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Hall 14 / Booth B19

Press release

Coperion K-Tron at K 2016

New developments for high-accuracy feeding and conveying

Niederlenz, Switzerland (October 2016) - At K 2016, Coperion K-Tron will present a variety of new developments at stand B19 in hall 14. The new Electronic Pressure Compensation (EPC) system will be shown as well as a modified version of the Smart Flow Meter, which provides high accuracy feeding at high feed rates. The K-Vision line controller will also be on display.

Innovative Electronic Pressure Compensation (EPC) system for high-accuracy Coperion K-Tron loss-in-weight feeders

Coperion K-Tron will present a unique new Electronic Pressure Compensation (EPC) system for their high-accuracy loss-in-weight feeders. The main advantages of the new system include improved accuracy and reliability as well as lower initial cost and easier installation compared to traditional mechanical pressure compensation systems. Coperion K-Tron has developed a clever but simple electronic solution for accurate and steady pressure compensation in feeder hoppers and outlets. The modular design incorporates pressure sensors and electronics tailored to interact smoothly with Coperion K-Tron's KCM feeder control system. Retrofitting options for existing feeders are available. EPC can be installed on a majority of Coperion K-Tron gravimetric feeders in almost any application and all industries.

In a closed feeding system, pressure build-up inside a feeder can significantly impair weighing accuracy. The commonly installed mechanical pressure compensation systems are sensitive to



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structural factors and machine alignment and may therefore be intricate or even unreliable. Coperion K-Tron has now developed a clever but simple electronic solution for accurate and steady pressure compensation in feeder hoppers. The modular design incorporates pressure sensors and electronics tailored to interact smoothly with Coperion K-Tron's KCM feeder control system.

Depending on set-up and requirements, sensors can be positioned on the feeder hopper and, if required, on the material discharge tube. The software implements a self-optimizing compensation algorithm for best performance and dynamics identical to those of Coperion K-Tron's SFT load cells, which allows for highly accurate feeding results, even in systems with perceivable pressure fluctuations. A separate field evaluation kit allows for the assessment of potential pressure issues in existing installations.

Smart Flow Meter for reliable metering, registering or monitoring of bulk material flows

In high rate applications, the Smart Flow Meter provides high accuracy feeding, at feed rates of up to 200,000 dm³/hr (7,000 ft³/hr). In addition to a lower purchase cost than a large loss-in-weight feeder, the Smart Flow Meter offers lower maintenance costs and reduced headroom. Two models are available: K-SFM-275-B and K-SFM-350-B, depending on application requirements.

The Smart Flow Meter is often employed in PE resin pelletizing processes, where it accurately and gently feeds the main component, PE powder, into the pelletizing extruder. Other areas of application include plastics, chemicals, animal feed, cement, coal, glass, aluminum, grain, etc. Typical particle size is approximately 0.02 mm up to 10 mm. The Smart Flow Meter is suitable for free-flowing bulk materials such as powders, granules, chips or fibers.

With no moving parts, the K-SFM has no mechanical impact on the bulk material. The bulk material flows by gravity into the upper measuring channel, an inclined chute mounted on a force transducer where the force, acting perpendicularly on the chute is measured as mass. The bulk material then flows into the lower, vertical channel which determines velocity or acceleration rate. From the signals of these two sensors the flow rate is determined per unit of time.



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K-Vision Line Controller maximizes your product quality while minimizing the need for direct supervision

K-Vision[™] is a graphical operator interface for controlling up to 16 devices such as feeders or vacuum receivers in a single process line. K-Vision uses a 12.1-inch color LCD display together with a touchscreen as the primary operator input mechanism. It offers a quad screen display mode for viewing multiple pages on one feeder or a single page on multiple feeders. Support for multiple languages is included and additional languages can be added on request.

Designed for simple operation and fast and easy start-up, K-Vision offers graphic visualization of process information, utilizing flexible, easy to use trend graphs. This feeder interface offers event logging and supports all of the different feeding control types for both continuous and batch operation. Easy to maintain, K-Vision software updates are possible by updating files on a compact flash card or by using a USB flash drive.

The K-Vision offers a variety of remote access options. A second K-Vision can be connected via Ethernet as a remote interface for visualization and control of feeder and line parameters. The K-Vision also comes with a VNC server, allowing any VNC client – on a PC, tablet or smartphone – connected to the same network to be used as a secondary user interface.

In addition to the current connectivity options, VNC, Ethernet/IP, Profinet, ModbusTCP, etc. the K-Vision now also has email capability. No optional hardware or software is necessary – it is a new standard feature. The K-Vision HMI can easily be set up to email a notification to one or more persons when key events occur, such as:

- The compounding line stopped
- The compounding line started
- A feeder is running out of product
- A pneumatic receiver isn't getting any pellets
- Notification of a specific alarm

The K-Vision can also be programmed to send log files by e-mail, such as feeder event logs, parameter changes, alarm logs, etc.



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Coperion K-Tron (<u>www.coperionktron.com</u>) is a business unit of Coperion (<u>www.coperion.com</u>) and is a global leader and single source supplier of material handling and feeding systems. Coperion K-Tron has defined the leading edge of technology for material handling and feeding applications in the process industries.

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Editorial contact and voucher copies:

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Basic principle of EPC electronic pressure compensation applied in gravimetric feeding system in a schematic presentation; KCM: feeding control

Image: Coperion K-Tron (Switzerland) GmbH, Niederlenz, Switzerland



The Smart Flow Meter is used in process applications that need reliable metering, registering or monitoring of bulk material flows.

Image: Coperion K-Tron (Switzerland) GmbH, Niederlenz, Switzerland