Out with the old

Innovation in dividers and moulders is essential in the continuous quest to improve the experience of bakers on the shop floor, says Andrew Don

Dividing and moulding by hand is no longer always realistic, when high volumes and consistent output are an economic necessity.

Nowadays, high-spec machinery is par for the course. European Process Plant (EPP) cites the recent launch of König's latest industrial automatic divider-rounder, the Industrie Rex Hyper. The machine was developed after extensive surveys revealed customers wanted to save time, increase productivity and run machines that were easy to clean to the highest hygiene standards.

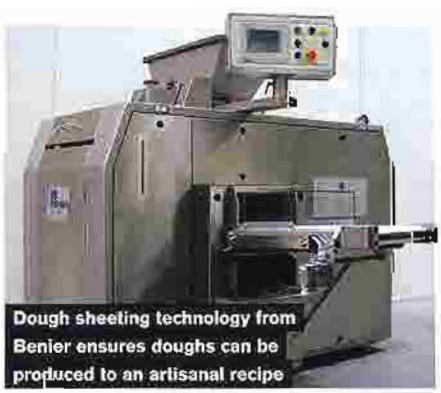
Stewart Morris, EPP director, says it can be taken apart for cleaning in 15 minutes and can be jet-washed. "This is a major step forward in roll plant design," he says.

König's Grande Rex has been developed to cater for "extremely large" weight ranges, processing dough pieces up to 320g, which can be used for producing pizzas, baguettes and bread products on multiple rows. And EPP says another machine, the König Mini-Rex, which can produce up to 4,000 dough pieces an hour and is suitable for bakeries where space is a premium, has been continually improved.

The materials, the controls, the accuracy and gentle dough treatment have been "radically" upgraded and the weight ranges have been extended to handle anything from 13g to 140g. A new design for the pistons and rounding system gives a bolder mould to dough pieces, EPP says.

Benier UK believes industrial bakers are looking for ways of automating the processing of artisanal breads. "They have been able to make the bread look artisanal with clever moulding, but the problem has been getting the bread to taste artisanal as well," says MD David Marsh.

The major problem associated with automating this process is that the dough used to make artisanal products is much more fluid than the dough used in standard breads. "These doughs will not go through mainstream dividers and moulders," Marsh says.



Dough sheeting technology from Benier ensures doughs can be produced to an artisanal recipe

Benier's new Dough DrieMer uses dough sheeting technology so that bakers can produce doughs to an artisanal recipe and, for example, can produce up to 6,000 baguettes an hour, he explains. And moulds can be made for all shapes and sizes of bread. "This is the first system to automate the production of artisanal breads, which means the end products look and taste as if they were handmade. The system is so new that it has only just been rolled out on the Continent and is just now being launched into the UK," he reveals.

Other new Benier products on the market include the Doughmaster. This comes with Dough Related Software that manages the divider servo drives' settings so even highly delicate dough with long fermentation times and high water content can be processed as gently as by hand, according to Marsh. It also offers "exceptional" accuracy, he says.

However, London Food Machinery MD Ian Ort says new developments in this market tend to be small. The supplier of

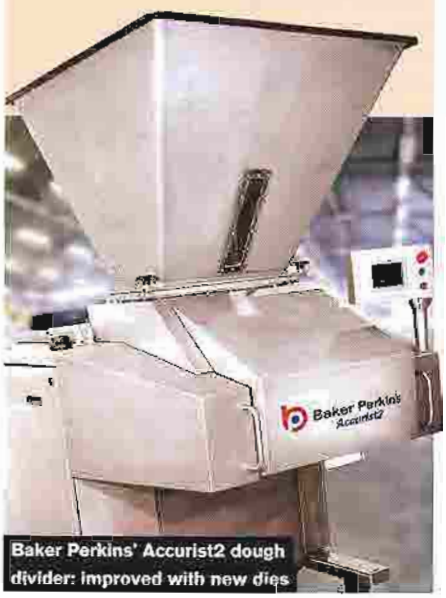
Bakery equipment proves its worth

BB Grout, the Essex bakery chain, has a Mono plant, König Mini Rex and Mono stick machine. Director Giles Grout says the machines are in operation six hours a day, six days a week and, when things go wrong, he goes to EPP, which acts quickly. "You get an engineer that has been trained with the machine and they know which part needs replacing. You are not wasting any time. They can normally get a new part sent overnight."

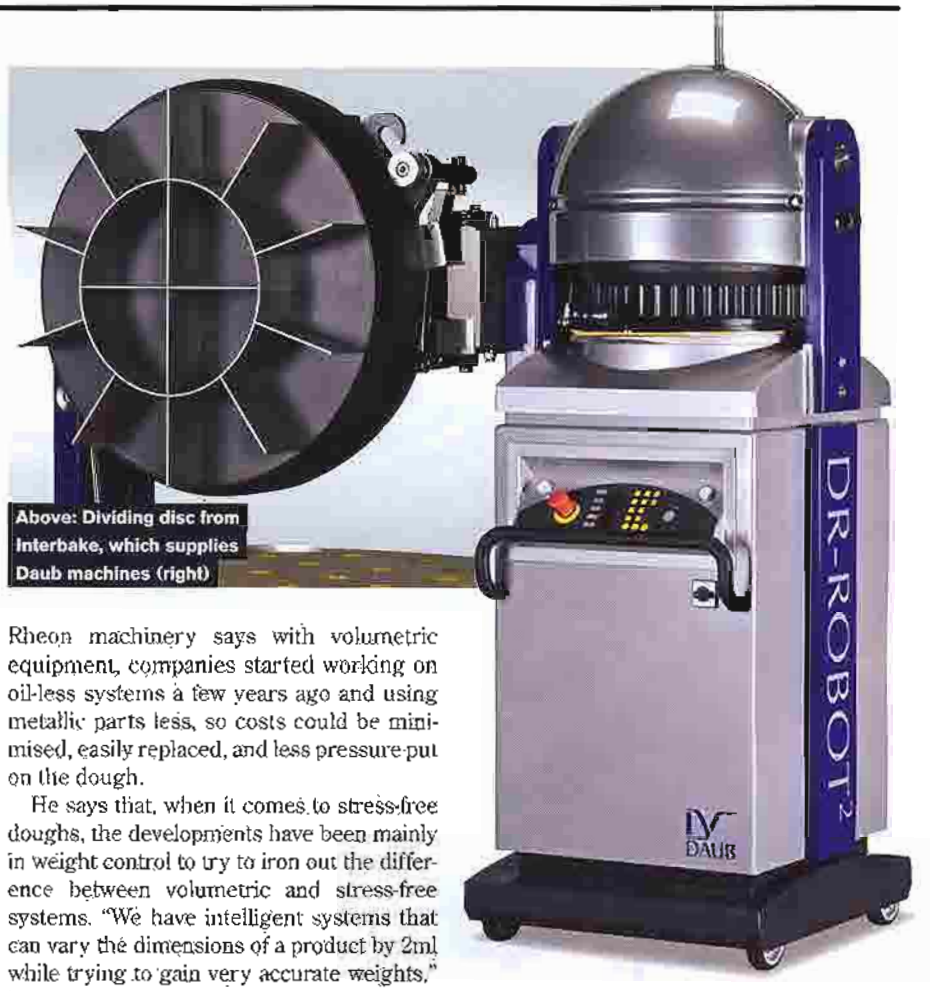
Jonathan Brace, director of plant bakery Brace's, in Crumlin, South Wales, has around eight dividers and seven moulders across its three sites and four plants. It has a moulder from Benier and dividers from Baker Perkins. He says: "With dividing it's about making sure you control your scaling weights. It's a constant battle to ensure you have the correct weights and you are dividing as gently as possible, so you do not damage the dough pieces. With moulding you want to make sure you roll your dough out gently."

The running costs of all Baker Perkins' Accurist dough dividers can be reduced simply by fitting new design dies. Oil consumption, waste and downtime are all reduced by the patented new design, while reduced dough build-up improves weight control, extends cleaning intervals and prolongs die life.

The improvements have been achieved by reducing the contact area between the die and the machine by 50%, along with a self-cleaning feature that disposes of dough passing the die face, rather than allowing it to accumulate. The new die is compatible with all Accurist and Accurist2 dividers.



Baker Perkins' Accurist2 dough divider: improved with new dies



Above: Dividing disc from Interbake, which supplies Daub machines (right)

Rheon machinery says with volumetric equipment, companies started working on oil-less systems a few years ago and using metallic parts less, so costs could be minimised, easily replaced, and less pressure put on the dough.

He says that, when it comes to stress-free doughs, the developments have been mainly in weight control to try to iron out the difference between volumetric and stress-free systems. "We have intelligent systems that can vary the dimensions of a product by 2ml while trying to gain very accurate weights," he says.

It is a far cry from the days when Ort's father, Ron, started out 70 years ago. Then, the dough was mixed, rested and divided by hand to get the right weight and then moulded by hand. "This gave no stress to the dough, wouldn't destroy the gluten structure and did not need lots of yeast or additives. Rheon has reproduced that as much as possible with machinery using no pressure or stress to portion that dough. It then offers bakers the choice of hand moulding to the desired shape or they can use attachments to mechanically gain the desired shape," Ort says.

Reiser, supplier of Vemag Systems, says the company is always developing new dividing equipment. MD Ken Mosser says the company's Waterwheel flow divider can handle all types of doughs from stiff to soft, and weight accuracy is guaranteed across multiple lanes without adjustments. Reiser does not use oil in its dividing system and precise weights and versatility give Vemag the edge, he claims.

Mono Equipment believes people are looking more at stress-free systems and adding more water to the dough, which gives a better texture and a more artisan-type product with economical benefits. It markets Panecotrad, and Mono has developed a manufacturing process for bulk processing of dough that facilitates fast turnaround of bread.

"If a customer comes in and you've run out of bread, you can have more bread within 22-24 minutes depending on the shape of the product – that's quite revolutionary," says sales manager Chris Huish.

So what do you choose and how do you choose it? David Dunne, sales director of Interbake, which supplies Daub, says the first point is to ascertain the level of production you want to achieve – the number of pieces of dough and the weight.

Next, consider the type of dough you want to divide. "Some dividers knock the hell out of dough. You need something that's gentle for making artisan bread. If you just buy off a brochure, you might buy the wrong machine which becomes an expensive exercise."

Benier's Marsh says that, if the equipment cannot divide the dough pieces accurately, it is simply a waste of time. "It would make no sense to purchase a divider that turns out 2,000 dough pieces an hour when a bakery only needs to produce 1,000," he says.

Other issues include reliability – both mechanical and electrical – and service support from the suppliers, as well as how easy is the equipment to load, unload and clean.

"With moulders, the most important decision is that they mould the bread into the shape that you want with the crumb structure you require. Likewise, robustness is key. As with dividers, hygiene and ease of cleaning are very important."