

Carton and bin conveying system

SSI Schaefer has further developed its carton and bin conveying system at the same time the design was modernized. The system transports goods in the warehouse. The unit for controlling the motor rollers uses CAN for data exchange.



According to the company, the updated carton and bin conveying system increases energy efficiency and system availability (Source: Adobe Stock)

Modern conveying systems are essential for warehouses that require high performance rates, explained the company. They simplify processes, enable material flows and supply the various storage areas with the right goods efficiently, and in a timely manner, the company continued in its press release. Not only that, they can also sort, transfer, buffer, and accumulate load carriers. The carton and bin conveying system by Schaefer is suitable for small load carriers up to 50 kg, such as bins, cartons, trays, and polybags, which are not only transported on the conveying system according to type, but also mixed. Due to the system concept, the matched conveying system parts can be individually combined. Application of the system in deep-freeze areas down to -28 °C is also possible.

Saving energy

The company said, that they boast more than 15 years' experience in the product area of conveying systems and can tap into a

number of projects in which over 1 million meters of conveyor technology have been sold and installed to date. In times of climate change, topics such as sustainability and energy savings are becoming increasingly important. "The latest generation of carton and bin conveying technology by SSI Schaefer consumes significantly less energy than previously – and, at the same time, the new generation has an increased throughput," said Christian Steiner, Product Manager for carton and bin conveying systems at SSI Schaefer. "This is made possible by the use of CAN bus technology, smart control, and 48-V drive technology. Due to smaller cable cross-sections and greater cable lengths, there are fewer waste losses with the same performance and increased energy efficiency thanks to larger and more efficient power supply units."

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The increased performance of the hardware, the control system, and the combination of components lead to an increase in performance of up to 30 %, explained the company. They added that due to the more compact roller design and the resulting savings in plastic, they also avoid around 31 tons of CO₂ emissions per year. In the future, the Speed on Demand function will also contribute to increased energy efficiency. Thus, the speed of the motorized rollers can be adapted to the current performance.

System availability

The control unit for controlling the motor rollers in combination with the CAN technology provides the basis for interlinked data exchange between the systems and thus for a predictive maintenance strategy, which is planned in the next development steps. „By gathering, analyzing, and evaluating system-specific data in SSI CMMS (computerized maintenance management system), it will be possible to predict individually defined maintenance intervals in real time,“ said Christian Steiner.

In combination with the control software, the system function can be parameterized, even during operation. Due to the visualization with the Wamas Lighthouse software, the collected data in the warehouse can be made transparent and visible in real-time. Thus, malfunctions can be avoided before they occur. Maintenance is only carried out when it is actually required and not according to fixed time intervals. Functioning components remain in use for as long as possible. A central interface standard connects both the carton and bin conveying system and all other conveying systems in the warehouse with the Wamas material flow system (MFS) and enables implementation, commissioning, and training.

According to the company, the motor roller is characterized by an unbreakable roller design and the lifting carriage of the belt diverter has been given a more robust kinematic design. The conveying system also comes with roller conveyor finger guards and reduced noise emissions thanks to the use of non-pneumatic technology. A standardized plug-and-play system, as well as slender cabling, enable installation and maintenance.

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