



Wafer-cutting device with Pack-2000 flow wrapper

This year, Bosch Tevopharm has developed a unique application combining the well-known **Pack-2000** flow wrapper with a wafer-cutting device. The wafer-cutting device has been integrated in the infeed table of the wrapper and a transport belt system feeds the products to the wrapper. The products to be wrapped are wafers, from the leading Italian confectionery manufacturer, Elledi, which are cut into a certain number of fingers.

Elledi was founded in 1968 and is based in Galliera Veneta (Padova) Italy. It began as a limited partnership but, in 1981, became a public limited company.

From the outset, the company specialized in the production of wafers and soon attained high quality standards and produced a wide variety of pastry delicacies

within the same market segment. The original wafer production systems were supplemented in 1983 by new ladyfinger biscuit production lines and, in 1988, by shortbread production lines. More recently, in 1995, Elledi opened a new plant, enabling it to launch the production of a new range, including tarts, tartlets, soft doughnuts and soft cakes.

How does the machine work?

First, the wafer books are cut in two directions by the wafer line. After cutting, the wafer will eventually be enrobed. This means that pre-cut wafers, enrobed or non-enrobed, are arriving on a transport belt, with consecutive spacing. They are aligned with the short side leading. By means of a soft flow system,



- 1 Product Infeed system with **Pack-2000** flow wrapper
- 2 Soft flow product distribution system



the products are discharged gently on to a cross discharge belt to avoid damage to the product. A unique feature is that the whole transport belt system is controlled by the flow wrapper. No separate control system for the transport belt system is required.

After discharging the wafers crosswise, the products are transported, long side leading, to the cutting device. By metering belts, the gaps between the products are closed. Because the buffering belt is equipped with photocells, the infeed can run almost constantly. Then, the first wafer on the buffer belt is separated from the others by a pusher and positioned before the next pusher. This pusher moves the wafer through the cutting device. The whole cutting device is fully servo-driven and, again, controlled by the control system of the wrapper. The infeed chain takes the wafer fingers and feeds them into the wrapper.

At the end of the line, the products are wrapped by the **Pack-2000**, a state-

of-the-art flow wrapper. This unique machine combines the highest level of functionality and user friendliness. Features of the Tevopharm **Pack-2000** include pneumatic reel holders and a fully automatic film tracking system. The position of the film reel, on the film reel holder, is fixed by pneumatics for easy operation. The film reel holder itself can be moved perpendicular to the machine, in order to reach an ideal fin seal and therefore the best packaging result.

Furthermore, a splicer, for easy film reel switch, and a unique cutting device, for cutting the film immediately after splicing, offer customers the highest efficiency. An encoder determines the position of splicing and cutting of the film. This leads to the number of rejected packs on the discharge belt being minimized. Of course, typical servo functionality like “No Product – No Bag”, which stops the film transport when an empty pitch appears, and “No Gap – No

Seal”, which stops the rotation of the cross seal unit when there is no space for sealing, is standard. Finally, the use of an attractive cold seal film, in combination with a gusseting system, gives a tight and very attractive looking pack.

The whole line is executed in stainless steel for hygienic reasons and controlled by the latest Tevopharm control system. The control system has a minimum number of rotating parts, such as hard-disc or ventilators, to give the customer the most stable control system. The heart of the control system is a Bosch controller, combining Motion and Logic in one processor. The HMI no longer has a separate PC with its own control system and software, as the required graphic software is already on the controller. As a result of this system, the whole electronic system is more compact, offering the customer greater access to the machine.

Result

Once again, Tevopharm offered a leading company a very smooth running line, combining the transport system, cutting device and flow wrapper with the highest level of functionality and efficiency.

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- 1 Feeding products into the infeed chain
- 2 Cutting products into the infeed chain

