Ingredient Processing

We deliver:

- Improved ingredient functionality
- Optimized production processes
- Versatile, state-of-the-art technology
- Minimal capital investment

Your Market

Ingredient processing companies are under increasing pressure to produce more natural, healthier ingredients, as consumer appetites grow for cleaner labeling of food products. However, these processors also need to continue to provide innovative products with enhanced functionality and improved quality as large retailers continue to put pricing pressure on the food value chain.

As a result, ingredient processing companies must develop more sophisticated recipes based on the use of refined ingredients as well as optimize their product processes to deliver precise dosing, greater flexibility and higher capacity performance.

Whatever your needs, **Nexelia for Ingredient Processing** offers you a complete range of solutions to help you achieve your goals.

Your Solution

A comprehensive gas solution designed for and adapted to your specific needs, **Nexelia for Ingredient Processing** combines the best of Air Liquide's **ALIGAL™** gases, application technologies and process expertise, along with a customized Performance Monitoring Service program for the optimization of your cryogenic process. As with all of our solutions under the **Nexelia** brand name, we work closely with you to pre-define a concrete set of results, and then commit to delivering them.

Nexelia for Ingredient Processing focuses on solidification, stabilization and encapsulation – key stages in your powder production process. Our solutions are aimed especially at ingredient producers who work with fatty and sticky materials that may become unstable at ambient temperatures.

Our Commitment

• Improved ingredient functionality

Our cryogenic solutions let you develop more sophisticated recipes and obtain fully stable powdered products at ambient temperatures, which are resistant to clumping and have longer shelf life.

• Optimized production processes

Cryogenically processed ingredients are easier to dose and further process due to their free-flowing properties. Capacity utilization of your production equipment can be boosted because of the improved stability of your ingredients.

• Flexible, easy-to-clean equipment

We have developed state-of-the-art application technologies for solidification, stabilization and encapsulation, which can be adapted to multiple product types while providing higher flexibility, smaller footprints and faster clean-ability.

• Reduced Capex

Our application technologies require a limited capital investment, especially when compared to competitive technologies like cooling or spray drying towers. As a result, processors can insource complex processes without having to spend millions.

Our Offer

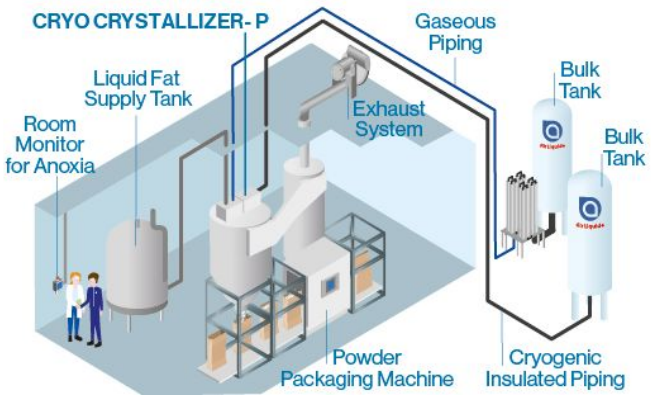
Nexelia for Ingredient Processing consists of:

• **Food-grade Gas Supply:**
ALIGAL™ is an Air Liquide brand name for those gases that are compliant with local food-grade gas specifications, regulations, and industry standards, including HACCP certification for production, storage and distribution.

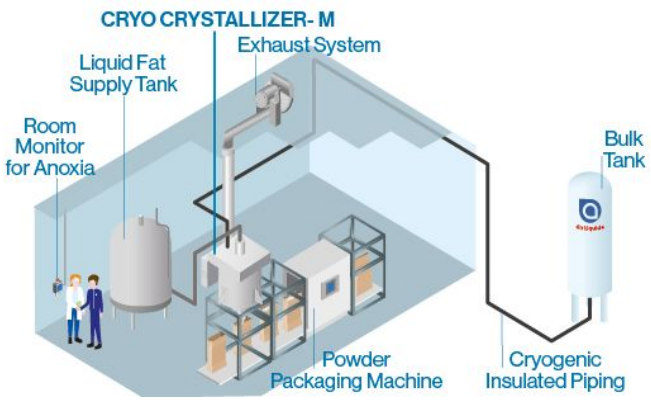
• **Process Expertise & Service:**
Air Liquide will provide you with the full support of our ingredient application and technical experts from the design of the solution, to its implementation and start-up.

• **Application Equipment:**
Air Liquide offers application equipment solutions that are ideally suited to your solidification, stabilization and encapsulation needs, all of which are specially designed by Air Liquide:

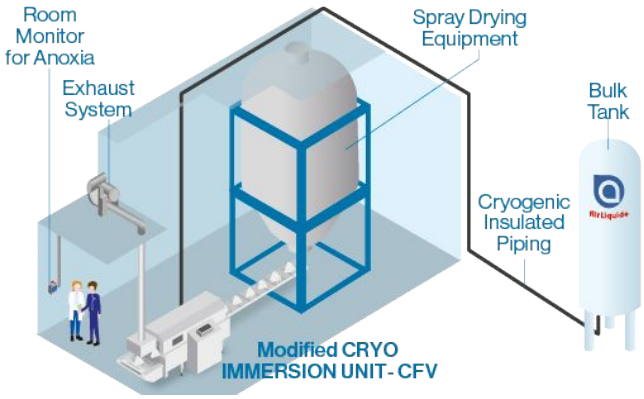
- **CRYO CRYSTALLIZER- P** for solidification applications with a production capacity of approximately 1,000 kg/hour



- **CRYO CRYSTALLIZER- M** for solidification applications, with a production capacity of 200 kg/hour of monodispersed spheres



- **Modified CRYO IMMERSION UNIT- CFV** for stabilization applications



Case Study

Results of projects completed by Air Liquide at two different customer production sites

• Improved ingredient functionality to produce a free-flowing powder which was stable at ambient temperature with a longer shelf life

• Optimized production processes:

- **Customer A:** Insourced production providing improved traceability and an optimized value-chain configuration with reduced production costs

- **Customer B:** Reduced both production time and costs due to shorter production cycles

Parameters		
	Customer A	Customer B
Targeted Product	High-value specialty vegetable fats	Food ingredients with high fat content
Issues	Complex supply chain due to external processing, customer wanted to produce higher-value ingredients	Production process was long, laborious and energy-intensive
Air Liquide Solutions		
Application Technology for:	Solidification	Stabilization
Equipment Provided	CRYO CRYSTALLIZER- P	Modified CRYO IMMERSION UNIT- CFV
Results		
Result	Higher-value ingredients and positive economical balance due to insourcing	Positive economical balance due to shorter production cycle
CAPEX	< €400k	< €200k

Contact us

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