

Quality, product safety and efficiency

Practical experience with automatic clippers in production at Bell Deutschland in Suhl (Thuringia)

Each product must be distinguished by impeccable quality, product safety and efficiency in production. High demands are made of automatic double-clippers and equipment within the context of the production process. Bell, based in Suhl, reports excellent experience with the Poly-clip System (Fig. 1).

By Steven Wohlmacher

The Bell Group has bundled its business activities in Germany. The ham, sausage and convenience food producers Abraham, Zimbo and Hoppe have belonged to Bell Deutschland since 2012. Bell Deutschland is the market leader in the field of raw ham and a major provider of dry sausage, cooked sausage and convenience meat products. In 2014 the group reported a sales volume of 62570 t. The range of Thuringian specialities is a major focus at the production site in Suhl. This includes the Thuringian Rostbratwurst (a type of fresh sausage for grilling), as well as a range of sliced deli meats from cooked sausage, sausage made from cooked meat and cooked cured products. The challenge for the production plants lies in harmonising the specific requirements of the individual end products in such a way that synergetic effects result



Fig. 2: Thomas Bartels is plant manager in Suhl.



Fig. 1: Bell uses clipping machines for a large number of products at its plant in Suhl.

in the overall production, making it possible to produce efficiently and cost-effectively.

The products cover a wide range

Thomas Bartels (Fig. 2) has over 20 years of production experience and has been plant manager at the Suhl plant in Thuringia since 2012. He sees himself on the safe side with the automatic clipping machines from Poly-clip System in Hattersheim a. M. – for smaller calibre cooked sausage and sausage products made from cooked meat as well as for large-calibre cooked cured products. The production range extends calibres from 38 to 180 mm. In the search for a suitable solution for all the production processes, individual advantages of various machine systems were examined on the one hand, but also synergies between the closure systems on the other. It was necessary here to consider a whole series of selection criteria in order to ensure modern, efficient and above all reliable production with regard to closure technology. Taking as an example the most recent investment that has been in operation since April this year in the production of moulded cooked sausage products in loaf form, it is possible to illustrate the strategic se-

lection and configuration of a clipping machine. The meat loaf in particular is produced with the new automatic double-clipper of type FCA 90, which allows air-free slack filling with total spreading of up to 300 mm (Fig. 3). The slack filling/overspreading is strictly necessary, as the product is placed in a mould and cooked and only in this way does it obtain its final form. The large overspreading of this FCA is an essential component for successful expansion of the meat product range. The production speed and fast changing of the spreading, both in standard spreading and in the conversion to overspreading, were key advantages in the selection of a suitable machine. In particular

Holistic view prior to selection

the speed of overspreading convinced the buyers. “The versatility of the new FCA 90 is virtually beyond comparison”, states Thomas Bartels. “When we invest in machinery today we have to think about tomorrow too, as the market requirements are constantly moving on.”

These are partial criteria that all play a role in the selection and assessment of clipping machines (Fig. 4). Flexibility and above all viability for the future are further vital aspects to be considered in the selection. That is why the company examines precisely what requirements have to be satisfied now and above all in the future to ensure that the cost/benefit calculation is consistently positive in all cases already before purchasing the machine. Modern clipping machines are characterised by a high degree of flexibility. One machine model can process a large calibre and product range, as not only the quantities but also the product diversity have grown. In the case of the FCA 90, the versatility is demonstrated both by the large calibre range that can be covered and the overspreading on a machine with a linear voiding separator that is currently unique on the market. The extremely high overspreading speed achieved



Fig. 3: The clipping machine has an overall spread of 300 mm for slack, air-free filling of moulded products.



Fig. 4: What criteria are important when selecting a clipping machine?

with the PCS motion controller and the use of the R-ID clip series are further advantages for users.

The goal was to find a machine prepared for subsequent upgrades and one that ensured short set-up times. The option of using a digital interface was also to be available. The FCA 90 offered the possibility of updating software comfortably and reading out operating data via the standard interface in compliance with WS-Food. Furthermore, a whole series of further selection criteria play a role in such an investment. The centrally arranged lubrication strip, which supplies the most important lubricating points, ensures that maintenance can be carried out quickly and easily. This in turn means high production safety and reliability. In addition, it optimally supports the lifecycle of the machine, as avoidable failures due to early wear are prevented. Of course it is also necessary to look at the aspects of ergonomics and operator-kindliness. It is best to test these requirements under real conditions. Are all the necessary operating elements readily to hand? Are the operator movements restricted to a minimum? In operator guidance it is best to work with a lot of symbols, so that people with different language

backgrounds can operate the machine fault-free at any time. Thomas Bartels awards grade 2 (good) for the aspects of machine operation, speed, possible expansions and processing.

Cleaning of the machine is also an important factor. The hygienic design with smooth surfaces that prevents product from sticking and the fast and easy overall cleaning of the machine are included in his overall assessment.

The design must necessarily be considered under the aspect of service-kindliness too. Are all the wear parts easily accessible and can they be replaced quickly? Are there informative error messages, either in the local language or in visual form, for fast and reliable fault analysis? The machine should support the operator as best possible. The optimal control "helps" the operator to find the correct setting, or automatically identifies incorrect settings and can prompt operators to make the necessary adjustments. Product changes should be possible largely in automated fashion by calling up stored setting parameters. Thomas Bartels says, "The confirmation that we made the right decision with this investment came very quickly in daily practice with consistently good results. More-

over, I can rightly give the FCA an "excellent" rating for the criteria of versatility and noise level. The service provided also deserves this rating."

The synergy of the machines deployed is demonstrated particularly when it comes to the clip. "We produce here on site with the automatic double-clippers FCA 50, FCA 90, FCA 160 and the ICA 8700. In addition to our latest investment, the FCA 90, we have been using the ICA 8700 machine since 2008 for the very large calibre cooked cured articles. Since 2009 we have been producing cooked sausage articles and products made from cooked meat in the calibre range 50 to 120 mm with the FCA 160. The FCA 50 is geared to the production of small-calibre articles at high speed", says Thomas Bartels.

A uniform clip series

All the FCA clipping machines in service in Suhl work with just one clip series, the R-ID clip. In addition to the advantage of a uniform clip series, the R-ID code allows automatic comparison with the clip size stored in the formulation data management. In this way use of wrong clips or punches and dies is avoided. This generates production continuity, is

gentle on the machine and protects it against damage caused by incorrect settings. Furthermore, the R-ID clip offers a greater impermeability, which in conjunction with the right plastic casings extends as far as bacteria-proof tightness. The success is impressive as it has been possible to boost the performance per hour and the production volumes across all calibres with consideration given to the performance criteria, "quality, product safety and efficiency".

A further key indicator of synergies in the machine selection is the uniform operation of the clipping machines. This means that uniform operating concepts have been used in the case of new models of the same machine type, as well as with related machines from the FCA series. This has the great advantage that the operators can move easily between the machines without any great familiarisation times being necessary. With a coordinated machinery pool, synergies also take effect in the service sector. The parameters are a high level of machine availability for continuous production (continuity). And this has been guaranteed for nearly 25 years now in the collaboration between Bell in Suhl and the company Poly-clip System.



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trained as a butcher and is a state-examined food technician specialising in the field of machinery and equipment for the meat trade. With his more than 15 years of experience as production and plant manager in the meat processing industry, he is an acknowledged expert. He has been responsible for sales and marketing of the Poly-clip System clip closure systems as a sales manager in the east of Germany for six years now.

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