



Whitepaper

Belt Volume by Vision: Optical Measurement of Belt Conveyor Throughput

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Belt scale accuracy is important to the efficiency and quality of processes dependent on mass flow. This article describes how non-contact, Ethernet camera technology can be used to produce an integrated volume measurement of product on a conveyor which can minimise maintenance and optimise accuracy and reliability of the mass flow measurement.

Measuring the volume of material being transported by a conveying system is a difficult task for traditional weight scales. Problems associated with installation, vibration and maintenance can all affect the accuracy of a belt scale system. In addition, calibration must be checked frequently and the re-calibration process is not an insignificant undertaking usually requiring the belt to be off line.

Scales are important elements in many processing applications. Manufacturers use scales to monitor such things as the total weight for custody transfer of product or the weight of product feeding a continuous process, or even the weight of multiple product streams feeding a blending process. Whatever the use, the accuracy of the scale is important to the efficiency of the overall process as well as the quality of the end product. Inaccuracy due to calibration drift, and the associated down time for maintenance and repair, negatively impacts cost and quality.