



High-spec spend

Tunnel ovens are not for the faint-hearted, requiring deep pockets, but offer potential for continuous throughput. Andrew Don reports

IT TAKES MONEY to make money and setting up shop is no different. Bakery equipment represents a fair chunk of that capital outlay and tunnel ovens alone can cost upwards of £1m.

Although comprising an “unbelievably small” market in the UK, according to Steve Wells, managing director of Brook Food Processing Equipment, agent for Polin, these enormous pieces of kit still number in the hundreds. They tend to be built to industrial bakers’ specific requirements, rather than bought off the shelf. A plant might have three ovens measuring 40m-50m long, but it is possible to have them 7m-10m long, he says.

They offer the possibility to continuously process flour in one end, delivering the final product at the other, and they feature in plant bakeries as part of a bigger line.

“Smaller bakers don’t have that continuous production,” explains Wells. “They will have a stop-start, so they are slightly less suited to that than larger-scale production.”

Benier UK managing director David Marsh says: “As you can imagine, tunnel ovens are very high-spec. The baker will want this process to be automated as much as possible and cannot afford for there to be breakdowns. So the equipment must be manufactured to high standards and be robust. Computerisation will feature heavily.”

Marsh says that Benier carefully

assesses customers’ needs, agrees a plan of action and then puts it into production. Benier offers the Kaak Multi Step Oven – a variation on a tunnel oven that travels upwards. The Hanseat range from Daub, also offered by Benier, is a multi-deck tunnel oven system that can either be batch or continuous.

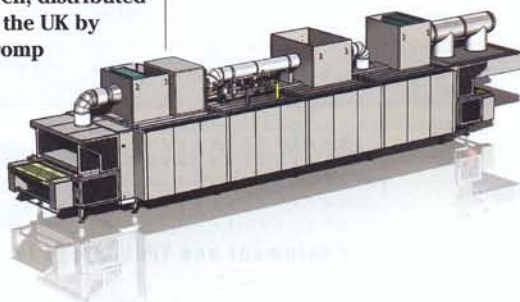
Meanwhile, Daub has pioneered the use of thermal oil ovens, which the company says saves customers up to 30% on their energy costs while producing a top-quality end-product.

What’s hot

The most recent addition to Benier’s range is from Italian specialist MCS, which has launched an impingement tunnel oven. Impingement oven technology is used for baking pastry and confectionery products because it has a high flow rate of hot air from both above and below the product.

Marsh explains that the air flow is

◆ Den Boer Multibake HT oven, distributed in the UK by Tromp





"COMBINING RADIANT AND CONVECTION HEAT ALLOWS BAKERS TO CONTROL CRUST THICKNESS"

KEITH STALKER, MANAGING DIRECTOR, EPP

directed onto the products, which pass through the oven on a conveyor belt, so the oven can achieve a much higher heat transfer than a conventional oven. It will initially be launched in chamber widths of up to 1.7m and lengths of more than 38m.

David Emerson, food product manager at Spooner Industries, says the beauty of tunnel ovens is that they increase production throughput through automation while giving efficiency, reliability and flexibility. Types the company offer include forced convection, indirect and direct fired, radiant ovens, ribbon burner systems, hot plates and stone bake – all modular.

He says Spooner's custom-designed ovens can be installed with energy efficiency mode, providing minimal energy usage during product changeover as the oven temperature and airflow can be automatically lowered, while remaining ready to bake.

Spooner Industries' latest walk-in hygienic oven design gives improved access for cleaning and maintenance. The firm also uses various methods of retraction for ease of access including traditional hinge doors, retracting doors and a complete retracting top half.

European Process Plant (EPP), the exclusive UK distributor for Mecatherm, has diversified into offering tunnel ovens with dough capacities of up to four tonnes an hour for making all types of artisan breads, including ciabatta, tin bread, buns, rolls, pastries, pies and pizza. The Mecatherm FTM oven incorporates the company's Bottom Bake Booster system, which includes controlled hot air convection, heating

♦ Clockwise from top left: Mecatherm ovens are distributed by European Process Plant; Polin says ovens tend to be built to specification; a Spooner tunnel oven



the underside of the baking conveyor, which provides a heat boost to the sole of the product. The top of the oven uses radiant heat and the underside of the baking conveyor is heated by convection. Keith Stalker, EPP managing director, says: "This combination of radiant heat and the Bottom Bake Booster system heating the baking conveyor results in a very high-quality finished product. For example, it allows plant bakers to control crust thickness and produce sandwich breads with a thin top crust and a heavier crust at the sole. Another advantage is that products can be baked on the oven sole without making the bottom crusty."

EPP says the modular oven is also

suitable for par-baked hearth products that require very short bake times. This results in high residual humidity in the products, without any collapsing, and increases their shelf-life.

Senius Food Equipment is a relatively new name in the tunnel oven world and its Danish-designed convection and direct-fired ovens are now available to British and Irish bakers through EPP. Stalker says the range has already caught the eye of several big-name biscuit and pastry product suppliers.

Tromp offers Den Boer Baking Systems' range of tunnel ovens. Robert Done, Tromp's general sales manager UK and Ireland, says: "Tortillas and a variety of flat breads are now being baked in infrared ovens, with a bake time of less than 45 seconds. Pizza baking is a further application, with bake times as low as 90 seconds."

Energy management potential includes the transformation of waste flue heat to produce steam or hot water. Done explains: "This transformed energy can be used for plant heating or cleaning purposes. On some ovens a heat recovery system can recover between 10-30% of the total inlet power."

He adds that a micro-turbine can be combined with the space heating and steam-production capabilities. "This micro co-generation will provide electricity, in combination with thermal energy and surplus energy can often be resold to the power supplier," he says.

♦ Senius offers Danish-designed convection and direct-fired ovens

Top tips

- ♦ Tunnel ovens are substantial pieces of kit that will not be moved once installed, so consider the site and future plans
- ♦ Check staff have got their production sufficiently organised to be able to use it effectively
- ♦ Choose a supplier offering support and quality
- ♦ Think about remote diagnostics
- ♦ Consider the opportunity for first-year capital allowances
- ♦ Check specification, price and the supplier's ability to deliver and maintain
- ♦ It should cost hundreds of thousands of pounds – don't cut corners for a cheap dodgy deal

Source: Steve Wells – Brook Food Processing Equipment

