



**Processing
solutions for
microalgae.**

Our downstream processing toolbox. **To bring microalgae to the plate.**

In the light of the emerging protein gap and restrictions in arable land, the use of microalgae as novel nutrient source is getting increasing attention. New opportunities are driving the industrial production of microalgae – single-cell organisms, which provide valuable proteins, pigments and unsaturated fatty acids. Our solutions can help you valorize your microalgae and derived ingredients at various stages.



Cell disruption competence

Valorizing high added value, functional ingredients from microalgae such as protein or pigments often requires a cell disruption stage. Likewise, the nutritional benefits of certain microalgae can only be accessed following opening of the cell wall to enable a good digestibility.

Our Cenomic bead milling technology offers an attractive, flexible, energy-efficient solution to open the microalgae wall in suspension. The flexible design of our bead mills allows you to easily validate and optimize your process at lab scale and subsequently scale to industrial capacities.

The Cenomic is designed to assure high bead activation, homogenous bead distribution and reduced screen bead packing enabling the use of small beads for the most

economical grinding process. In combination with the large screen, highest throughput rates are achievable as well as temperature issues are greatly avoided protecting temperature sensitive ingredients.

Our intuitive user interface guides your operator through each step, which makes extensive training unnecessary. Various control system features, such as start ramps, ensure an easy and fast production start tailored to your product. We can work with your team to plan and implement a wide range of options.

Microalgae biomass or algae derived ingredients. For novel food and feed solutions.

Food and feed enrichment

We help you to reach the full potential of your novel ingredients in the food and feed markets. As a solution provider across multiple categories, our food material and processing know-how allows you to enrich selected applications with your novel ingredients such as microalgae and derived ingredients.

With 160 years of processing experience in food and feed, we hold deep know-how in the production of snacks, meat analogues, pasta and pet food among other categories.

Are you aiming for food or feed enrichment applications using a novel ingredient? Contact us.



Pasta enriched with microalgae

Protein texturing

We are the market's leading extrusion solution provider for food and feed products. One of the many products that can be produced on our extrusion plants are textured proteins used for meat replacements, made of plant proteins for instance. Their fiber structure, color, texture, and taste are similar to actual meat.

Using alternative protein sources and texturing them towards tasty meat analogues is our business. We are a solution provider with unique knowledge and capabilities for recipe and process development, scale-up in our application centers as well as industrial solutions for your commercial production.

High moisture extrusion with novel proteins is an efficient process to come to textures like chicken, beef, fish or seafood.

The complete portfolio also includes dry texturization of proteins for either self-stable products or in a rehydrated form as excellent high protein meat analogues.

The flexibility offered by our twin-screw extruders and the process expertise of our technologists can bring your novel food-ingredient application to a single easy-to-manage process flow chart. Our complete solutions include blending & mixing, conditioning, extrusion (cooking and shaping), drying and toasting, grinding, sieving as well as storage and packaging. We also offer a broad range of analytical services around our solutions to guide process development and optimization. With our partners, we can also produce your tailored taste, texture and nutritional values.

In a nutshell:

- Process toolbox for microalgae cell disruption & inclusion in various food & feed matrices. Expertise in alternative protein texturing.
- 3 applications centers (USA, Switzerland and China) to test process at pilot scale.
- Analytical competences to guide the process development.

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