



High Pressure Processing for Seafood



No other HPP supplier provides the range of services that AVURE can deliver.

High Pressure Processing — Seafood Application Brief



High Pressure Processing

HIGH PRESSURE PASTEURIZATION (HPP) is cold pasteurization in pure water; it uses ultra-high pressure purified water to keep seafood both shell and pathogen free.

HPP is used in several segments of the food industry to inactivate foodborne pathogens such as *Salmonella*, *Listeria monocytogenes*, *E. coli* O157:H7, *Campylobacter* species, and other vegetative pathogens. In the oyster industry, HPP provides an approved process for the inactivation of *Vibrio* bacteria which provides a high risk from the consumption of raw oysters and other shellfish. HPP helps producers increase food safety and extend shelf-life while providing consumers with nutritious, natural, flavorful food.

AVURE helps producers implement HPP from recipe development and process validations to installation, regulatory affairs, and post-installation support.



Avure's HPP processing crushes pathogens, extends shelf life.

Avure operates an in-house HPP Foods Applications Center in Erlanger, Kentucky, USA to help partners perfect their products, formulas and packaging. Additionally, we partner with several HPP Certified Laboratories worldwide to facilitate HPP product process optimization and regulatory requirements. Avure has an extensive library of process and package validated studies conducted for regulatory approval which are available for clients considering HPP technology.

Benefits of HPP for Seafood

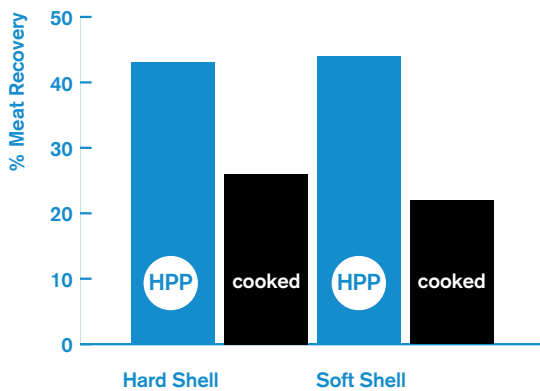
Seafood processors reap extraordinary benefits through the application of high pressure to enhance product offerings and expand market opportunities. HPP is extensively used in the lobster and oyster industries for the extraction of meat with limited or no manual labor.

At lower pressures HPP:

- Separates 100% of meat from the shells without the use of heat
- Increases total meat yield in lobster by 80% compared to heat
- Increases productivity, maximizes labor usage and enhances operational efficiencies.
- Enhances nutrition, mouthfeel and taste

HPP is applicable for both microbiological benefits and process enhancement on most seafood items such as lobster, crab, shrimp, oysters, fish, salted cod, mussels and clams. Innovative food processors use HPP to expand existing markets and enter new ones.

Meat Recovery in Lobster



Meat from shell separation and texture benefits

HPP allows 100% product yield without loss of product quality and nutritional benefits. Small to large shellfish and crustacean companies are major users of HPP for meat separation and finest quality meat for sushi and other premium entrée items.

HPP is also used for the inactivation of *Anisakis* and other parasites in sushi grade seafood items Salted cod (Baccala) can be desalted and HPP'd to extend the shelf life and enable the consumer to cook it immediately vs. waiting 3 days at home for desalting.

Food Safety

HPP is a food safety intervention technology which is recognized by global food safety agencies. The FDA recognizes HPP as a decontamination process for *Vibrio* bacteria in oysters. Avure worked with the seafood branch of the FDA and several state certified university laboratories to validate this study (Cook, 2002).

Similar food-safety and shelf life benefits are achieved with other seafood items such as shrimp, crab meat and fish. Pathogens Inactivated by HPP: *Vibrio*, *Salmonella*, *Listeria*, *E. coli*.

HPP yields the highest quality meat for premium food preparation.



AVURE High Pressure Processing for Seafood



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