



To be seen at Gulfood: the EK4 twist wrapper for high-boiled sweets

Photo credit: Theegarten-Pactec GmbH & Co KG

## Sweets-wrapping expertise from Germany

Theegarten-Pactec is a family-owned company, managed in the fourth generation. It specialises in the design and construction of packaging machines for small confectionery items, offering more than 20 different types of packaging with a broad range of machines for hard candies, toffees, chewy sweets, chewing gums, chocolate products and various other food and non-food products such as dishwasher tablets.

Markus Rustler is proud of Theegarten-Pactec's new facilities in Dresden, Germany, just a few light rail stations from the city centre. The German 'hidden champion', one of the world's leading manufacturers of packaging technology for confectionery, has been operating in stylish new production halls and offices since the inauguration of the first buildings two years ago. 'It represents a commitment to our clients, the location and our employees', the young managing director says, explaining the importance of the €30 million investment, the largest in company history.

Theegarten-Pactec is a family-owned company, managed in the

fourth generation by Rustler and Dr Egbert Röhm, with sales offices in more than 100 countries. The export share averages 90%. With approximately 380 employees, this medium-sized enterprise posts an annual turnover averaging between €40 – 50 million.

The present company came into existence in 1994 when the Cologne-based company Rose Theegarten, a specialist in forming, cutting, and wrapping technology, acquired Pactec which manufactured wrapping machines for hard candy and chocolate articles in Dresden.

Rose Theegarten was founded in Cologne in 1934 by Justus Theegarten and his son Franz. The name Rose stood for its earlier collaboration with the British company Rose Forgrove. Beginning in the mid-1970s, Christa Rustler-Theegarten, the granddaughter of the founder, and her husband Erhard W. Rustler decided to establish their own sales organisation. Pactec, an offshoot of the former GDR combine Nagema, traditionally maintained excellent contacts in Eastern European and Asian countries which helped it establish a strong market position in these re-

gions. Incidentally, the history of these two East German companies extends back to the late 19th century, to the origins of the Germany packaging machinery industry which had its cradle in Dresden. In 1997 it was decided to close the factory in Cologne. Since then, Dresden has been the company's sole manufacturing site.

### Long-established but forward-looking

There was a time however when it looked like Theegarten-Pactec might leave the city on the river Elbe. The fact that the company still operates out of Dresden is due to Rustler, who proved himself to be a very determined man in a 'skirmish' with the local authorities: the former Nagema site had been split up into several parts, with Pactec owning the production halls which were separated from the main street by the former canteen. This prime piece of real estate on which the canteen stood was put to sale and Rustler's offer was overbid by a speculator. Needing the additional space, Theegarten-Pactec subsequently explored the possibility of building a new green-field complex outside of Dresden.

Realising that if Theegarten-Pactec actually carried through with its plans to leave Dresden, the financial losses arising from the ensuing decrease in tax revenue and jobs would have been even greater than what the retail deal would have brought in one-off income, the city withdrew from the investor's offer. Rustler bought the property, kept the company in Dresden and personally operated the Caterpillar during the demolition of his old office.

The current production site measures 50,000m<sup>2</sup>, plenty of space to add more buildings if necessary in future.

The new headquarters include a highly efficient warehouse designed by Hörmann Logistik for organising small parts used in the assembly of packaging machines. The AutoStore® system with six robots, three stations for goods-in processing and order picking, and 14,000 bins on 16 levels

handles the storage of small parts needed in production and autonomously delivers them to the worker needing them.

#### From single packaging machines to turnkey solutions

Theegarten-Pactec specialises in the design and construction of packaging machines for small confectionery items, offering more than 20 different types of packaging with a broad range of machines for hard candies, toffees, chewy sweets, chewing gums, chocolate products, and various other food and non-food products such as dishwasher tablets. Apart from customised individual machines, the company also offers complete packaging lines as a turnkey partner. The innovations originate in Theegarten-Pactec's research and development departments, where more than 70 staff members work. These departments are also in charge of specific customer needs such as the integration of individual packing machines into feeding, separating, and collecting systems to create complex packaging lines.

To meet the confectionery industry's need for complete solutions Theegarten-Pactec acquired the

Hamberger company in 2007 in order to gain additional expertise in this segment. This acquisition added a number of products such as buffer systems for small-sized confectionery items to the company's range. Ten engineers work solely on turnkey projects for complete packaging systems. In 2016, the Milletwist packing machine from Hänsel Processing was added to the product line-up. This acquisition rounded out Theegarten-Pactec's range of options for packing stamped and formed hard sugar sweets in double twist wrapping. The Dresden-based specialist already offered machines that can package 450, 1,800 or 2,300 items per minute reliably and efficiently. The acquired machine, which is capable of 1,000 operations per minute, fits well into the range as an intermediate option, as Managing Director Markus Rustler explains: 'We are closing a gap in our product portfolio and are convinced that the acquisition will pay off in the medium term.'

#### Gentle product handling at high speeds

All format parts on the Milletwist can be changed easily, making format changes within 15 to 30 minutes pos-

sible. The servo-foil station is easy to access from the outside. This translates into time savings when changing reels of wrapping material. Hard caramels are fed into the machine at half speed using a double ring plate. This guarantees smooth product handling and ensures high feeding performance. Since product has to be gripped only twice when wrapping it, handling pressure is also minimised. A cooperation agreement between the two companies allows Hänsel Processing to offer the Milletwist as well as other packaging machines from the new owner to customers as part of turnkey projects.

The CFW-D, a recent addition to the line-up, offers confectionery manufacturers a packaging machine that can process moulded or coated chocolate products such as napolitains or small pralines at speeds of up to 1,400 items per minute in fold wrap, with or without sleeves. This is made possible by the machine's twin-lane design. Spring retainer jaws on the packing head accommodate product tolerances, a feature which is especially important for being able to wrap coated confectionery products without damaging them. In addition, sensors detect the conveyance rate to



Assembling machines in the new production halls

Photo credit: Theegarten-Pactec GmbH & Co. KG



The new office tract on the site of the former Nagema canteen

minimise back-ups and jolts, and optimally set the processing speed based on the speed at which the items are fed. At Interpack 2017, Theegarten-Pactec presented its comprehensive solution for powder or granulate compression with subsequent primary packaging into flow packs. The system combines the proven FPC5 packaging machine with units from AZO and Romaco Kilian. A classic range is the 'U' series of forming, cutting, and packaging machines. At Interpack, the U1-D-CW was presented for the first time in combination with an F3 stick packer. This space-saving system packs products such as chewing gum in side fold, bottom fold or envelope fold at speeds of up to 2,000 items per minute, and then overwraps them in multi-packs. The U1-D-CW offers double the output per minute compared with the U1/F1, with virtually the same space requirement, operating personnel, and energy consumption.

#### Data to improve productivity

The user interface has been integrated into mobile terminals, making it possible for the machine's data to be called up and processed from anywhere in the world. This means that customers can at any time access important data such as machine status, run times, cleaning and maintenance cycles, and machine efficiency. Users can then have important sensor and

machine data, such as air humidity and yield, displayed in graph form. This information is of assistance when making decisions about necessary adjustments and, in this way, helps ensure high productivity.

As standard features, Theegarten-Pactec equips nearly all of its machines with its new control system and redesigned user interface for straightforward, easy operation. Even less experienced operators can run the line with complete confidence, thanks to the intuitive display that shows machine status and instructions. The machines are equipped with sensors that gather data for analysis. This supports maintenance and cleaning processes and provides information for determining service and maintenance intervals.

#### Leading twister wrapper

With an output of 2,300 items per minute, the EK4 is the world's number one twist wrapper for high-boiled sweets, the manufacturer reports. For hard and soft caramels, chewy sweets, chewing gum and bubble gum the WHF (fold wrap) and WHD (twist wrap) models offer speeds of up to 1,800 pieces per minute. The EK4 combines all the features that stand for high availability and top performance. Its continuous working mode is particularly gentle on the products, as is the large diameter of the individualisation plate which re-

duces the centrifugal forces that have an impact on the product. The servo-driven wrapping material draw-off ensures exact draw-off lengths and minimises material consumption. The paper cutting blade and roller holder are servo-driven. The rotary gripper oscillation is progressively adjustable, making it possible to use different wrapping materials. The insertion angle is also variably adjustable (up to 2.1 rotations). When different wrapping materials are to be used, rotary grippers are available in the matching format.

#### Automated quality control

Broken items, twin items and product fragments are rejected inside the multi-stage vibration delivery feed. The product hopper constantly monitors the filling level, regulates machine speed and automatically signals when more product is needed for pre-processing. At the outlet, spliced products are automatically identified and rejected, and the 'no product - no wrapping material' function ensures economical use of wrapping material. The system is fully automatic and simple to operate, making it possible for one person to operate several machines.

Theegarten-Pactec will present the EK4 at Gulfood Manufacturing 2017 in Dubai. Following the show, the machine on display at its stand will be delivered to Al-Seedawi Sweets Factory Co., a confectionary manufacturer in Kuwait.

Since high-speed solutions are not suitable for every market or every manufacturer, the packaging specialist also continues to invest in solutions for the low-speed segment (up to 500 items per minute) as well. |

**Markus Rustler**  
owns and manages  
Theegarten-Pactec  
in the fourth  
generation.



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