

# RETURN ON INVESTMENT

Recouping Costs Through Checkweighing in the Packing Industry

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### Executive Summary

With the initial advent of product inspection equipment such as checkweighers and metal detectors on manufacturing lines decades ago, it was easy to see the return of investment of the equipment: moving from manually-driven weighing practices to inline checkweighing equipment was not only much faster than the traditional method (i.e. one person measuring each product individually), it also provided a much higher level of consistent accuracy.

As the decades have moved forward, technology has catalyzed the process of product inspection considerably – new software has accentuated the checkweighing process, allowing for product categorizing and inventorying, with high degrees of analysis. More modern machines can even interface with other processing machinery to autonomously make adjustments to the process as featured in such applications as fill level feedback.

These refinements to the product inspection industry allows manufacturers to recoup the return on checkweighing equipment investment in ways previously unimagined. This article explores three such case studies found in progressive manufacturing companies across three very different industries: pharmaceuticals, home furnishings and contract manufacturing.

### Safeguarding Patients within the Heavily-Regulated Pharmaceuticals Industry: Dechra Pharmaceuticals Manufacturing

Dechra Pharmaceuticals Manufacturing is a global pharmaceutical company with expertise in the veterinary industry. The company has facilities in the UK, the Netherlands and the U.S., and provides a comprehensive range of pharmaceutical manufacturing and packing services.

Within the pharmaceutical space – which is almost as highly-regulated for pets as it is for people – the issue of consistent amounts is critical, as each is related to proper dosage amounts. Too little results in the patient not getting enough of the prescribed medication while too much can result in an over-dosage.

As a result, a highly-sensitive and accurate checkweigher is imperative to keeping Dechra's high-performing operations running smoothly, but because they also need to provide a high degree of analytical data on the products moving through their system, they also need corresponding software that can store and track information related to a large product inventory.

They recently implemented a new checkweigher from A&D Inspection, and were able to share how it changed their operational structure: the checkweigher is used as a means to verify the count of each of its products. Each product is counted to the desired amount, then weighed. This weight is then programmed as a target weight and range for the entire batch.

Prior to the investment in the new checkweigher, the process was much more hands-on: the packaging team was required to check the weight of each and every container by manually removing it from the production line and placing



Production line at Dechra Pharmaceuticals Manufacturing

“Before the purchase of the A&D Checkweigher, the packaging team would check the weight of every container produced by manually removing from the production line and placing on a scale. Now with the A&D Checkweigher placed within our packaging line, the container’s weight is checked directly on the production line.”

**Shelia Smith**  
Packaging Supervisor at Dechra Pharmaceuticals

it on a scale. This process was quite a bit lengthier than it is now with an in-line checkweigher, where the container’s weight is checked as it moves through the production line. The elimination of this cumbersome step has resulted in much higher through-puts for Dechra.

In addition, they have the data to support each product as it moves through the production line – they can report out on how many of each type of product has been rejected due to over- or under-weight results, which can quickly highlight problems on the production line.

The company highlights that particular feature with this illustration from Sheila Smith, the packaging supervisor for Dechra: “A great feature is that it informs the technician about whether the container is an acceptable weight not only by sound but by color. When the product goes across the checkweigher it will light the indicator in a green, yellow, or red light. If the indicator light is red, an alarm sound will activate to signal the packaging technician that the weight is wrong in that container. This allows us to accurately fill our containers with confidence.”

## Providing High-Customer Satisfaction in the Home Furnishing Industry: Häfele

Known internationally as a leading source of hardware, fitting systems, lighting and electronic locking systems, Häfele America Co. serves the U.S. market with innovative services and solutions by delivering functional hardware and specialty fittings to meet its customers’ construction needs.

What does that entail? For customers who sell furnishings that require assembly on the back-end, Häfele assembles and packages the bagged nuts, bolts, screws or other tools that are required as part of the end-user’s assembly process. As a result, its production lines are consistently running with packages of grouped assembly items – each of which has a very specific weight to ensure all items necessary for assembly are included.

“Our process for guaranteeing the right components are in each bag is to use weight, which is standard best-practice for the industry,” said Austin Brackney, the SAP Manager for Häfele. “And our old process was just that – to take a sampling of about 25 percent of the bags off the assembly line, and weigh them individually, at a rate of 6-7 pieces per minute.”



Product fulfillment line at Häfele

While they caught a few of the bags that contained too much or not enough, the process was flawed: it only accounted for 25 percent of the end products going out the door. And flawed bags cost the company money: For those short on supplies, it resulted in calls to customer service and costly shipping of spare parts to customers who needed that one extra screw to finish the project.

As a six-sigma trained manager, Mr. Brackney felt there was a better way. Or rather, a better weigh.

“I knew if we could incorporate an inline checkweigher as part of our production process, we could catch and reject bags that were over or under weight right as they came through – and before they were sent out to end-customers.”

They have since implemented inline checkweighers as part of their manufacturing process – to a high degree of success, from an ROI standpoint:

- Customer satisfaction is up, costs for replacement fulfillment are down
- Production division revenue is up approximately 20 percent, due to the ability to run at a much higher volume

## Delivering on Stringent Weight Standards for Retailers and Contracting Manufacturers: Atlas Putty Products

Atlas Putty Products Company is a leader in providing turn-key contract manufacturing for the industrial and commercial markets. They have extensive expertise in manufacturing a wide range of white-labeled or branded products in the following categories:

- Patch & repair products
- Sealants and adhesives
- Paints and other coatings
- OEM compounds

Atlas Putty offers its customers broad possibilities in filling abilities, in sizes ranging from .60 ounce to 300 gallon totes, based on required retailer specifications. So when a premium paint company needs to provide a large-scale retailer with a product line that has very specific weight requirements, they work with Atlas Putty.



Production line checkweighing at Atlas Putty

But a few years ago, the weight restrictions became much more stringent: “We noticed that numerous big retailers in the U.S. were moving to a different set of quality standards with respect to weight,” said Keith Haskins, VP - Quality, at Atlas. “That required us to up our game from a quality inspection standpoint, to incorporate weighing functionality that allowed us to measure using new weight control requirements.”

Implementing a new checkweigher from A&D proved to be the solution they needed to meet the new requirements: they had the ability to measure at the gram weight level, and the data analysis in the software allowed them to easily identify where any discrepancies occurred as part of the production process.

In addition, the flipper rejector component allowed them to immediately distinguish between products that were over- or under-weight, which meant they could directly resolve production line issues based on how and where the weights were off.

“The ability to weigh products to such a high degree of accuracy with the data point support has really allowed my team to reinvent our quality program,” said Mr. Haskins.

### In Conclusion

While ROI varies by industry, looking at a broad range of scenarios and the complexities that go into each affords the ability to extrapolate how product inspection systems can have both short- and long-term impacts on the bottom line. Aspects such as reducing product giveaway, safeguarding against product under fill, detecting for metal containments, and recording data points throughout the entire process empower businesses to operate more efficiently and cost effectively – with an ultimate positive effect on ROI.



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