

Surface treatment

DECORATING BAKED GOODS WITH ACCEPTABLE SPEED AND UNIFORM RESULTS REQUIRES PRECISE MECHANICAL ENGINEERING



++ figure 1

++ figure 1
The fine fondant curtain makes sure that the cake is coated all over but the coating itself is not too thick. The large coating plant by Dojatec decorates up to 3,500 baked goods per hour. The latest development has a performance of 7,000 pieces



++ Gianni Dore



++ Jaro Janecek

+

To apply something somehow on the surface of baked items is not a skill. However, applying decoration that looks the same on all bakery items, is evenly distributed, and also at economical costs does require know-how and often automatic coating. This is the time for Gianni Dore and Jaro Janecek, who are mechanical engineers from Dußlingen, Swabia in Germany, specializing in the construction and development of decorating equipment. The hook up to the baking industry happened by chance. It started with the Bumüller bakery in Hechingen which was looking for someone to do some fitting work. Next they needed a coating plant. Today Dojatec can look back to not only a comprehensive and partly highly specific range of decorating machines but also to 10 years of customized machine manufacturing. Curtain applicators for fondant icing or apricot glaze, spraying plants for fat, water, egg wash or even release agents, pouring plants designed to fill one 30 x 68 cm sheet of fruit cake in 5-7 seconds with fruit jelly – this is all standard for Dojatec and sold many times over to industrial as well as artisan bakeries. Incidentally, the fruit cake is coated in a curtain process so that the fruit jelly does not foam, and the application can be precisely controlled leaving the rims of the sheets clean. For German cheese cake, only 2-3 seconds are required for this application.

According to Dore, curtain plants are the most commonly used technology today. “They have the advantages that the apricot glaze underneath does not have to dry first as it should if you spray the fondant icing. There is no air draft in the curtain applicator which might blow off the apricot glaze. Both layers can dry together.” However if a customer still requires the fondant icing spraying onto the product, even if he uses fondant that is not pure but rather a mixture of fondant, water and icing sugar, Dojatec still has a solution. In this case, Dore offers a special pan in which the fondant is heated in a water bath and kept in motion by a stirrer before it is fed to the nozzles of the applicator.

But this is the only case where both owners accept the heating of larger quantities of fillings or icings. All other plants are equipped with a kind of continuous flow heater in which only small quantities of product are heated indirectly and only immediately prior to processing. The other product awaits its use cold in the storage container. This type of heating has the advantage that it is absolutely uniform and controlled and that for example the fondant does not deteriorate over a few hours. Parallel to the standard equipment, both mechanical engineers and their eight employees will build any decorating unit a bakery needs. Many of them are individual designs



++ figure 2



++ figure 3



++ figure 4



++ figure 5

++ figure 2
The entire Chinois plant including drying belt

++ figure 4
The highly viscous fondant stream is cut with air

++ figure 3
Chocolate dipping unit for donuts. The grid holds the donut during dipping for easier adjustment of the dipping height.

++ figure 5
Fondant spots on a Chinois cake look like they are applied by hand

because to Janecek and Dore it is important to fulfill the customer's requests as much as is technically possible. One example is the Chinois cake decorating plant which was delivered to France. This type of cake is traditionally decorated with thick spots of fondant which should look as if they were applied manually. This is not an easy task because the fondant mass is highly viscous and the belt speed must be set to really low in order to allow the fondant to tear off all by itself. Also, the hourly performance needs to be maintained so both Swabian engineers came up with the idea of using a short air pressure blast to cut off the thick sugar stream in a real rush. The fondant spots will land precisely on top of the Chinois cakes which move below the fondant application station at a speed of 2,500 pieces per hour. According to Janecek, in-line stations mainly require special solutions due to the pre-set belt speed. The curtain applicator for example which has to coat the baked goods that come out of the wire belt oven at low speed with a thin layer of sugar icing frequently moves over to two resting channels from which the remaining icing can be transported back into the storage tank. If products, which have not yet been decorated appear on the belt, the curtain applicator swivels back into action. A real challenge for the company owners was the equipment needed to apply egg wash onto the extremely delicate surfaces of certain baked items. The solution that was developed included foam rollers which move gently over the surface

and carefully apply and precisely dose the egg wash onto the surface without damaging it or even removing parts of it by air draft.

The latest development of the Dojatec company is a fondant plant which decorates up to 7,000 pieces per hour and where the pieces can be loaded and unloaded by hand. This is economical because this unit is used to decorate many different products. But if needed, a fully automatic machine will also be feasible. www.dojatec.de +++

ADVERTISEMENT

More success with better taste

- Dried wheat sourdoughs
- Dried rye sourdoughs
- Wheat sponge
- Starters

BÖCKER
Your sourdough specialist

Ernst Böcker GmbH & Co. KG
Ringstraße 55-57 · D-32427 Minden
Phone +49 (0) 571 837 990
Fax +49 (0) 571 837 99 20

www.sauer Teig.de · info@sauer Teig.de