Weightron in Action



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The Filling Division of Weightron Bilanciai have installed and commissioned a bespoke caramel filling line and mechanical handling system for the Food Ingredients Division of The Healy Group at their operation in Leicestershire.

The Healy Group is a solutions-driven agent and distributor for a number of worldwide manufacturers supplying ingredients into the food industry in Ireland and the UK. The UK facility, incorporating a 50,000 sq ft food grade warehouse and a state of the art research and test kitchen facility, is one of a select number in its category to be awarded the higher level of EFSIS (European Food Safety and Inspection Service) for storage and distribution.

The Healy Group undertake the complete logistics process for their customers - from material intake and storage through to delivery of the processed finished product in a suitably packaged format. The company philosophy is focussed on finding and providing innovative and cutting edge products for the food industry.

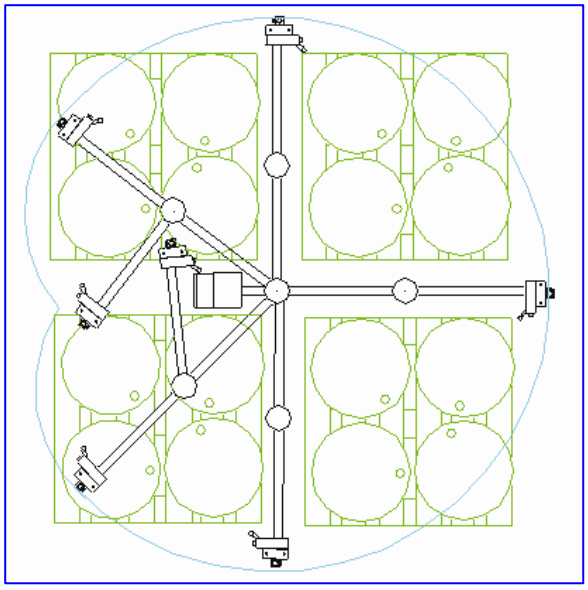
The Weightron Bilanciai system is based around a gravimetric StrongArm filling machine, which offers significant flexibility and versatility. The Healy Group's Operations Manager Mervyn Penson is very upbeat about the new system and as he explains: "The *design of the line gives us the best of both worlds and allows us to accommodate the different filling requirements for the wide range of end customers. The new installation is dedicated to filling over 100 different varieties of caramel manufactured by leading specialists DD Williamson of Manchester. Although the majority of caramel is shipped in bulk to food and beverage manufacturers, there is a growing requirement for smaller quantities in more versatile format.*

The caramels, which vary in viscosity from those resembling treacle through to free flowing liquids, are filled into a wide range of containers, drums and IBCs for use in products as diverse as Christmas puddings, beers and colas.

For longer runs of the same product, the filling system can be set to automatically fill 25 kg screw top containers. To fulfil smaller orders, which may be made up of different size containers including 25 kg pales, 250 kg drums and 1000 kg IBCs, the line can be easily switched over to semi-automatic mode."

At the heart of the filling machine is a simple, yet cleverly engineered articulated arm. From a compact central pillar, the arm can be effortlessly moved to give a full 360 working radius with a reach of over

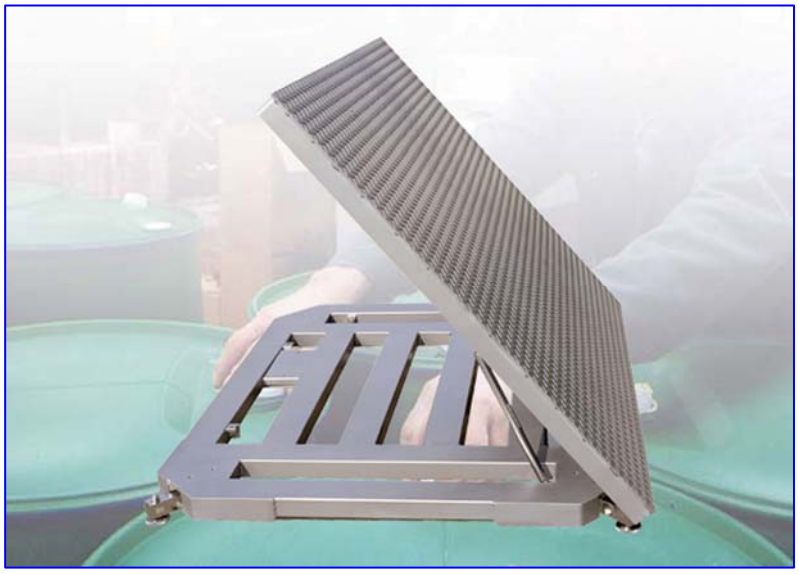
two metres, thereby offering optimum filling versatility around the centre of the machine. In automatic mode, the arm is locked in position with the filling lance positioned above the conveyor. In semi-automatic mode, when filling different size containers, the system takes advantage of the versatile filling envelope which gives maximum operator efficiency and productivity. The all stainless steel construction, combined with the sealed bearings in the articulated arm and the unique internal protection of the pneumatic drive cylinders, ensures long term reliability even in the harshest of environments. In addition, the clean, smooth lines of the StrongArm facilitate cleaning, whilst from a safety angle there are no finger traps.



In the automatic mode, the correctly orientated rectangular containers are automatically indexed along the powered conveyor before stopping underneath the filling lance. This section of the conveyor, which is independent from the main incoming and outgoing conveyor, is supported by a stainless steel 60 kg capacity weigh platform controlled by a D450 weight indicator. At this point the weight of the empty container is automatically tared out and the filling lance descends just inside the neck of the container. To ensure optimum fill accuracy, the filling process is carried out at two speeds. In the fast fill mode the container is filled to around 95% of the target weight. At this stage the filling then automatically changes to slow speed to top-up the container to the correct weight. Once the target weight has been reached, the container is moved to the end of the conveyor where a pneumatic capping tool is used to tighten the container caps. The full container is then removed from the conveyor and stacked on a pallet using a pneumatic powered lifting unit. Depending on the viscosity, the containers can be filled in less than 20 seconds, to a tolerance of +/- 10 g.

For the semi-automatic mode, the system is fitted with a multi-interval PRM stainless steel floor scale. This allows the filling of the different size containers on the same machine with the same relative precision. In effect the scale operates as three separate 3000 division units with ranges of 0-300 kg x 100 g, 0-600 kg x 200 g and 0-1500 kg x 500g. The PRM features fully welded, high accuracy, C6 stainless steel load cells and a hinged weigh deck for easy cleaning. Having the ability to weigh the

different containers on one scale is very cost effective and time saving. 25 kg drums can be weighed to +/-100 g, the 250 kg ones within +/- 200 g and the IBCs within +/-500 g. Again the system has a fast and slow fill sequence to ensure the target weight is achieved. After each drum has been filled, the system automatically resets to zero and the next container is filled with the same precision.



The installation is already bringing important operational and commercial benefits to The Healy Group and additional labelling and stock control capabilities are already under consideration to further enhance the system.

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