

# The *art* of sophistication

Weighing and measuring equipment in the baking industry is becoming increasingly sophisticated, satisfying the demand for consistency and precision. *Andrew Don* looks at the technology in action

**M**urray Hilborne, managing director of factory profitability expert Marco, says solutions for weighing and measuring are in constant development. Flexibility and the ability to adapt to every customer's requirement without further expenditure is the ideal that everyone wants to achieve, he says. "Unless there is a return on investment of less than 12 months, no one will talk to you. There's a lot of call on their cash and where they are going to spend it."

Hilborne says bakeries need a level of automation, but also require people to readily roll up their sleeves and do what the system tells them to do. "The businesses that are succeeding are offering that flexibility to their end-customers," he says.

Toby Hawkins, commercial manager of Stevens Group, says companies are trying to get more out of the same product. "The weighing device has become an accessory attached to software – legislation demands more and more things to be recorded and the list gets longer and longer. If you had to do that on paper, you would need another factory just to store it."

Steve Jones, general manager at fshida Europe, believes equipment is getting more sophisticated all the time "to improve accu-

racy and product throughput while keeping an eye on price". He says it is a continual cycle of change, with new software techniques coming to the fore, and economies being found. "All customers want to make sure they are getting a good return on investment, so pricing is very keen."

How much more sophisticated equipment can get is difficult to answer, he says, but he notes that higher levels of technology are likely to be required, as users are continually pushing the boundaries.

Neil Richards, managing director of Metcalfe Catering, which supplies Edlund scales, says sandwich shops, such as Subway, set great store by portion control, enabling them to calculate exactly what margin they are making per portion.

"The costs of protein might be going up from your supplier, so it's not a saving on costs, but you are maintaining your margin when you are serving at the other end by using a portion-control scale."

Edlund Poseidon scale from Metcalfe Catering



### Equipment development

Equipment supplier Mettler-Toledo Garvens, which also handles OCS Checkweighers, Creeds, Loma-Cintex and Avery Weigh-Tronix, launched a granulate conveyor for checkweighers last October. The company says the conveyor is suitable for checkweighers used for all free-flowing granulate products, such as salt, sugar and flour which can penetrate even the smallest gaps in machinery, impairing movement.

The same company launched the XC CC CombiChecker last summer, which emphasises the demand for integration of functions. The machine is a checkweighing and metal detection combination system, which the company says speeds up throughput and reduces footprint on the production line while ensuring high accuracy.

It claims training requirements are minimal because operators only need to be trained on one system and the interface is translated into 28 languages and features "easily understandable" icons to reduce operating errors. The software it comes with means 100

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**Left: Marco says weighing flexibility is key; above: Ishida's Cut-Gate weigher**

product settings can be saved, so operators can quickly and easily change the production process and reduce downtime.

Ishida Europe's range of multi-head weighers comprise more than 200 models. The high-accuracy linear multi-head weighers are particularly suitable for ultra-low target weights – as little as 3g. The range features short drop heights, good for handling fragile products such as sugar-coated confectionery or chocolate-coated mini biscuits.

Ishida Europe latest version of its weigher, launched earlier this year, handles granular products such as sugar and salt and delivers faster weighing speeds. The Cut-Gate Weigher is typically three times more accurate than conventional filling or dosing systems, says Ishida, because of a load cell and high-speed feedback control system and a servo motor-powered gate. Jones says: "This could be used for weighing bulk ingredients in bakery applications, but the product has to be free-flowing and granular; as such, it is not suitable for applications such as flour or baking soda."

Meanwhile, Stevens' in-line dough ball checkweigher can be inserted into the line as

close as possible to the divider and weighs every dough ball that goes past. It then uses the average weight of those dough balls to decide whether to increase or decrease the scaling weight on the divider to make the dough balls as close to target weight as possible. Stevens says this greatly reduces over-scaling and highlights any problems with the divider.

The company notes that the set-up is flexible, but in principle the unit feeds back to the divider every 20 dough balls and makes adjustment throughout the run to keep everything on track. It will automatically kick any double doughs or gross underweights off the line.

### Weighers in action

Co Londonderry-based artisan bakery Genesis Crafty, which supplies Marks & Spencer, runs the Stevens system. Damian McErlain, operations director, says the firm has now extended it to just-in-time, which is a much more detailed process, using the new Rack and Track module. "The big benefit is that it is user-friendly. We have a high per-

centage of foreign nationals on the floor who use the system easily. There is nothing lost in translation, as the touchscreen terminal goes from red to green when you have the right levels of ingredients," McErlain says the next stage would be setting up scales to weigh waste of every process on every line and capturing that information.

Greggs uses Marco's Recipe Formulation Module (RFM) at 12 sites throughout the UK. The system provides important controls during the manual recipe procedures at the bakeries. The hardware at each site is based on dual-scale DataMaster workstations, and detailed bills of materials for specific recipes are transmitted from the central computer to the workstations. Operators can then select the correct amount and type of each ingredient by keyboard entry or bar-code scanner.

The RFM system can size recipes for constantly changing demands and will not allow the operator to continue if ingredients are omitted or added in error. Greggs says recipe accuracy and consistency are ensured and the company can control its production scheduling from a central location at each bakery. □



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