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Flexibility is the key with Spooner Vicars’ innovative bakery systems

Increasingly competitive international markets where quality and price are paramount, together with a trend towards healthier eating, have culminated in a shift towards bakery systems where ‘line flexibility’ is the ultimate aim of manufacturers everywhere.

These trends have become integral to the design and manufacturing approach adopted by UK bakery equipment specialists, Spooner Vicars. The company’s experience and process knowledge is reflected in systems which are flexible and responsive to consumer demand as well as being more reliable and productive in pursuit of customer profitability.

Spooner Vicars are currently working with major bakeries in the Far East, Australasia and South America where investment in flexible oven systems echo recent trends in Europe. These new systems can respond quickly to changes in consumer demand and allow for quick product changeover within multi-line production schedules.

Nowhere is this more evident than in Spooner Vicars’ response to a major Australian biscuit manufacturer. With over 80 product lines, the company had to respond to a challenging market-place with a production process that would deliver improved quality, flexibility and efficiency – and, crucially, with the shortest possible changeover between products.

A review of the entire manufacturing approach across two production plants resulted in two distinct solutions, as Spooner Vicars’ Sales Director, Dxxxx Bxxxx, explained:

“At Marleston, the requirement was for two almost-identical lines capable of producing sheeted, rotary, moulded, wire-cut, deposited and co-extruded biscuits. At Huntingwood, by contrast, Spooner

Vicars had to address the challenges of a high capacity line producing the company's well-known snack cracker range."

Working closely with the manufacturer's management, process and engineering people, a set of specifications was identified by Spooner Vicars' technical team and then tested out on full-size production lines at the company's UK Test Centre.

The equipment selected for the extensive product range at Marleston included a Series 2000 sheeting line with rotary cutter; a series 2000 rotary moulder; a V45 co-extruder and 4100 depositor. Extra flexibility was built into the line with the potential to add a granola forming machine in the future.

With such a diverse product range at the Marleston factory, oven selection was critical to line performance. To provide the necessary baking flexibility, control and quick response time, a DGF/direct forced convection hybrid oven was installed.

At Huntingwood, the requirement was quite different. For the high output snack cracker line, the equipment supplied included a Spooner Vicars high-speed mixer; automatic dough-resting system; Series 2000 laminator; cutting machine with rotary cutter; and a 122-metre direct gas-fired oven.

An excellent example of how Spooner Vicars' expertise in line flexibility is applied to 'bread and bun' production can be seen at a large bakery in Northern Germany which opened a purpose-built site in November 2004 to make hamburger buns and hot dog rolls.

Specially developed for high capacity baking, with the option of fast and frequent product changeovers, is Spooner Vicars' Continuous Proof & Bake System. This innovative solution delivers improved fuel efficiencies, reduced long-term investment costs, minimal operator levels and a continuous process that eliminates batching.

The system has the potential to handle up to 12,000 tinned loaves, 35,000 muffins and 72,000 buns per hour. In Germany, the single line produces up to 50,000 hamburger buns per hour and is capable of many smooth changeovers every day.

According to Pxxxx Kxxxxx, Spooner Vicars' R & D and Marketing Manager:

"Changeover times can be minimized with the Continuous Proof & Bake System which tracks product through the proofer and oven and allows process conditions to be changed on the run."

The Continuous Proof & Bake System is based on a multi-tier continuous conveyor which eliminates the need for product batching, providing a smooth flow of product through the proofer and oven. Another advantage of the multi-tier system is in reducing the space requirement in a bakery when compared with a traditional tunnel oven.

At the heart of the new technology – designed to ensure that every product is exposed to identical proofing and baking conditions – is a new low-profile continuous carrier chain which gives superior load carrying, maximum access for lubrication and the highest level of grid stability. To maximize throughput, the conveyor system incorporates magnets or centre guides to enable indented or flat pans to be randomly loaded onto the conveyor.

The Continuous Proofer can be conditioned by steam, hot water, gas or electric heating with humidification added by steam injection or atomised water spray. Spooner Vicars' high performance 'Klimatank' air conditioning system also provides accurate control of process conditions and allows for rapid changes to the temperature and humidity.

The Continuous Oven, meanwhile, uses the tried and tested technology of ribbon burners with forced air convection to provide the most efficient and uniform bake available. Ovens are available in figure-of-eight or twin-oval configuration to maximize plant capacity, with virtually any combination of infeed and outfeed positions possible.

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(Details of Spooner Vicars' full range of equipment can be seen on the company's web-site: www.spooner-vicars.com)

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