circulated in chilled water to rapidly drop the temperature from 95 °C to below 5 °C in under an hour (product dependent) with cooling times and temperatures fully logged. Sealed casings are then placed in chilled storage at 1°C and be stored for up to 45 days.

Steam Jacketed Kettle

Products which can be cooked in a DCN Kettle and then pumped into bags using our Pump Fill Station or Form Fill Seal Machine:

- Ready Meals
- Soups / Chowders
- Ethic Cuisines
- Sauces / Gravies
- Pie Fillings
- Casseroles & Stews
- Dressings & Dips

Cook Tank

Whole Items requiring a slow sous-vide style cook using a DCN Cook Tank:

- Beef & Pork Joints
- Chicken Breasts
- Turkey Breasts
- Ham
- Fish
- Lamb & Veal Cuts
- Duck / Pheasant / Quail





DCN Cook-Chill Equipment

Inclined Agitator Kettles



All Cook-Chill systems begin with a DCN inclined agitator kettle, sized to your production requirements. The patented agitator design provides variable speed agitation for gentle yet complete mixing of all ingredients, and ensures uniform suspension of solid foods (vegetables etc) while pumping food out of the kettle. The kettle is fitted with a 3" air operated valve for automatic transfer of food products to the pump fill station. This hands free product transfer minimises human or utensil contact with food and greatly reduces the risk of product cross contamination.

- Inclined scraping type agitator with patented, heat resistant, food approved plastic blades
- Standard sizes from 300 to 1500 litres. Custom sizes made to order
- Steam jacket operates up to 10 bar. Insulated and stainless steel sheathed
- Manufactured in stainless steel grade 316 for all food contact parts and type 304 for all other parts and designed and tested to PD5500 standards
- Standard internal sanitary finish of 180 grit. External surfaces have a semi-deluxe buff finish (or to customers specification)
- Accessories include: CIP, steam injectors, homogenisers, mixers, blenders, full controls, valve packages, gantries

Pump Fill Station / Form Fill Seal Machine



This state of the art pump fill station is fully mobile and equipped with a special food grade pump designed to handle high and low viscosity products without damaging sensitive foods. Kettle contents are quickly pumped, packaged and sealed, while still hot (95°C). It can empty and package the contents of a 1000 litre kettle in 15 minutes. Tough, pliable plastic casings are filled with accurately measured amounts of food, and an air operated clipper seals and trims the bags. The clipper is also ideal for packaging meat products for Cook Tank preparation. Alternatively the DCN Form Fill Seal Machine can be used instead as a fully automated option thus reducing labour costs.

- Stored pouch/product volumes
- HMI panel or push button "self teach" options
- Temperature cut-out to prevent cold filling of bags
- Clipping head with 'no-clip' alarm
- Pumps solids (35 mm) with no product damage
- Data logging / Load cell / CIP incorporation (optional)
- Positive rotary pump

Cook Tank



Add even more production capability to a Cook-Chill system with a hot water, low temperature Cook Tank. Ideal for the preparation of meats, poultry and a variety of prepared goods that cannot be kettle cooked or tumble chilled. Meats, poultry and prepared foods are vacuum packed in plastic casings and loaded into wire racks, which stack in the Cook Tank. Circulating hot water slow cooks meats in their own juices, resulting in extremely high yields, up to 95%. Following cooking, cold water is circulated in the tank to rapidly reduce product temperatures and extend safe refrigerated shelf life.

- Inclined scraping type agitator with patented, heat resistant, food approved plastic blades
- Fully automatic
- All stainless steel design
- Microprocessor control
- E-terminal data logging (optional)
- Slow overnight meat cooking
- Stainless steel baskets to take bagged vacuum clipped product
- HACCP compliant
- Approximate capacities:
 - Model CT-5 – 300 kg joint
 - Model CT-10 – 450 kg joint
 - Model CT-20 – 900 kg joint

Tumble Chiller



The Tumble Chiller is the key to safe extended shelf life of your Cook-Chill prepared foods. Tough, pliable plastic casings are loaded into the chiller while still hot (95°C) and then gently tumbled in chilled water. This process is safe for delicate foods and extremely effective, reducing product temperature from 95°C to below 5°C in 90 minutes or less. (product dependent) This rapid chilling greatly reduces the time food remains in the "critical zone" (7°C-63°C) and eliminates virtually all-bacterial growth, which allows safe refrigerated shelf life for up to 45 days.

- Inclined scraping type agitator with patented, heat resistant, food approved plastic blades
- All stainless steel design / Large or small batch
- Easy to use HMI / Microprocessor control
- E-terminal data logging (optional)
- Cleaning cycle
- Surge tank for water recovery (optional)
- Approximate capacities:
 - Model TC-75 – 750 litres of product
 - Model TC-100 – 1000 litres of product



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Transfer from Kettles to Pump Fill Station and then into Tumble Chillers for cooling



Controlled Cooking and Rapid Chilling
Eliminates Degradation of Food Quality
Caused by High Temperature and Freezing

Advantages Of Cook-Chill

- ✓ Builds up a stock of quality food for future use.
- ✓ Hygiene – no direct human or utensil contact during the cooking or the packaging.
- ✓ Savings of 5-10% are possible from increased meat yields, control of ingredient inventory and use of standard recipes reducing food waste.
- ✓ Saves on labour costs.
- ✓ Consistent quality of the finished product by the use of controlled production techniques.
- ✓ Food Safety.
- ✓ Production can be centralised for operations where food is distributed to off-site locations.



High Performance Processing Equipment & Expertise For The Food Industry

Food Manufacturers
Catering Companies
Supermarkets
Speciality Food Producers

Restaurant Chains
Hotel Foodservice
Schools Foodservice
University Foodservice

Military Foodservice
Institutional Foodservice
Hospital Foodservice
Casinos/Resorts

COOK-CHILL BAGS

DCN bags have been developed over several years to give maximum performance and strength when used in conjunction with DCN Cook-Chill Systems. The bag is designed to be thin in nature to give optimum temperature transfer, which reduces both cooking and cooling times, but also with a construction to prevent breakage. The bag material has a layered construction that prevents penetration of the atmosphere and when sealed and stored in chilled conditions, extends the shelf life of the product inside.

Kettle Pouches

Features:

- For use when packaging product after cooking in a DCN Steam-Jacketed Kettle as part of the Cook-Chill Process.
- Multi layer design to give strength and resistance against atmospheric intrusions
- Heat-sealed construction
- Shelf life properties up to 28 days (product dependant)
- Natural or coloured
- Available in any size up to 8 litres



Cook Tank Pouches

The Cook Tank pouches are manufactured in a special nylon/polythene material, which is essential when vacuum packing joints of meat or fish ready for cooking or cooling in the DCN Cook Tank.

Features:

- Designed to give strength and durability for vacuum packing
- Heat-sealed construction
- Natural
- 2 Sizes Available:
 - 300mm x 600mm x 65mu
 - 400mm x 400mm x 65mu





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