

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 expands MEGAtex cooling die series for High Moisture Meat Analogues

New Coperion MEGAtex R90 Cooling Die Allows Flexible Adjustments to Meat Substitute Texture at High Throughputs

Stuttgart, March 2024 – Just in time for Anuga FoodTec (19-22 March 2024, Cologne, Germany), Coperion introduces the latest model in its MEGAtex cooling die series for manufacturing plant-based HMMA (High Moisture Meat Analogues). The new MEGAtex R90 texturizing unit achieves throughputs of up to 500 kg/h and is optimally matched to Coperion's ZSK Food Extruders in sizes ZSK 43 and ZSK 54. Visitors can experience the MEGAtex cooling die series at the Coperion booth B-011 in Hall 10.1.

Used in vegan ground meat substitutes and chicken analogues among other products, HMMA is manufactured using plant proteins. The MEGAtex cooling die provides HMMA with its fibrous and meat-like textures.

New MEGAtex R90 for high HMMA throughputs

Coperion has designed its MEGAtex series texturizing units especially for use with the ZSK food extruder. The ZSK twin screw extruder and the MEGAtex cooling die are the core technologies within the high moisture extrusion process that generates meat analogues from plant proteins with a dense, fibrous structure that closely resembles lean animal meat.

The new MEGAtex R90 cooling die builds upon the principle of a round cooling die. Following discharge from the ZSK food extruder, the protein mass passes through a round channel in which the product is cooled to the desired temperature and the meat-like texture is formed to specification. For HMMA manufacturers, the cooling die opens up a broad spectrum of possible

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ingredients and textures – from smooth to loose, dense, foamy, large-pored and all the way to long- and short-fibered. The machine operator can precisely target process parameters such as temperature, pressure, shear rates and mass flow.

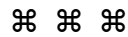
The central element of the MEGAtex R90 is its rotating, cooled core. This core is provided with a pitch to influence the texture and the nozzle flow. This in turn affects the pressure in the upstream extrusion process and alters the HMMA's texture, form, color and surface.

In order to operate HMMA production machinery at very high efficiency, Coperion's main objective in developing the MEGAtex R90 was to achieve very good and fast cleanability. All of the cooling die's surfaces are easily accessible. With just a few manual adjustments, the die core including the drive section, can be retracted out of the cooling barrel on linear guide rails. The product channel is then fully accessible and can be cleaned in no time at all. Retracting the die core also makes the ZSK food extruder's process section directly accessible. Its twin screws can then be removed as needed to easily clean the process section without moving the MEGAtex R90.

“Following the MEGAtex S7, the new MEGAtex R90 is the logical expansion of our cooling die line. It allows manufacturers of meat substitutes to produce HMMA with consistently very high product quality. Even at the high throughputs that the MEGAtex R90 achieves, this cooling die offers the operator the ability to modify the texture very precisely and with great variety. Thus, in combination with our ZSK Food Extruder, it fulfills important success factors for manufacturing high quality meat substitutes”, said Stefan Huber, Project Engineer in Research & Development, Extrusion at Coperion.

Coperion (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

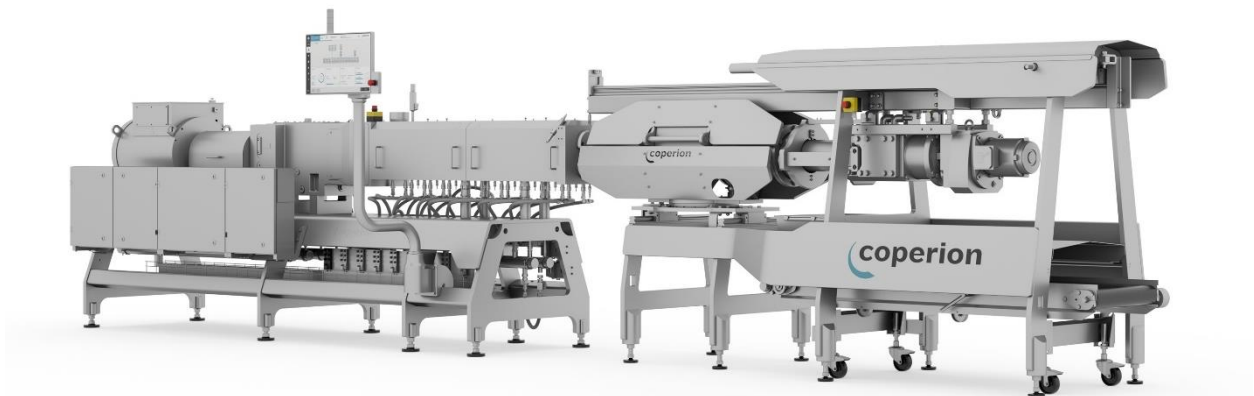
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Editorial contact and copies:

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, Internet: www.konsens.de



Together, Coperion's ZSK Food Extruder and new MEGAtex R90 cooling die give meat substitute manufacturers a production unit that allows for high quality HMMA (High Moisture Meat Analogue) production at high throughput rates.

Photo: Coperion, Stuttgart Germany

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Coperion developed the new MEGAtex R90 cooling die for manufacturing plant-based HMMA (High Moisture Meat Analogues) such as those used in vegan ground meat substitutes.

Photo: Coperion, Stuttgart Germany