Reliable Assignment of Tools and Consumables

Crimping machine detects clamps for sausage production

At a Glance

- Reliable identification of tools and consumables

- Confusion and damage due to incorrect assignment are virtually excluded

- Quick, automated changeover for production of different batches

- Increased productivity, prevention of downtime

- Safe handling and high availability of the machine are guaranteed

- Follow-up business secured with genuine consumables

The Application

In sausage production, both ends of a sausage are closed with small metal clamps known as crimps. These clamps are fitted automatically using crimping machines. Flexibility is required here since sausages are produced in many varieties. The crimping machine must be able to handle different sizes and materials. Various crimp tools are used for this purpose, each capable of processing a specific type of crimp. The tool and crimp type must be assigned without errors.

At the same time, it must be possible to change production processes quickly and safely.

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The Goal

There is a risk of damage to the machine, and thus a production standstill, if the tool and crimp do not match. This means the error-free assignment of tools and crimps is necessary for reliable operation, high productivity, and availability. The tool and crimp spool must be monitored simultaneously. The automation of this step can be combined with the use of genuine crimps. As a result, follow-up business with consumables is also secured.

The Benefits

The crimp spool and crimping tool impose significantly different requirements on RFID technology. These can be met by using multiple frequency ranges, among other things. The IDENTControl control interface (e.g., IC-KP2-2HB21-2V1D) is capable of parallel operation with different RFID frequencies and is especially suitable for this type of application. As a side effect, the user benefits by securing follow-up business with genuine consumables.

The Solution

RFID technology is used to identify the right components. The crimp spool and crimp tool are each equipped with an RFID tag. Low-cost smart labels with high-frequency technology (HF) can be used for the spools; low-frequency tags (LF), such as IPC03-10, which are suitable for installation in the metallic environment of machines, are ideal for the tool. Suitable RFID read/write heads, such as IPH-F61-V1, are installed in the machine. They are characterized by a particularly flat design and easy integration. Both systems are connected to the IDENTControl control interface, which is able to process signals of different frequencies in parallel. The components are clearly identified, damage is prevented, and downtime is minimized.

Technical Features

- Small and flat IPH-F61-V1 read/write head for space-saving integration into the machine

- Suitable frequency for every application

- Parallel operation with different frequencies on a control interface

- Customer-specific integration into the machine

For more information, visit
www.pepperl-fuchs.com/px-rfid