

Case Study - DS4 Checkweigher

Project: Masteroast Coffee, UK

Project Brief: To design and manufacture a checkweigher system that would seamlessly work with the current ERP system and automate machine setup

Driver Southall was contacted by Masteroast Coffee with a requirement for replacing some of the older Driver Southall checkweighers, along with new requirements for their other production lines.

A site visit was arranged to discuss the options available and to ascertain the customer's requirements. After discussing the new features available on our DS4 Checkweighers the project quickly evolved with the customer interested in simplifying the machine setup process. By utilising the customers' existing barcodes on their works order cards, custom requirements for filing production records and solutions for box filling to count directly from the checkweigher.

As this was being implemented across all their production lines, Masteroast Coffee also opted to upgrade four of their older Driver Southall Checkweighers to the latest DS4 hardware removing concerns about long term obsolescence for the machines and adding the additional features they were looking for.

The DS4 checkweigher manufactured were fully compliant to the retail specification and included pack tracking sensors, reject bin full and reject confirmation sensors, fail safe testing facilities and controlled reject bin access.



Figure 1 - Checkweigher Diverter



Figure 2 - DS4 Checkweigher

In addition, the machines were also fitted with offline 2D barcode scanners which when scanning the job card for that production run would automatically load the correct product, populate the batch code field and advise the machine on the correct target weight, meaning setup time was reduced to just seconds with no chance for human error.

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On completion of the machines, install was phased over a few weeks providing time for the team to get on board with the new machines and setup processes. In addition to the nine new checkweighers, and four upgraded checkweighers, we also supplied 6 diverting chutes which when placed in line with the checkweighers would divert the preprogrammed count of products into a box.

Once installed, all the checkweighers were linked to the customers network where the production reports could be automatically downloaded from the checkweigher using an FTP client.

After further discussions about the functionality of the machines a shingling function was also added to the machine allowing the checkweigher to create a shingle of sachets to match the count required in the box. This was quickly implemented with a simple software update and an additional conveyor wired into the existing control panel of the machine with no further modifications required. This reduced the needs of the operator to count the amount of sachets needed to allow for productivity to be improved on the line.

In addition, the shingling system and diverter system could be swapped from line to line depending on what their production requirements were at that time.

Since installing the machines in 2023 they have since installed a further two machines bringing their total number of checkweighers to 16 systems.



Figure 3 - Shingling Conveyor

“Driver Southall have supplied all our checkweighing needs for many years now because of the reliability of the equipment and moreover the quality of their service

We recently undertook a significant exercise to not only upgrade our equipment, but simplify the user experience and automate central data capture. Driver Southall took time to understand our goals and responded with a phased roll out of both equipment and tailored software, becoming an integral part of the project team

I have no hesitation in recommending them for any checkweigher requirements”

Andy Fawkes – Managing Director of Masteroast Coffee (Peterborough)

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