

Managing Director Peter Gyögyfalvai was so delighted with the first system that he invested in a second identical line from WP Kemper one year later in 2012.

Photo: Backtechnik

# Doughnuts from Austria

Kuchen-Peter from Austria has invested in system equipment Softstar Plus and Evolution from WP Kemper for the automatic processing of its doughnuts.

Kuchen-Peter is based in Hagenbrunn in Austria and with its annual production of more than 33 million doughnuts, the company is one of the leading producers of the popular yeast-based pastries. In the past pastries were produced on three lines in order to meet demand - in particular in the season from September to Ash Wednesday. However, after an operating life of over twenty years the systems were

getting on a bit and replacement investments were necessary in order to adapt quality and quantity to current standards. After intensive discussions and careful consideration, Managing Director Peter Gyögyfalvai decided to move away from the previous suppliers and start working with processing technology from WP Kemper. The first system equipment combination consisting of the Softstar Plus dough dividing and roun-

ding machines and the Evolution doughnut system was delivered in 2011 with the second investment in an almost identical line following a year later in August 2012. The two new equipment systems can produce almost the same quantities as the three old lines. Kuchen-Peter with its 320 employees in 24 hour production also produces pastries, mixed and speciality breads, patisserie and confectionery products. In addition to its strong position



Left photo: The Softstar Plus dough dividing and rounding machine is suitable for doughs with a dough yield of 145 to 165. Middle photo: The robust link conveyors transport the 50 gramme dough pieces to the indexed and pivoting conveyor which doubles the number of dough pieces per row. Right photo: Very early on in the process the doughnuts are pressed into a typical doughnut shape.

in the doughnut market, Kuchen-Peter has also acquired a good reputation in Austria as an organic baker.

### Dough dividing and rounding machines

An elevator tipper is used to move the yeast doughs for the doughnuts into the Softstar Plus hopper which accepts 160 kg dough in the standard model. Integrated into this model is the TT pre-portioner with its own drive which has proven its worth with high hourly capacities. The dough is released by a contactless pulse generator. The system's measuring and moulding drums ensure that the common weights of 35 to 50 through to 70 to 90 grammes can be produced on both systems. Continuous dough input is supported by three rollers

arranged in pairs. The adjustable, sensor-controlled dough dividing system with its infinite number of settings adjustments means that different dough consistencies can be handled with care. Oiling the measuring drum further facilitates the release of the dough pieces from the measuring flask, thereby ensuring a high dough yield. On their route from the measuring drum to the moulding drum, the dough pieces now on the resting belt pass through a flour dusting device or alternatively, a hot air blower before they are intensively moulded into round shapes. The moulding drum is one of the key elements of the dough dividing and moulding machines. In contrast to Softstar, the moulding drum mounting of Softstar plus is equipped with an additional stabilising counter-weight. The dough pieces

are now transferred to the robust link conveyor belts which move them to the indexed and pivoting conveyor. The dough dividing and rounding machine is operated via an integrated SPS control panel with a touch screen display. Different machine parameters such as hourly capacity, moulding revolutions, flour duster, dough weight, moulding pressure or dough pressure can be programmed and stored in the recipe control management with 30 memory locations. Also included as standard equipment is an electronic piece counter, an hourly capacity display and an infinitely adjustable drive.

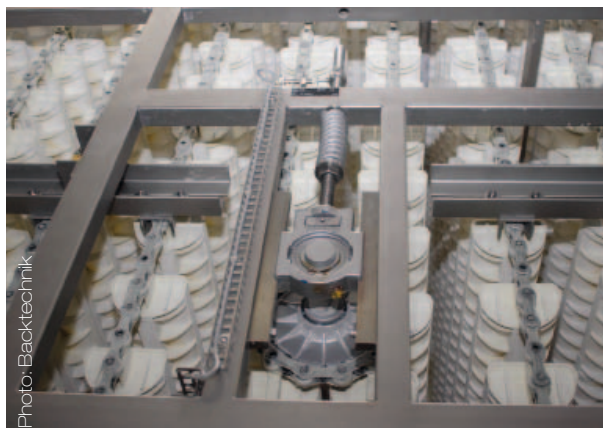
### Doughnut System

On the indexed and pivoting conveyor the row capacity of the head machine is doubled, in this case



Left photo: To ensure the precise transfer of the dough pieces to the next station, the dough pieces are aligned on the belt. Middle photo: A pressing plate creates the correct form for the dough pieces before they are turned after about 20 minutes in the proving chamber. Right photo: A rapper on the potato powder container ensures the dough pieces are dusted promptly, consistently and finely.





Left photo: The large kneading troughs provide sufficient space for the development of the individual dough pieces. Middle photo: Strong chains and several chain adjusters ensure operation runs very quietly and that wear and tear levels are low. Right photo: At the end of the stiffening zone the dough pieces are transferred from the proving trays to the discharge conveyor belt.

from five to ten units. First of all the indexed and pivoting conveyor in its base position picks up a row. Then the entire table pushes forward a defined distance and the dough pieces from the next row can be positioned at the relevant spacing. A first pressure roller presses the round dough pieces so that they increasingly take on the shape of a doughnut. So that dough pieces are transferred smoothly to the kneading trough of the proving and stiffening station, WP Kemper aligns the moulded dough pieces with a corrective device.

Flour dusters add potato powder to the kneading trough before the input station of the final prover. To better monitor the fill level, a warning signal is displayed in the display. Two rappers ensure that the separating flour is distributed on the dough pieces promptly, consistently and finely on the kneading trough and before the pressing station. More than 1,000 proving trays are built into the system. They have an internal width of 105 millimetres and are equipped with an exchangeable cotton lining. The total cycle period for the dough pieces, which is divided into proving and stiffening time, is about 90 minutes. Here the

moulded dough pieces are again turned and pressed in the pressing station of the proving zone, in order to improve the quality of the doughnuts. The pressing takes place before the dough pieces enter proving zone two of the proving chamber. First of all the doughnut dough pieces are discharged, turned and dusted with potato powder. Then they move through the pressing station which consists of a height-adjustable pressing table arranged above the discharge belt as a synchronous belt. The required distance between the two belts can be adjusted by hand wheels. The spacing position can be read on the scale display. Here,

## Kuchen-Peter

Innovative Backwaren.

### Facts

Kuchen-Peter Backwaren GmbH  
Industriestraße 16-17  
2201 IG Hagenbrunn  
Austria



Tel.: +43 2246 2245  
Email: [office@kuchenpeter.at](mailto:office@kuchenpeter.at)  
Internet: [www.kuchenpeter.at](http://www.kuchenpeter.at)

Managing Director: Peter Györgyfalvai  
Employees: 320  
Certifications: IFS 6, Organic Food Certificate, Smeta



Left photo: The dough pieces pass through a lamella curtain out of the stiffening zone and are moved from the discharge belt to the baking tray. Right photo: The baked doughnuts can still drip a little before the relevant fillings are injected.

too a correction device is connected in order to transport the dough pieces into the kneading trough. Once the second proving phase is completed, the products move into the stiffening zone where the priority is the stabilisation of the dough piece surface. Finally the dough pieces are placed on the discharge conveyor belt and transported through a narrow opening to the baking tray. The transfer to the next station is continuous and with clearly defined row spacing.

The climate-control technology crucial for product quality was also supplied by WP Kemper for this system. The temperature ranges for proving (plus 25 to plus 35 degrees Celsius) and for cooling (plus eight to minus 10 degrees Celsius) were specified for this project with a maximum deviation upwards/downwards of one degree Celsius. The moisture level in the proving chamber (65 to 95 percent) was also defined and here the deviation can be five percent. In order to keep the climate in the zones stable the entire doughnut system equipment is encased with polyurethane insulation 80 millimetres thick. To make them easier to clean, the surfaces of the internal walls are covered with smooth stainless steel. The kneading troughs in the system are also easy to clean by means of a disinfection station in the kneading trough return stroke which is equipped with infrared lamps. Effective disinfection is achieved by heating the kneading trough surfaces to about 120 degrees Celsius for several seconds. This module is supported by a co-travelling kneading trough cleaning station which works with rotating brushes and is integrated into the return stroke of the pre-proving chamber. The kneading troughs are turned by 180 degrees for cleaning and blue brushes release any production residues. The particles are then collected in a drawer located underneath.

## Conclusion

Kuchen-Peter is well equipped for the future with the doughnut system equipment from WP Kemper. The Managing Director's requirements for product quality and production quantity have been met. The weight precision in the division together with the improved recipes across all produced sizes and the variety of fillings are the keys to the success of Kuchen-Peter doughnuts. However, exports of the yeast pastries which are supplied in different packaging quantities are not very important as the largest proportion of production continues to be sold to the Austrian market where apricot, vanilla and nougat are the most popular fillings. However, the company founded in Vienna in the 1960s by senior director Paul Györgyfalvai is not resting on the laurels of its more than 40 years' experience of a doughnut baker. This is borne out by the constant expansion of the company head office in Hagenbrunn acquired in 1977 to now more than 24,000 square metres of built-on surface area with 14 production plants.

Gregor Vogelpohl

**ZEPPELIN**  
WE CREATE SOLUTIONS



## Reimelt Food Technology

### CODOS<sup>®</sup>SYSTEM

Day after day, always the same quality with consistently temperature and the same optimum result. Coker<sup>®</sup>, the continuous mixing and kneading system of Zepelin Reimelt. Around the clock, the spirals perfectly mix all raw materials and the kneading shafts ensure a smooth handling.

- Optimum product quality
- Energy savings up to 30%
- Quick recipe change
- Easy handling

[www.zepelin-reimelt.com](http://www.zepelin-reimelt.com)