



 **Baker Perkins**
Breakfast Cereals

Cereal Master™ - a comprehensive capability in breakfast cereal production

Baker Perkins combines a portfolio of modular process lines and unit machines with the process knowledge and engineering expertise to create systems for virtually every kind of RTE (Ready To Eat) breakfast cereal product.

Our modular approach to process design means that our Cereal Master™ lines can be adapted or extended with additional process units to make the new products required by this established, yet still developing market. The greater flexibility that this brings to cereal production quickly maximises return on equipment investment. We offer steam-cooking, extrusion, flaking, shredding, toasting and coating processes for flaked, shredded and extruded breakfast cereals.

Baker Perkins is able to fully support newcomers to the market by helping them to create a range of high quality products using either a standard extrusion or traditional steam-cooking line.

The product range can then be expanded or output increased by incorporating additional units into the line. Established businesses work with Baker Perkins to add interest and variety to product ranges and install additional capacity by taking advantage of new technology and our flexible, modular design philosophy.

Cereal Master™ modular lines provide the ideal platforms for cereal manufacturers to develop their businesses or respond to changes in the market. Along with the expert support and advice on offer from Baker Perkins, plus our promise of Lifetime Support, this makes Baker Perkins the supplier of choice for growing cereal companies worldwide.



Products

Baker Perkins offers complete systems for the production of high-quality traditional, extruded and co-extruded cereal products. The modular design philosophy of our Cereal Master™ lines allows product ranges to be changed or expanded to meet the needs of growing businesses, or to respond to new market opportunities.

Traditional Cereals

Traditional corn, wheat, bran or multigrain flakes as well as shaped wheat biscuits can be made using Baker Perkins' rotary steam cooking and flaking process.

A range of shredded cereals, including multi-layer shredded wheat, bran sticks and layered corn, rice or wheat shredded squares can be produced with Baker Perkins' Shred Master™ systems.



Granola Cereal & Bars

Complete granola systems that ensure gentle handling and precise baking throughout the process. Baker Perkins' equipment can be utilised for the production of kibbled cereal clusters or bars with fruit, nuts, seeds or other additions.



Extruded Cereals & Flakes

Baker Perkins' Cereal Master™ extrusion technology creates high quality direct expanded cereals and extruded flakes. Typical products include corn flakes, multigrain rings, alphabet shapes and cocoa curls.



Co-Extruded Cereals

Co-extrusion extends the capability of the extrusion process to make added-value products with a variety of fillings, such as chocolate, fruit pastes or creams. Products may be formed into 2D pillows or 3D shapes.



Traditional Flakes

Cereal Master™ TX

Dedicated lines that are easily extended to change or diversify the product range.

Gentle steam cooking of cereal grains in the Cook Master™ Rotary Cereal Cooker ensures that the texture, flavour and nutritional benefits of wholegrain ingredients are retained in the final product. Consistent flake quality is achieved using Baker Perkins' Flake Master™ flaking rolls, before controlled toasting and drying of the flakes takes place in the Thermoglide2™ Toaster.

Cereal Master™ TX is an expandable process. A standard line making traditional wheat and bran flakes can be progressively extended to manufacture multigrain products, corn flakes, and coated flakes by incorporating additional units, such as drying and tempering equipment, or Baker Perkins' Syrup Coating System.

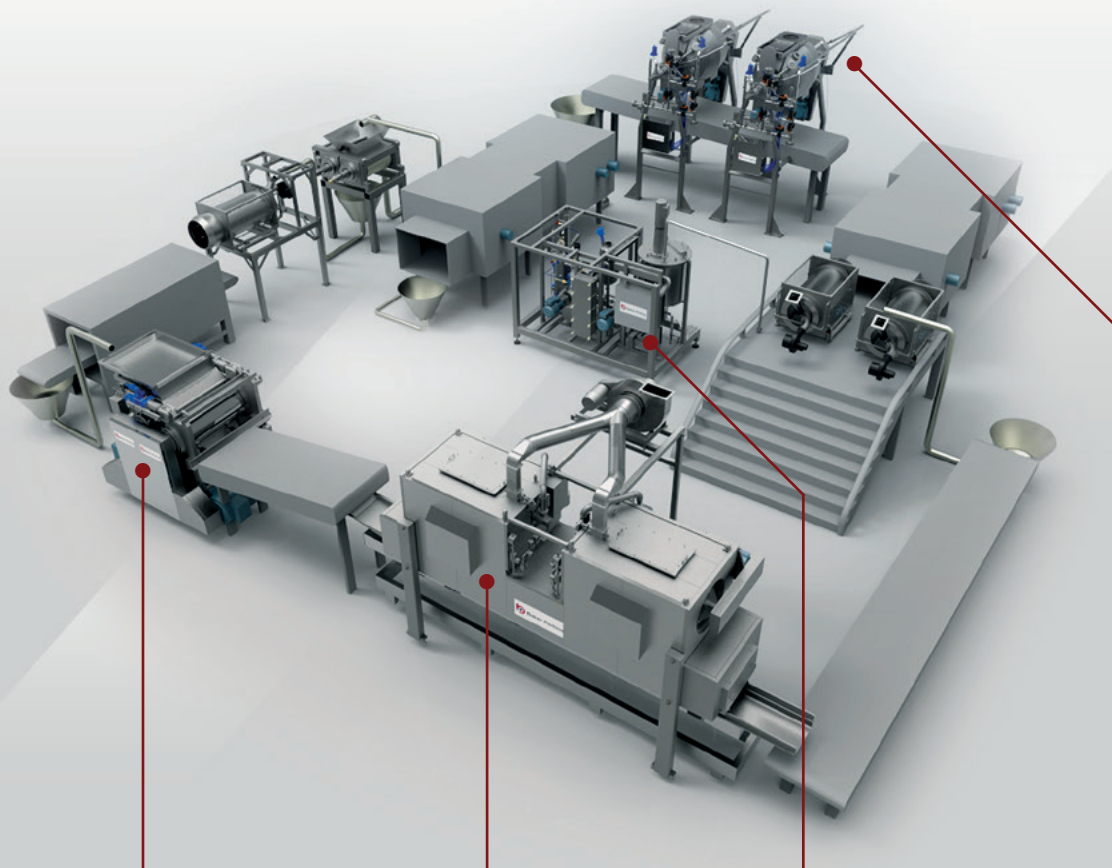
This modular approach to process design allows the Cereal Master™ TX system to grow as the customer's business expands or market demands change.

Bran & Wheat Flakes

Multigrain Flakes

Traditional Corn Flakes

Coated Flakes



FLAKE MASTER™
FLAKING ROLLS

THERMOGLIDE2™
TOASTER

SYRUP SKID

COOK MASTER™
COOKERS

Granola Products

The healthy image of oats can be harnessed to make granola cereals or bars with enhanced consumer appeal.

Crunchy granola cereal products are made by blending dry ingredients with oil and sugar to form a mass. Baker Perkins' systems spread this mass evenly across the width of an oven band to provide a metered feed and form a loosely compacted sheet, without damaging any ingredients.

After cooling, the sheet is either broken and kibbled into small clusters, or slit and guillotined to produce granola bars.

Baker Perkins' systems ensure gentle handling throughout the process, and accurate baking to achieve the ideal balance between product quality and efficient production.

The product is then gently baked to melt the sugar and remove moisture. Assisted cooling at the discharge binds the mass together to give the characteristic granola crunch.

Fruit Granola



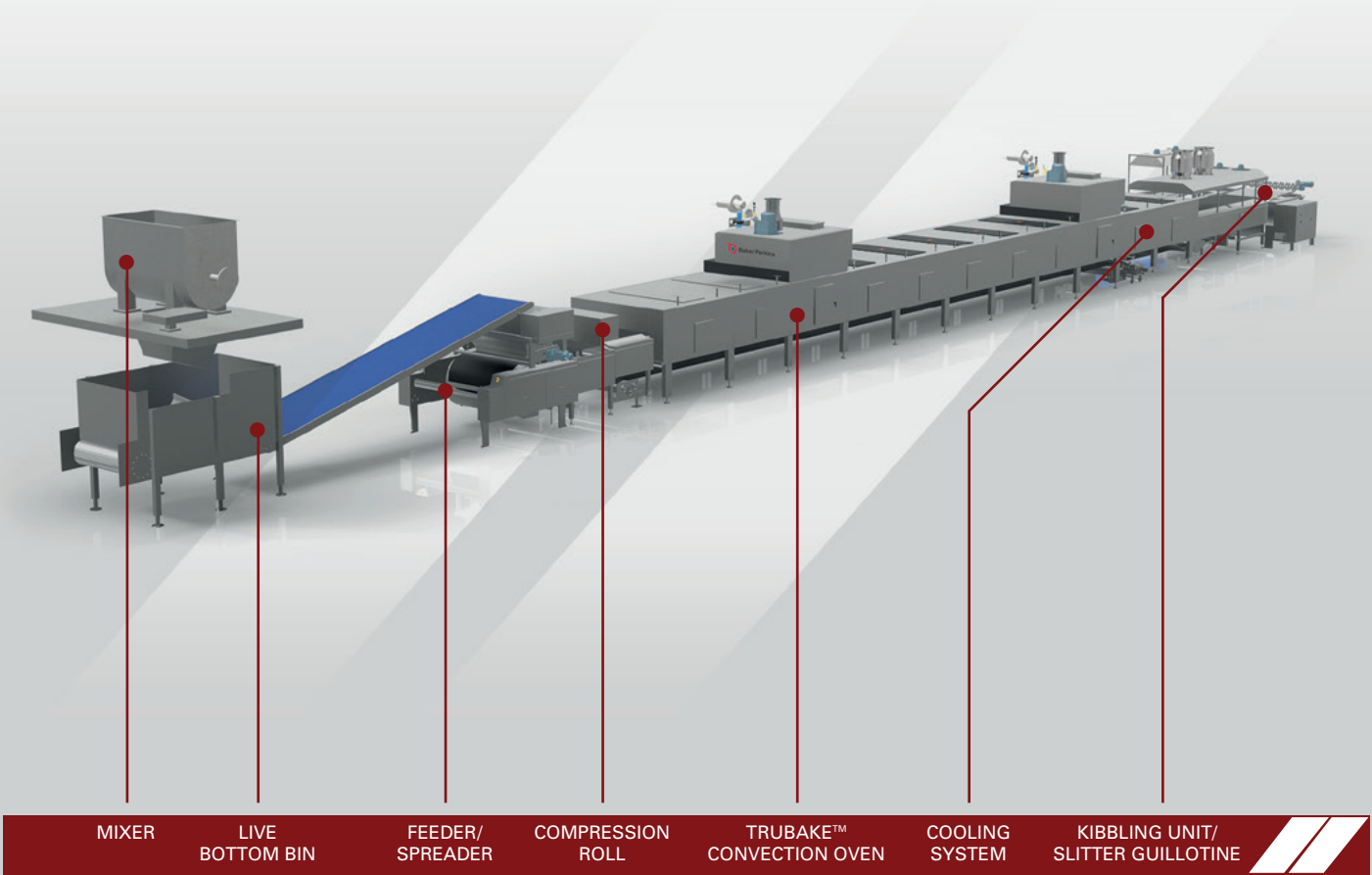
+

Kibbled Granola



or

Crunchy Granola Bars



Extruded & Co-Extruded Cereals

Cereal Master™ EX

Expandable lines with the capability to make an extensive range of breakfast cereals.

Based on Baker Perkins' SBX Master™ twin-screw cooker extruder, a standard Cereal Master™ EX line can produce a variety of high-quality direct expanded and extruded cereal products, such as multigrain rings, cocoa balls, bran sticks and crisped rice.

The SBX Master™ Extruder and preconditioner have been designed to bring additional flexibility and throughput to the production of breakfast cereals. Mixing, pre-heating and hydrating the dry ingredients in the preconditioner rather than the extruder enables it to be smaller and optimised to allow more time for cooking, texture development and cooling.

Additional units can be easily incorporated to build capability: co-extrusion equipment, flaking rolls, cereal cookers and dryers can be added to form versatile plants suitable for volume production of high-specification co-extruded cereals and extruded flakes.

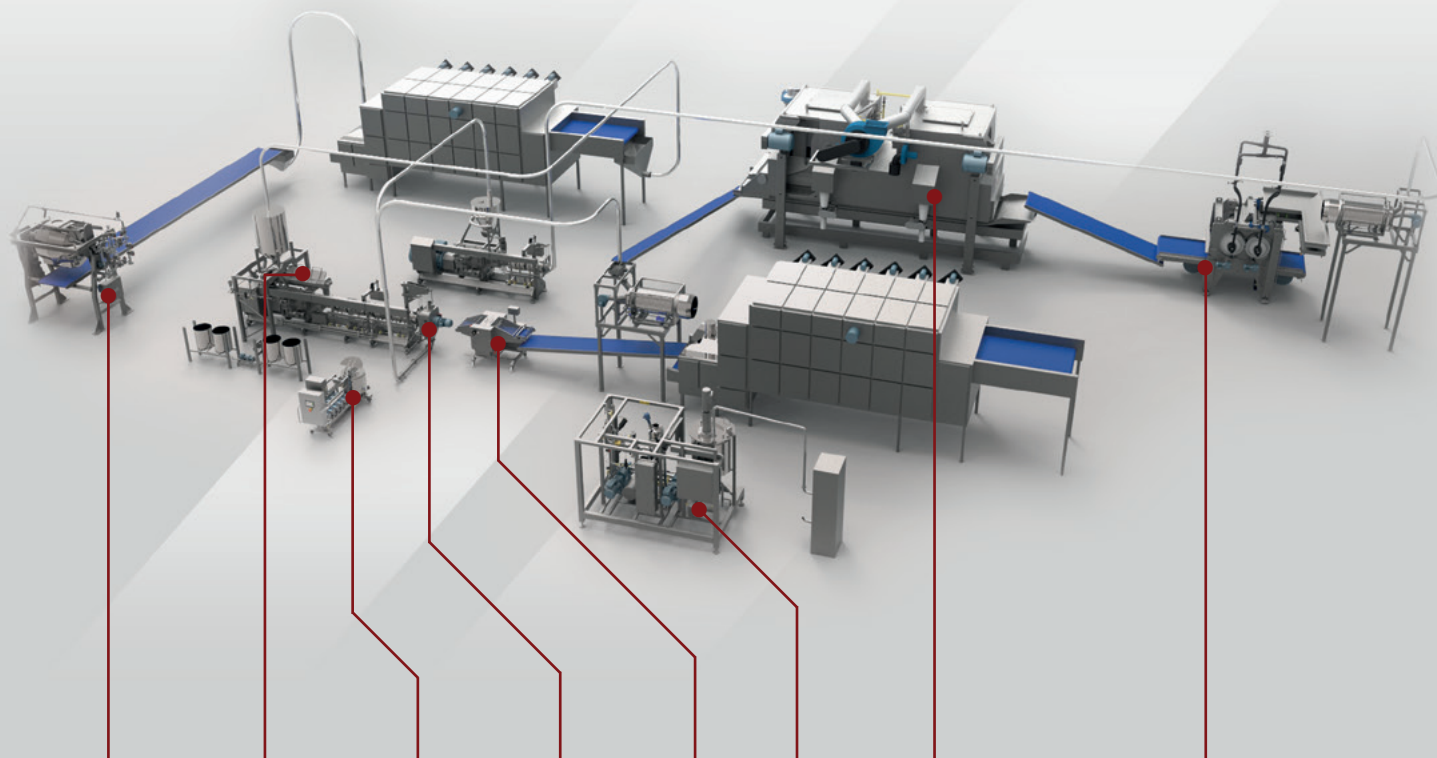
A co-extrusion system extends the capability of the process to make high-value co-extruded products, such as chocolate, fruit or cream-filled pillows, in a range of eye-catching 2D or 3D shapes.

Direct Expanded Cereals

Filled Pillows

Extruded Flakes

Multigrain Flakes



COOK MASTER™
COOKERS

SBX MASTER™
PRECONDITIONER

CREAM FEED
SYSTEM

SBX MASTER™
EXTRUDER

PILLOW
CRIMPER

SYRUP
SKID

THERMOGLIDE2™
TOASTER

FLAKE MASTER™
FLAKING ROLLS

Shredded Cereals

Distinctive, multi-layered shredded or stranded cereals can be produced with Baker Perkins' Shred Master™ system. Shredding is an excellent alternative to flaking that can widen the appeal, interest and variety of a cereal range.

Multi-layer shredded wheat or shredded squares can be created with a range of crunchy textures, using both single and multigrain recipes. Many shredded cereal products contain just a single ingredient, making them attractive to both traditional and health-conscious cereal consumers.

Corn, bran, wheat, oat or rice grains can be processed without the need for additional ingredients, giving the cereals impeccable health credentials. Natural flavours can be enhanced by glazing or frosting to create innovative products with unique texture and taste variations.

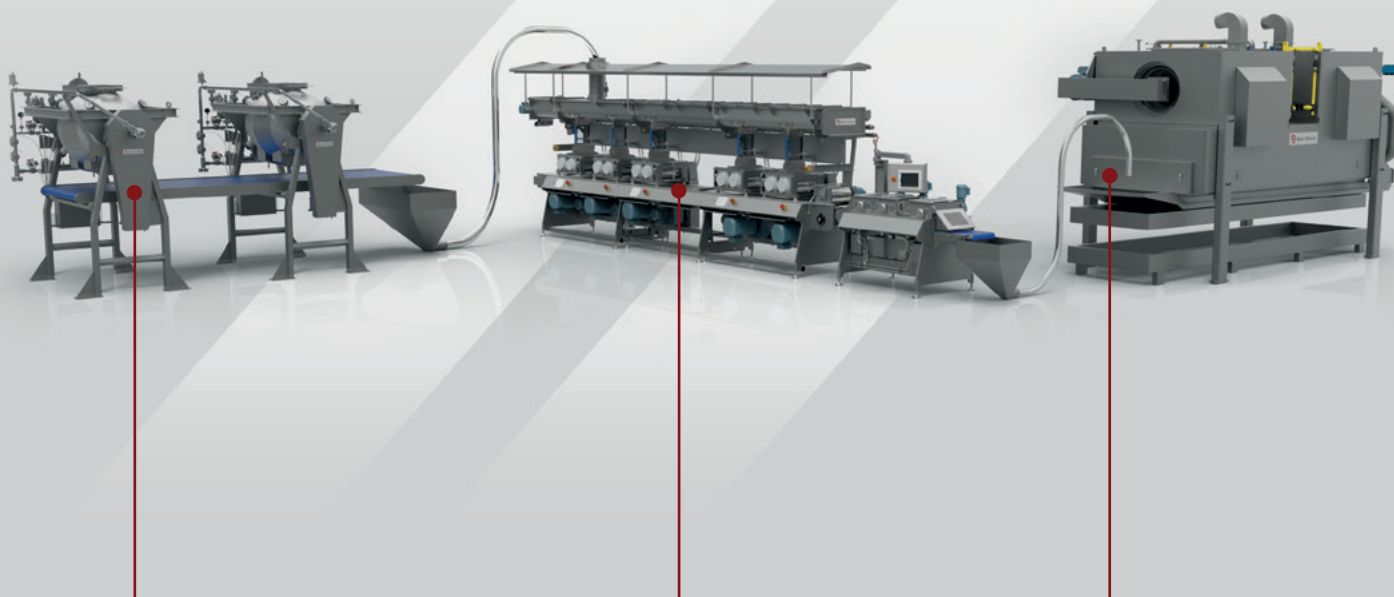
The cooked grains are formed into very thin sheets by passing them between pairs of contra-rotating shredding rolls. Several pairs of rolls are used in series to lay webs on top of one another to form a multi-layered sheet. Up to 20 layers can be combined; fillings, such as chocolate or fruit, can also be incorporated between layers for additional variety.

Malted Shredded Cereals

Filled Shredded Cereals

Sugar Coated Shredded Cereals

Shredded Wheat



COOK MASTER™
COOKERS

SHRED MASTER™
SHREDDING LINE

THERMOGLIDE2™
TOASTER

Equipment

Cooking

Cook Master™ Rotary Cereal Cooker

Baker Perkins' Cook Master™ Rotary Cereal Cookers have fully automatic batch operation and a highly effective mixing action. The rotating steam cooker handles milled or whole grain cereal products including wheat, corn, bran and oats.



Flaking

Flake Master™ Flaking Rolls

State-of-the-art control technology enhances the performance of the latest generation of flaking rolls for high-output, high-quality cereal production. These units provide consistent processing of a wide range of corn and multigrain flakes, from both traditional rotary cookers and cooker-extruders.



Shredding

Shred Master™ Shredding Rolls

Baker Perkins' shredding rolls form cooked cereal grains into distinctive, multi-layered shredded or stranded products. Cooked grains are formed into very thin sheets between pairs of contra-rotating shredding rolls: sheets are then layered on top of each other to build the shredded product. Fillings may be incorporated to enhance consumer appeal and add value.



Toasting

Thermoglide2™

The Thermoglide2™ is designed for drying and toasting breakfast cereals uniformly and consistently. The product is gently lifted and rotated in a cushion of air to ensure it is processed with minimum damage. The Thermoglide2™ combines excellent processing with efficient dust extraction in a compact and energy-efficient unit.



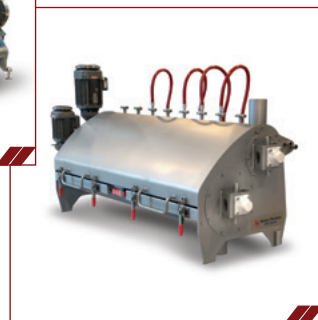
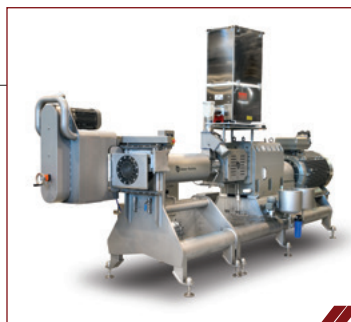
Extrusion

SBX Master™ Twin-Screw Cooker-Extruder

The SBX Master™ is a multi-purpose extruder that handles a wide variety of cereal products. Ingredients are texturised and cooked through a combination of heat, mechanical shear and moisture addition; flavours and colours can be added easily.

SBX Master™ Preconditioner

The preconditioner mixes, heats and hydrates ingredients for processing in Baker Perkins' SBX Master™ extruders. Cooking times and mechanical shear energy in the extruder are reduced, which widens the range of products that can be made on the extruder and maximises both output and quality.



Co-Extrusion

CoEx Master™ Co-Extrusion System

Filled pillows comprise a crispy outer shell with a fruit, cream or chocolate filling. These can be made on any new or existing Baker Perkins extrusion line simply by adding a co-extrusion die, cream feed and pillow crimper to create diverse, high value co-extruded products with unique shapes and fillings.



Colour Change

Spectrum Colour Change System

An innovative, cost-cutting colour-change system for extruded cereals that extends Baker Perkins' cereal extrusion capability. The skid-based Spectrum system enables changeover between colour variations of an extruded cereal to be made 'on the run', with minimal waste. A typical application is mixed fruit colours in a single pack.



Frosting & Glazing

Syrup Coating Systems

Fully automated systems apply frosting and glazing to enhance the flavour and appearance of both traditional and extruded cereals. They enable a product range to be expanded efficiently and cost-effectively. Syrup skids, coating drums and driers can operate in both sugar and sugar-free modes, with simple interchange between the two.



Laboratory Equipment

MPF19/MPF24 Research & Development Extruders

Benchtop and low-output twin-screw extruders for research, development and laboratory work; used to try out new ideas, assess ingredients, provide test marketing samples, and even make small production batches.



Baker Perkins' Innovation Centres in the UK and USA are staffed by expert process technologists who help customers turn concepts into commercially viable products.

Both centres contain a full range of extrusion development and test facilities for conducting equipment trials, developing products and producing evaluation samples, with the assurance of complete confidentiality. The UK facility also has the capability for traditional flakes and shredded products.

Development work can comprise a number of small runs to test a range of different ideas, or longer runs to produce samples for test marketing or other types of assessment. All the equipment faithfully reproduces the processes used in full size plants, so process settings and product characteristics achieved in the lab are easily transferred to a production environment.

The range of equipment is permanently available, and specialised units can be brought in from other suppliers to complete a process if necessary.

Alternatively, customers are welcome to bring along their own technologies to integrate with our existing equipment and cross conventional process boundaries.

Companies from every part of the world find that thorough trials, often using their own raw materials or ingredients, provide a reliable basis for trouble-free commissioning of a new plant or launch of a new line.



Whether supplying a complete line or a single unit machine, we offer the same comprehensive service from start to finish. Our commitment to Lifetime Support includes full process and engineering assistance for the life of the equipment.

We offer a complete range of services to help maintain and improve line performance and extend useful life. This covers everything from replacement parts to major repairs and rebuilds, and includes on-site engineering services such as planned maintenance contracts, fault-finding and plant optimisation.

There are also upgrades available to key features to improve performance and reliability.

When choosing equipment from Baker Perkins, customers expect and get the best in terms of equipment specification, reliability, end-product quality and low production costs. Lifetime Support ensures that these expectations are met for as long as the equipment is in production.





Baker Perkins Ltd
Manor Drive
Paston Parkway
Peterborough
PE4 7AP
United Kingdom

T: +44 1733 283000
F: +44 1733 283004
E: bp ltd@bakerperkins.com

I: www.bakerperkins.com

Baker Perkins Inc
3223 Kraft Ave SE
Grand Rapids
MI 49512-2027
USA

T: +1 616 784 3111
F: +1 616 784 0973
E: bp inc@bakerperkins.com