APPLICATION REPORT

Reliable association between crimps and crimp tools, using RFID technology

Application:
A high-speed automatic crimping machine closes both ends of sausage casing in a meat processing plant.

A special RFID read head has been integrated into the crimp drive setup

Goal:
Reliable matching of crimp tool insert and metal crimp. Assure that only properly fitting, original crimps are used. Permit higher productivity and machine availability.

Requirements:
Simultaneous monitoring of both crimp tool and spool with metal crimps.

Customer advantage:
Limiting machine damage, which can occur when crimps are incorrectly paired with the crimp tool, prevents machine downtime and increases productivity. Additionally, the machine manufacturer can make sure that only the manufacturer's original crimps are used, thus creating supplementary sales.

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What is being done:

Processing open sausage casings with special machines requires addressing tough food processing requirements. These machines must be easily cleaned and most components are made from high-grade stainless steel. Generally, automation solutions have to be fully integrated and must withstand the toughest environmental conditions (cleaning agents, frequent washdown, disinfection). These machines follow a "clean design" where corners and crevices are avoided from the start. At the same time, these machines must be flexible enough so that changing process requirements can be addressed quickly and reliably. During sausage production, open casing ends are sealed using metal crimps that are closed by high-speed crimping machines. When the sausage size changes, the type and size of the crimps and thus the crimping tool must also change. The crimping tool utilizes an insert specifically designed for a particular kind of crimp; using non-matched parts can result in machine damage and/or improperly closed casings. To prevent this from happening, both the crimp tool and the crimps themselves are equipped with an RFID tag. On the rolls holding the crimps, inexpensive high-frequency label tags can be used while the tool itself uses a tough embeddable tag. (Note: This specific application was solved using an embeddable lower-frequency tag.) Because the IDENT*Control* interface allows the connection of read heads operating at different frequencies, both read heads can be connected to the same interface, making this highly economical and easy to integrate. Error-free production is assured and machine damage prevented.
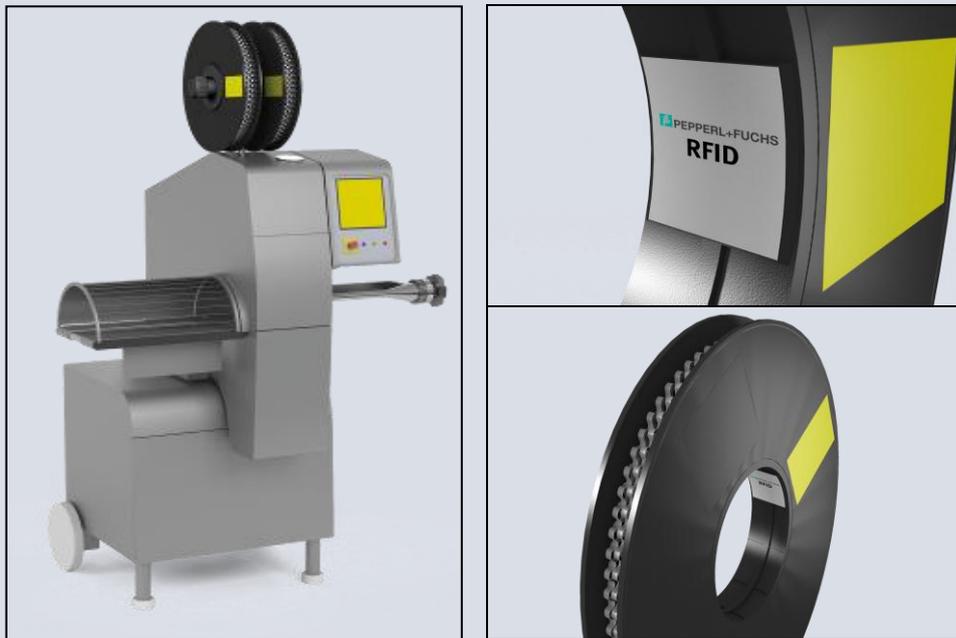
Sausage filling machine and crimp spool with RFID label

The correct matching of crimps with the proper crimp tool increases reliable productivity during sausage production. Additionally, crimp sales increase the machine suppliers' turnover.

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