CANTY
PROCESS TECHNOLOGY

Canty Visual Belt Scale

Company: **Canty Food Products**

Purpose: The Canty Vision system is installed at the head of a conveyor line in order to monitor the weight or product passing over the conveyor. The method is visual and is the result of the integration of successive image profiles to obtain the volume and therefore the weight per unit time.

Equipment installation:

The camera is installed adjacent to the end of the belt looking back. The camera is below the head roll so that it images the food product at an approximate perpendicular angle as it passes over the pulley. Only the profile at that point is in view. Proper illumination is provided and a background shroud is used to create a black/white or White/Black image profile of the product. Usual best scenario is to provide very bright back light so the camera side surface of the product appears dark. The profile is then imaged and measured by the software and integrated into a volume by taking the belt speed into the equation.

Calibration – After the lighting has produced consistent dark silhouette image, the ColorSpeck software can be configured to measure pixel per frame of the fries discharged from the conveyer. The frame rate, with visual verify on, is very near 10 frames per second. By using the software tools, snap several images of the product moving over the belt. Set thresholds so the profile detected by the software matches what your eye sees. Once this is complete, input the belt speed and the product density and the system is ready to run.

Results

Here are typical average results for French fries. Several loads were run in sequence over a conveyor belt and measured. There is some scatter as the fries are not a well packed product and can have variation on density from time to time.

The correlation numbers obtained for short runs:

ACTUAL	CALCULATED	% CORRELATION
12.9 lbs	12.56 lbs	97.4
15.0 lbs	14.6 lbs	97.3
12.5 lbs	12.33 lbs	98.6
15.2 lbs	16.55 lbs	108.9
14.8 lbs	14.37 lbs	97.1
14.6 lbs	15.02 lbs	102.9
14.7 lbs	13.67 lbs	93

Training

        Bob and Derrick were shown how to start and stop the Vector and Derrick is able to do the general set-up and calibration. He did several adjustments and was advised to call or e-mail if questions arise.

Follow-on Support

        Since my visit to Carberry on 20 to 22 August, Derrick has called with questions.

1. Overnight run produces large file that is too large for Excel spreadsheet. Reply is to use Continuous Batch Average with suitable frame average number (~300) to reduce the file size by a factor of 300.
2. The Continuous Batch Average function does not shorten the file size as expected. Brendan was asked to re-work the Continuous Batch Average Mode to supply one output measurement report when and only when a new average is obtained so that the desired file size reduction is achieved.