



PACKAGING



Optimized tray erector for yogurt jars

Innovative carton bonding

A + F Automation + Fördertechnik GmbH

 **Nordson**

Innovative & Improved

The ProBlue Flex hotmelt application system as an OEM version

The ProBlue Flex hotmelt application system as an OEM version A + F Automation + Fördertechnik GmbH enjoyed a great deal of interest at this year's Interpack with the presentation of a system specially designed for placing yogurt jars in perforated crates. The end-of-line solution, which was delivered to a South Tyrolean dairy processor after the trade show, is a combination of the proven 216-S crate erector and a Twinline pick-and-place packer operating in continuous flow. The innovative machine is completed by a modern hotmelt applicator from the ProBlue Flex series from adhesive technology manufacturer.

The Challenge

In addition to food and beverage producers, the dairy industry in particular represents a dominant customer group for A + F Automation + Fördertechnik GmbH – known as A + F for short – based in Kirchlegern Germany, which will celebrate its 50th anniversary next year. Since 2017, the medium-sized company with 120 employees has been part of the end-of-line group based in Kirchlegern and organized under the umbrella of EOL Packaging Experts GmbH, which also includes BMS Maschinenfabrik GmbH, the US subsidiary Standard-Knapp Inc. and the Portuguese company NEO Conveying Intelligence Lda. This international composition already indicates the worldwide activities of the EOL Group as a supplier of integrated end-of-line packaging machines.

A detailed examination of the configuration presented in Düsseldorf reveals the efficiency of the complete line. The crate erector, equipped with nine servo axes, meets a customer-requested output of 17 cartons per minute, producing 2 x 5-hole crates. The maximum capacity of the 216-S model, which has been tried and tested for many years, is 45 cycles/min – depending on the flat blank being processed.

As an alternative to plastic cup handling, the line is designed for the insertion of jars – in this case 150-gram yogurt jars. This is accomplished by the downstream Twinline pick-and-place packer, which also has servo-driven axes. Even its type designation indicates that two conveyor lines are arranged in the packing cell. The finished crates are fed onto one conveyor while the products enter the other via a screw conveyor and are then transferred into the cartons according to the packing scheme with the aid of a robot arm. The Twinline achieves an impressive output of around 10,000 jars per hour.



The solution

In addition to the secondary packaging of jars, which is – at least still – rather rare in the yogurt segment compared to cups, the carton gluing management also has some special features. With regard to the gluing of the erected or folded crate blanks, A + F has been working for many years with Nordson Deutschland GmbH, the European headquarters of the U.S. adhesive technology specialist based in Erkrath, and of course makes use of its state-of-the-art developments.

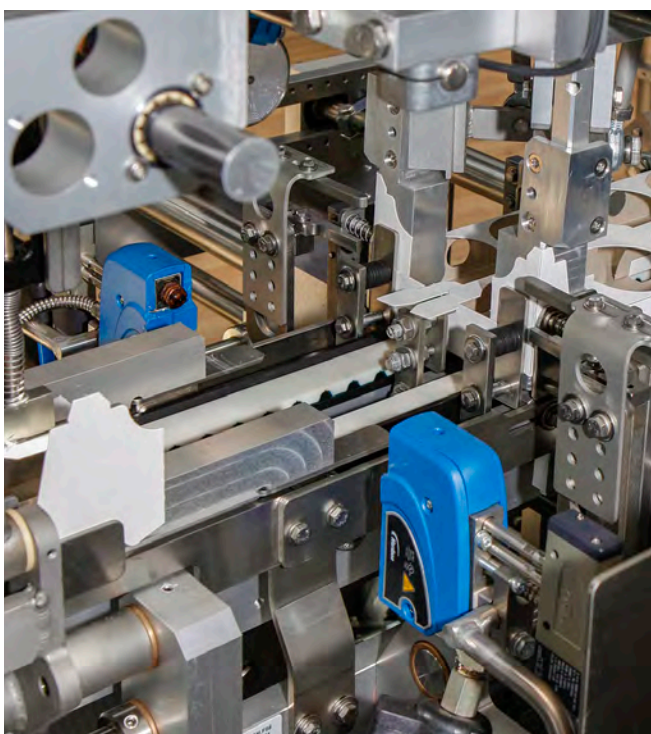
In the specific case of the system shown in Düsseldorf, for example, ProBlue® Flex with a 7 liter tank is installed and supplies five MiniBlue® II application heads with hotmelt for proper gluing of the center webs and side flaps. They operate with a minimum switching time of 2 ms and feature a long service life of more than 100 million cycles. The hotmelt used is a Technomelt Supra granulate from Henkel.

The ProBlue Flex represents the latest generation of hot melt equipment from Nordson Corporation. Designed primarily for end-of-line applications, they combine all the advantages of their predecessor series as a universal platform. The systems are modular in design and thus serve as a configuration basis for a wide variety of melter versions that can be adapted to the different needs of various industries. The flexibility also includes subsequent scalability of the application by upgrading with additional hoses or, for example, integration of the Adhesive Tracking System for precise adhesive flow measurement.

The innovative hotmelt applicators are basically available in two versions: as end-user or OEM models. With the same size, they differ essentially in terms of their control system. While the former are equipped with a large, clear OLED display for stand-alone operation, for example at the cartoner, the versions specially developed for the plant manufacturer have only a few function buttons and do without a display, as they can be integrated into the main control of the parent machine via LAN or fieldbus. Accordingly, A + F has opted for the use of an OEM version and uses the direct control option of the melter via the HMI of the riser erector. As an added bonus, the adhesive applicator features digital pressure control, enabling precise setting or adherence to operating parameters as well as simple and reliable format changeovers. This also includes complete documentation of all changes and deviations.



The controller is integrated into the HMI of the parent machine.



Tray bonding with MiniBlue II application heads

In the configuration described, this is a melter with conventional, manual filling. However, both the OEM and end-user units can also be equipped with automatic adhesive feed. The tankless melt-on-demand (MOD) melters with Autofill and Smart Melt technology offer a reduction in coking, are particularly energy-efficient due to reduced heat-up and heat-through times, and minimize the risk of burns.



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Nordson application and verification technology helps efficiently apply adhesives to meet both form and function for a wide variety of packaging applications: sealing, attachment, confectionary and small pack, tray making, palletizing, siftproof/tamper evident/braille applications and labeling.

Packaging applications are often judged equally by how they look and how well they perform, so application systems must apply the right amount of adhesive to be structurally sound and without messy stringing, tailing or squeeze out. Whether using hot melt or cold adhesives, Nordson is a world leader in packaging and converting application technology.



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Why Nordson



Global

Supporting and collaborating with customers worldwide.



Business Scale

Extensive capabilities to deliver on customer promises.



Value Innovation

Consistently creating customer value with innovative technology



Direct

Direct offices in over 30 countries with local application experts nearby to help.