

INTERNATIONAL DAIRY magazine



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Automated line transports cheese variations safely between production and loading ramp

TRAPO AG: Partner in hygienic design for over 50 years

The central benefit of modern food processing is optimized safety through automated processes. Food manufacturers are responsible for product liability, and TRAPO AG, as a partner of the food industry, designs flawless processes in production and intralogistics. With respect for the task of transporting food, complex lines are created – at the traditional manufacturer JERMI from production to the loading ramp.

The traditional Swabian company was founded back in 1889. Today, the customer base of the food manufacturer from Laupheim-Baustetten includes all German discounters, wholesalers, the food processing industry, and partners in the co-manufacturing sector, in addition to the classic food retail trade. In addition to its own "JERMI" brand, customers' private labels are playing a steadily growing role. 20 percent of the products are exported from Swabia to 50 countries worldwide.

Complete line competence enables flexible conveyor technology

State-of-the-art production makes it possible for over 12,000 tons of processed and fresh cheese and around 28,000 tons of pre-packaged cheese to land on the gourmet's table every year. High performance that needs a partner. In 2018, the first contact was made with TRAPO AG. "The many years of experience in high care areas and in hygiene design were decisive for me," recalls Gerhard Jerg, Managing Director of JERMI.

"Everything from a single source" – the complete line competence of TRAPO AG impressed him – and last but not least the fresh, elegant, compact stainless steel design of the plant. Knowledge based on over 50 years of experience and expertise in stainless steel manufacturing. All components of the hygienic design are manufactured in the company's own stainless steel production facility at its headquarters in Gescher-Hochmoor.

Automated solutions for higher performance



In a first step, TRAPO AG supplied two HLP 6000 high-performance palletizers. The high-performance layer palletizer from the HLP series offers high performance in the tightest of spaces – and serves an almost unlimited product range. This means that perfect, clean layers and stacks can be formed under maximum performance with a high variety

of products on the customer's side. With this considerable advantage, the HLP plays off its unique selling point, absolute flexibility: The HLP 6000 deposits perfectly and realizes any layer patterns of different formats – up to 10 layers/min.

Layer formation and palletizing form the basis of reliable packaging. The HLP series palletizers operate at JERMI with a high infeed. One high-performance layer palletizer will be equipped with a y-axis, the second with a traversing axis – so one or more palletizing

stations can be served as needed. Onward transport of the packaged cheese variations to the warehouse or for loading will be handled by six automated guided vehicles of the TTS series. With the TTS series, TRAPO AG is opening a new chapter of flexible conveyor technology in food production. Particular added value is offered by the flexibility of the series, whose transport solutions operate autonomously: The operating batteries are charged via contacts.



As standard, the TRAPO Transport Shuttle transports loads of up to 2000 kg within the production area, higher loads on request. JERMI opted for mobile conveyor technology – for more flexibility and higher space utilization. Ideally, the TRAPO Transport Shuttle and the TRAPO Warehouse Shuttle (TWS series) are used in combination: for precise, time-saving transfers

and optimal use of warehouse space. At JERMI's high-bay warehouse, two TRAPO Warehouse Shuttles will perform this task in the future. The TWS travels three meters per second at an acceleration of 1.5 m/s² and completes the cycle of extending, gripping and retracting in a maximum of three seconds.

Safety and efficiency at the loading bay



Currently, the complete line has been extended once again: by the TRAPO Loading System TLS 3600 – which will offer more safety and higher efficiency at the loading ramp. Those responsible at JERMI and TRAPO AG were mutually inspired – united in the visionary idea of sustainably optimizing routine tasks

through efficient automation. This is how the idea for seamless automation "from production into the truck" was born. The result is the autonomously operating TLS 3600, which also offers a special competitive advantage: It can automatically compensate for height differences at the loading ramp and make position corrections.

Loading takes place in four sequences. First, up to three pallets are placed side by side in a row on the stationary part of the system and aligned. This is followed by picking up and

loading the row. During the loading process, another row of pallets is formed and staged on the stationary part. This is a continuous process that saves time and distance and avoids waiting times during pallet loading. For a 13-meter trailer, the loading time with 33 pallets – depending on the load – is about 15 minutes. To serve several loading hatches, the TLS can be placed on rails. Since no structural changes to the hall floor were possible at JERMI, the TRAPO Loading Mover (TLM series) takes over. The TLM behaves like an XXL load carrier when it completely picks up the TLS and positions it as needed.

"The decision was consciously made in favor of a partner with grown complete system expertise, who offers the highest level of safety and has a proven track record of specializing in automation in high care areas," sums up Jörg Thomas, as TRAPO AG's head of sales in charge of forward-looking automation at JERMI. As the controlling instance, TIM, the TRAPO Intelligent Management System, regulates and monitors the automated processes between production and the loading bay. The higher-level system nevertheless acts as a "traffic light circuit" to ensure that the TTSs operate safely and efficiently alongside and with each other.