

A&Z Protects Brand and Product with Chute-Fed Checkweigher



For more than 20 years, A&Z Pharmaceutical has been a leading developer and manufacturer of premium nutritional supplements. Their success is reflected in their renowned flagship brand, a vitamin D and calcium supplement called D-Cal®. To protect the brand's integrity using a more automated process, they replaced offline checkweighing with a new inline IM3100 checkweigher from METTLER TOLEDO in 2016. This unusual dual-lane, chute-fed checkweigher helped A&Z increase throughput and reduce labor while ensuring the quality of their product.



IM3100 Dual-lane chute-fed checkweigher

A&Z Pharmaceutical
Bringing Checkweighing in Line
With Chute-Fed IM3100



Packages slide down one of two chutes, stopping at a gate to be statically weighed with an extremely accurate electromagnetic force restoration (EMFR) weigh cell.

High Speed Inline Weighing

"We selected the IM3100 for our pouch filling line because of its impressive accuracy at high speeds despite vibrations on the line," said Jose Rios, R&D Technician at A&Z. "We're actually maintaining an accuracy of +/- 25 to 30 mg, which is better than what METTLER TOLEDO quoted, since we're running a little bit slower than the rated max capacity of 120 packages per minute."

Uniquely-Built Machinery

As the only chute-fed, intermittent-motion checkweigher on the market, the IM3100 works differently than other checkweighers. Packages slide down each of the two chutes and stop at a gate. Here, they are statically weighed with an advanced electromagnetic force restoration (EMFR) weigh cell, which is more

accurate than common strain gauge load cells. Packages that are the correct weight continue down the chute to a platform, where they are hand-packed into cases. Under- and overweight packages are automatically diverted to a reject bin via a pivoting flap.

Small Footprint, Better Accuracy

"The gravity-fed IM3100 easily handles the vibrations caused by our pouching machine and has a small footprint to fit our space requirements. This allowed us to install it inline," said Mark Appledorf, Plant Engineer at A&Z. "Because this checkweigher uses a static weighing method, it has better accuracy than most dynamic systems. The downside of static weighing is its slower speed, but the two-lane configuration on our system achieves the throughput that we need."

On this line, a vertical-form-fill-seal (VFFS) machine packages granular D-Cal into strips of ten pouches, which are then cut in half to two strips of five pouches that each measure 2.5 x 7.5 inches and weighing 7.4 grams. A pick-and-place system then feeds the strips to the checkweigher with the wide-edge leading.

Automatic Vs. Manual Inspection

"Before we installed this checkweigher, we did all of our weighing off-line. It took two people three days to do 100 percent inspection, which was very time and labor intensive," explained Appledorf. "Now we've improved our production efficiencies by inspecting the product inline immediately after pouching. We're better able to meet our shipping schedules, and we've redirected the two people who had been handling the off-line checkweigher to elsewhere in the plant."

Low Maintenance and Easy-to-Use

"Our employees find the IM3100 very easy to use. The touchscreen has an intuitive user interface, and the graphical display notifies us of any under- and over-filling problems with the poucher in real time, so we can quickly take action," said Appledorf. "There's not much to operating this checkweigher – it's low maintenance, easy to calibrate and simple to keep clean. We've had no unplanned downtime or problems with false rejects. Our IM3100 runs exactly as intended."



Inline weight inspection is less labor intensive and results in improved line efficiency while maintaining product quality.

Personal Service and Support

“Overall, we’ve had a great experience with METTLER TOLEDO. Everybody is very helpful, quick to respond and personable. Our sales rep, Bob Hatala at Reliant Packaging Systems, works closely with us to identify the best solutions for our challenging applications,” said Appledorf. “We want to continue this relationship, which is why we recently returned to METTLER TOLEDO to find a way to automate inspection on our other pouch filling line.”

Custom Designing Capabilities

The other line filling strips of granular D-Cal at A&Z’s Hauppauge, New York facility challenges downstream technology, such as mechanical pick-and-place systems and checkweighers, because the packages are not oriented. METTLER TOLEDO provided an XS1 checkweigher to inspect these strips of pouches offline while they work with A&Z to design an inline system to automate the process.

“We selected the XS1 for hand-feeding because it’s easy to use and the price was right. Like our IM3100 system, it’s achieving a greater accuracy than originally quoted,” said Appledorf. Featuring EMFR technology for improved accuracy, the XS1 is designed to handle small, lightweight packages that are less than 200 g.

Streamlined Processes

“Our business is expanding. We just bought another facility that is four times the size of our Hauppauge plant, so streamlining our processes is more important than ever,” concluded Appledorf. “Our IM3100 achieves 100 percent inspection at the speed and accuracy we need. This inline solution allowed us to replace a batch process with a continuous process, which increases yield and reduces labor while meeting our quality requirements.”

Product quality is our primary core value, and this checkweigher helps us deliver on our high standards.”



The XS1, designed to handle small, lightweight packages that are less than 200 g, is easy to use for offline hand feeding of product.

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The Product Inspection Division of METTLER TOLEDO is a leader in the field of automated inspection technology. Our solutions increase process efficiency for manufacturers while supporting compliance with industry standards and regulations. Our systems also deliver improved product quality which helps to protect the welfare of consumers and reputation of manufacturers.



Checkweighing



Metal Detection



Track & Trace



Vision Inspection



X-ray Inspection

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METTLER TOLEDO Group
Product Inspection Division
Local contact: www.mt.com/contacts

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