

Managing trim with fat analysis and bone detection

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Applying fat analysis and bone detection to trim handling helps meat processors achieve issues high on their agenda, including consistent quality and food safety.

Trim handling, however, is not only about fat analysis and bone detection it is also about optimizing and efficiently managing the subsequent processes of sorting, batching and packing the trim.

Marel has recently introduced two new trim handling systems based on x-ray. The Trim Management System creates batches of trim with a fixed Chemical Lean (CL) and the Incoming Meat Inspection system measures the accurate CL of trim in a continuous flow. In both systems, Innova software collects information about incoming and outgoing product and creates status reports for management purpose

Trim Management System

The Marel Trim Management Systems is designed for slaughterhouses and deboning facilities selling meat trim based on a specific Visual Lean/Chemical Lean (VL/CL).

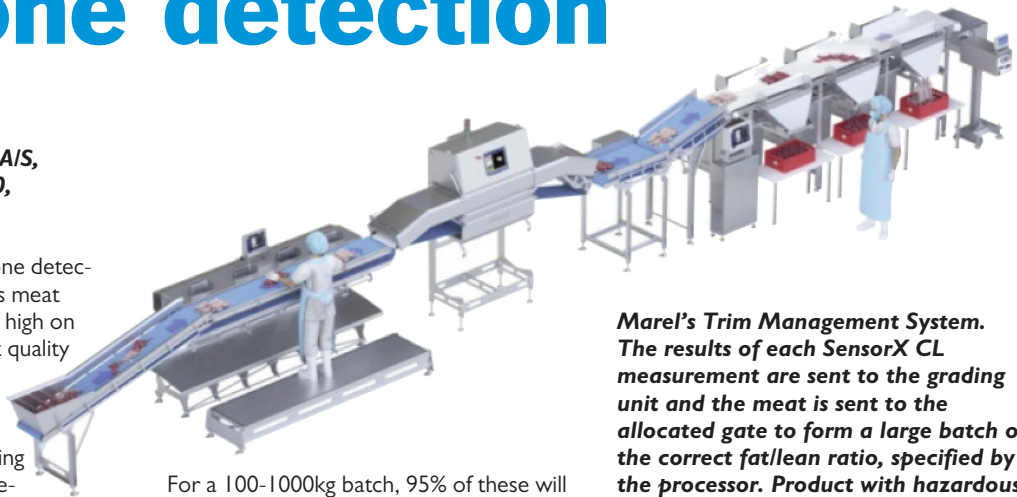
Knowing CL value is a great tool, but controlling what comes out of the trim handling process will give processors even more added value such as minimizing lean giveaway and avoiding fat claims.

By means of SensorX x-ray the system calculates the precise chemical lean ratio (CL) of beef or pork trim and enables processors to hit target fat percentage; when making different batches of precise CL (for example 50/50 or 75/25).

The Marel Trim Management System also detects and automatically rejects bones and other hazardous contaminants in the trim (bones, metal, stone and glass $\geq 5\text{mm}$).

The Trim Management System has a product throughput of up to 6.0 tons/hour depending on final batch size.

For a 25-100kg batch, 95% of these will have a measurement accuracy which will be $\pm 2\%$ points from the target CL level.



For a 100-1000kg batch, 95% of these will have a measurement accuracy which will be $\pm 1\%$ point from the target CL level.

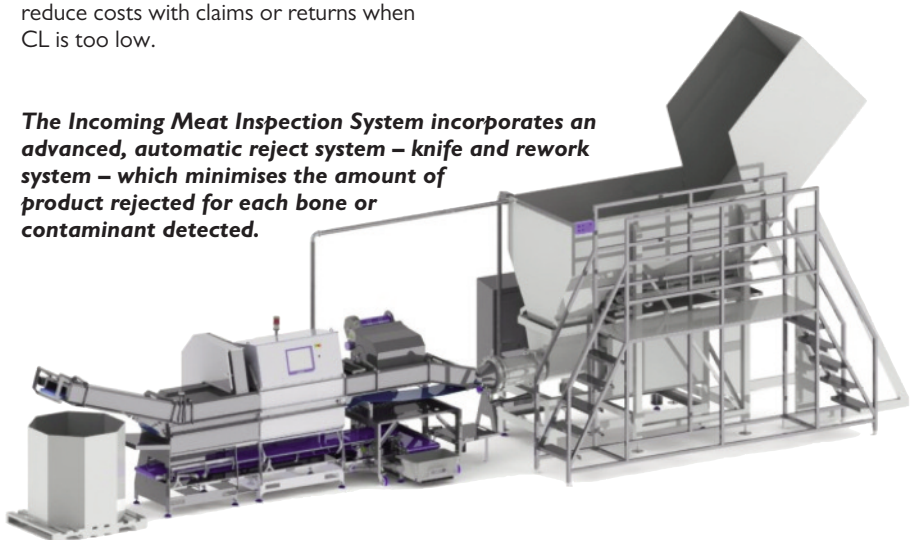
Incoming Meat Inspection

The Incoming Meat Inspection system is designed for further processors and grinding facilities buying meat trim based on a specific CL value.

Marel's Incoming Meat Inspection system calculates the precise chemical lean ratio (CL) of beef or pork trim. It also detects the presence of bones and other hazardous contaminants in the product (bone, metal, stone and glass $\geq 5\text{mm}$).

By means of SensorX x-ray the Marel Incoming Meat Inspection system analyses incoming trim for CL. This enables processors to increase margins by adding fat when CL in incoming product is too high or reduce costs with claims or returns when CL is too low.

The Incoming Meat Inspection System incorporates an advanced, automatic reject system – knife and rework system – which minimises the amount of product rejected for each bone or contaminant detected.



Marel's Trim Management System. The results of each SensorX CL measurement are sent to the grading unit and the meat is sent to the allocated gate to form a large batch of the correct fat/lean ratio, specified by the processor. Product with hazardous contaminant such as bone, metal or glass is removed from the process, through specified reject gates.

When detecting hazardous contaminants – typically bones – in the trim a very small section of the meat flow containing the contaminant is automatically cut out of the flow – and re-entered when, for example the bones have been removed.

Additionally, the Marel Incoming Meat Inspection system provides information about the performance of individual suppliers – for example on such as the frequency of bones, so processors can give real feedback and set benchmarks for their suppliers.

Product throughput of the Incoming Meat Inspection system is approximately 7.5 tons per hour and the fat percentage accuracy $\pm 1\%$ point from the CL level. ■