

Hygienic operation concept for poultry meat slicer

Excellent cut - operated hygiene compliant

The poultry meat slicers from Food Technology Thielemann are used around the world and are known as premium machines due to the quality and productivity. At the man-machine interface of the machines there are hygienic operator panels installed that ensure a lengthy service life and ergonomic operation even with frequent and intensive cleaning processes.

Each German eats on average about 11 kilograms of poultry meat every year. Mostly coming from chickens where the breast meat is particularly valued because it is very lean. In other countries the amount of poultry eaten is considerably higher. Therefore it is only logical that Food Technology Thielemann GmbH & Co. KG offer their machines worldwide. The company based in Neckarsteinach near Heidelberg develops and produces horizontal axis cutting machines for poultry breast fillets and places itself with its production program in the premium market for meat processing. Currently there are machines almost completed for South Africa, Australia, China and Poland.

Poultry breast slicer in premium quality

The poultry breast slicer model ranges



Picture 1:
Die Geflügelfleisch-Slicer von Food Technology Thielemann zeichnen sich durch hervorragende Schnittqualität und hohe Leistung aus.

BBS and CBS (Picture 1) are equipped with oscillating blades and variable speed drives, and process up to three tonnes of meat per hour - whereby the quality of the cut is more important than the quantity. Birte Thielemann, Managing Director Engineering (Picture 2): „Horizontal cutting of poultry is a very demanding task for the automation engineering. Our machines cut the meat safely in a single process action in several slices and delivers a particularly good and reproducible quality of cut.“

Hygienically designed man-machine interface

Thielemann manufactures the CBS and BBS range of products in single, dual and three belt models and has been offering and continuously optimising the machines since 2008. The main focus of which has been hygiene, ergonomics and machine safety. Birte Thielemann: „The requirements on hygiene is continuously increasing. The machines are thoroughly cleaned at least once a day - especially the operating elements. As the operator touches both the operator panel and the meat it has to be certain the no bacteria settles on the switches.“

Suitable for intensive cleaning processes

For this reason Food Technology Thielemann has used Schmersal operating elements from the N range of products for their CBS and BBS range of products (Picture 3). This range was developed and dedicated to the requirements of the foodstuff industry. The design was based on the general design



Picture 2:
Die Food Technology Thielemann GmbH & Co.KG wird seit 2008 in zweiter Generation von Haja Thielemann (links) und Birte Thielemann (rechts) geleitet.

principles for the hygienic design of food processing machines (EN 1762-2). The device geometry does not for example have any rough edges. Additionally the command and monitoring devices meet the requirements for the protection class IP 69 K. Which means: Even with regular cleaning using a steam cleaner or high pressure cleaner there is still a considerable service life.



Picture 3:
Die Bedienelemente der N-Baureihe wurden speziell für die Anforderungen der Nahrungsmittelindustrie entwickelt.

Working in partnership with suppliers

Food Technology Thielemann works in partnership relationships with suppliers. Birte Thielemann: „As an SME our production concentrates on the core components for meat processing and we strive to buy-in modules and systems from suppliers that have a high level of expertise. This is the way we work for the drive technology and the man-machine interface.“

Therefore the company orders from Schmersal completely assembled, ready to install mounted housings from the NBG range with three and five control circuit devices for the single and three belt machines (Picture 4). Both versions are equipped with a main switch and an emergency stop button as well as a mode switch for blade oscillation: If this function is switched-off the system can be used to just convey material.

Operating system instead of individual parts

The mounted housings are made using the thermoforming process from V4A high-grade steel which makes them suitable for the hygienic material concept of the CBS and BBS machines, whose surfaces are exclusively out of stainless steel and food grade plastic material. The design of the housing is hygienic with rounded edges and without dead zones; the NBR seal between the housing top and the housing base were selected with the food industry in mind. In combination with the corresponding protection measures in the cable entries, which are in the housing base, allows the protection class IP 69K to be reached.



Picture 4:
Food Technology Thielemann bezieht von Schmersal einbaufertige Bediensysteme im lebensmittelkonformen Edelstahlgehäuse.

Contactless safety door monitoring

When developing the safety concept for the machines the developers at Food Technology Thielemann considered deeply how the conflicting areas of safety, ergonomics and hygiene can be implemented in an optimal construction. The solution is two largely dimensioned protective hoods that swivel upwards and exposes the entire operating area. In the second step the entire conveyor and cutting unit is unfolded so that all of the parts which come into contact with the product can be easily and completely accessed (Picture 5).

The query of the protective hoods (with a single belt BBS-1 just one hood is sufficient) occurs with safety sensors of the CSS range from the Schmersal range of products. This solution is also hygienic because the sensors can be effectively cleaned and compared to electro-mechanical safety switches they do not have any dead zones where material can settle. Even locations below the cover for the drive and controller are monitored with the CSS safety sensors.

Conclusion: Quality as a whole and in detail

The innovative cutting technology with oscillating blades and careful product flow is surely the central element and the essential recipe for success of the CBS and BBS machines. But also the careful detailed construction with a precise view of hygiene, ergonomics and safety contributes to the fact that the premium machines are sought after throughout the world and are distinguished by a long service life.

Food Technology Thielemann has declared the intension to maintain this productivity and quality advantage in the future. Currently the company is working on a completely new working concept for the blades, which will be presented to the industry later this year.

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Picture credits:

Food Technology Thielemann GmbH & Co. KG
(Pictures 1 and 3);
K.A. Schmersal GmbH & Co. KG
(Pictures 2, 4 and 5)



Picture 5:
Die Stellung der Schutzhauben (hier in geöffnetem Zustand) wird von CSS-Sicherheitssensoren überwacht.

Download:

Picture 1:

http://www.schmersal.net/Bilddata/fotos/diverse/maschine/1000x__007f73.jpg

http://www.schmersal.net/Bilddata/fotos/diverse/maschine/___007f73.zip

Picture 2:

http://www.schmersal.net/Bilddata/fotos/diverse/menschen/1000x__004f109.jpg

http://www.schmersal.net/Bilddata/fotos/diverse/menschen/___004f109.zip

Picture 3:

http://www.schmersal.net/Bilddata/befehlsge/pilztaster/ndp/fotos/katalog/1000xkndp_f01.jpg

http://www.schmersal.net/Bilddata/befehlsge/pilztaster/ndp/fotos/katalog/kndp_f01.zip

Picture 4:

<http://www.schmersal.net/Bilddata/befehlsge/fotos/gruppe/1000xkbefnf02.jpg>

<http://www.schmersal.net/Bilddata/befehlsge/fotos/gruppe/kbefnf02.zip>

Picture 5:

http://www.schmersal.net/Bilddata/Si_senso/css30s/fotos/katalog/1000xkc3f15.jpg

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