

**Contact**

Kathrin Fleuchaus  
Marketing Communications  
Coperion GmbH  
Theodorstraße 10  
70469 Stuttgart/Deutschland

Telefon +49 (0)711 897 25 07  
kathrin.fleuchaus@coperion.com  
www.coperion.com

**Press Release**

**Coperion develops MEGAtex cooling die for manufacturing plant-based meat substitutes**

**New MEGAtex S7 Cooling Die Offers HMMA Meat Substitute  
Manufactures Significantly Greater Flexibility**

*Stuttgart, February 2024* – Coperion has developed the new MEGAtex S7 cooling die for manufacturing plant-based HMMA (High Moisture Meat Analogue) meat substitutes. Mounted at the discharge of the ZSK Food Extruder, this texturizing unit gives the plant protein mass a dense, fibrous structure that closely resembles animal flesh.

For many years, Coperion has been a proven supplier of production systems for plant-based meat substitute products. With the MEGAtex S7 cooling die, Coperion has developed a new discharge for HMMA production that allows for variable width and strength as well as various textures for meat substitutes. Moreover, Coperion has equipped the MEGAtex cooling die with features that simplify handling and make both recipe and configuration changes possible with just a few quick adjustments.

Coperion will exhibit the new MEGAtex S7 cooling die at Anuga FoodTec 2024 (19-22 March, 2024, Cologne, Germany) at booth B-011 in Hall 10.1.

**New key technology for processing plant proteins**

HMMA is a plant-based intermediate product that is primarily used for ready-to-eat meals such as vegan chicken nuggets or ground meat. It contains 50 to 70 percent water and 30 to 50 percent plant proteins with less than 10 percent fat content. In the HMMA manufacturing process, protein-rich raw materials are first mixed with water and worked into a homogeneous mass in a ZSK Food Extruder. This mass is then pressed through the MEGAtex cooling die, where the meat-like texture is formed and a solid strand is discharged for further processing.

February 2024

Characteristics of HMMA quality are the product's texture and strength as well as the length and strength of the fibers. Coperion developed this new texturizing unit in order to more precisely fulfill these quality requirements, and in particular to provide more flexibility to smaller companies, research organizations, and startups. The MEGAtex S7 achieves throughputs of 5 to 50 kg/h and can currently be combined with the ZSK Food Extruder sizes 18, 27 and 34. Additional sizes of the Coperion MEGAtex cooling die for significantly higher throughputs will follow.

### **Easy handling, good cleanability and high flexibility**

The MEGAtex cooling die features a modular design. It consists of individual segments which can be combined as needed, depending upon the requirements of the raw materials and the desired product structure.

The MEGAtex S7 comes with interchangeable inlays that give the machine operator the flexibility to vary the strand width between 35 and 70 mm and the length between 10 and 15 mm. Just a few simple steps are all that is needed to open the cooling die and exchange the inlays.

Such easy handling is also a great advantage when changing recipes or extracting product samples. With its clever opening mechanism, the MEGAtex cooling die provides optimal access along its entire length. Moreover, product samples can be extracted at any time in any segment of the cooling die. The MEGAtex also features a hygienic design which reduces machine downtime for cleaning to a minimum, increasing the efficiency of the entire production line.

At the end of the die, there is a special cutter to facilitate quick sampling of HMMA at the discharge. The cooling die is mounted on rollers, making it mobile. These additional features make the MEGAtex especially flexible when frequently changing products, and ideal for development environments.

“The market for plant-based meat substitutes is growing exponentially and it's very important to us to propel this development forward with innovative technologies. With this new MEGAtex cooling die, we're pursuing our goal of redesigning the HMMA manufacturing process with greater variability. Moreover, maximized accessibility will markedly reduce cleaning time and increase the overall profitability of HMMA production. After comprehensive tests at our Food

February 2024

Test Lab using various raw materials, we can confirm with high certainty that we have fully achieved these goals,” said Markus Schmudde, Head of Research and Development, Compounding & Extrusion at Coperion, clearly very proud of Coperion’s new MEGAtex cooling die.

Coperion ([www.coperion.com](http://www.coperion.com)) is a global industry and technology leader in specialized equipment for the food and health industries. Coperion develops, produces, and services plants, machinery, and components for the food, pet food, baking, pharmaceutical, and cosmetics industries. Its brands – Baker Perkins, Bakon, Coperion K-Tron, Diosna, Gabler, Kemutec, Peerless, Shaffer, Shick Esteve, Unifiller, and VMI – are experts in ingredient automation, pre-dough systems, mixing, and depositing technologies. Coperion employs more than 5,000 people in its three divisions Polymer, Food, Health & Nutrition, and Aftermarket Sales & Service, and in its over 50 sales and service companies worldwide. Coperion is an Operating Company of Hillenbrand (NYSE: HI), a global industrial company that provides highly-engineered, mission-critical processing equipment and solutions to customers serving a wide variety of industries around the world. [www.hillenbrand.com](http://www.hillenbrand.com)

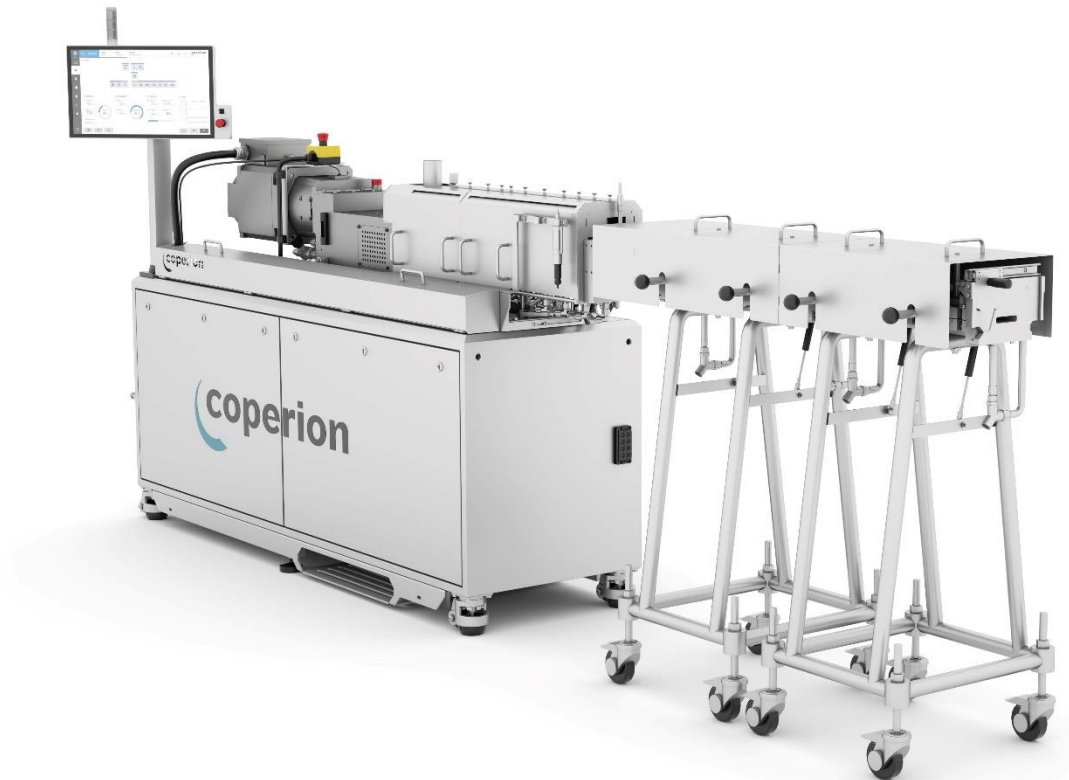


Dear Colleagues,  
You can find and download this [press release in German, English, and Chinese as well as print-ready color images](#) at  
<https://www.coperion.com/en/news-media/newsroom/>

Editorial contact and copies:

Dr. Jörg Wolters, KONSENS Public Relations GmbH & Co. KG,  
Hans-Böckler-Str. 20, D - 63811 Stockstadt am Main, GERMANY  
Tel.: +49 (0)60 27/ 99 00 5-0  
E-Mail: [mail@konsens.de](mailto:mail@konsens.de), Internet: [www.konsens.de](http://www.konsens.de)

February 2024



With the new MEGAtex cooling die, Coperion has developed a discharge for its ZSK Food Extruder that makes plant-based HMMA (High Moisture Meat Analogues) meat substitute manufacturing significantly more flexible and profitable.

*Photo: Coperion, Stuttgart Germany*