Business Unit Uhde | Uhde High Pressure Technologies | High Pressure Processing (HPP)

HPP for seafood shucking and safety

Fast – safe- efficient

High-pressure processing (HPP) makes shucking of oysters, lobster, clams and other fresh seafood products easier than ever. HPP allows clean, fast and 100% meat recovery without using heat or knives. At the same time, high-pressure treatment increases yield, improves appearance, preserves fresh flavour and nutrients of seafood while efficiently inactivates common pathogens and parasites.

The advantages at a glance:

Increases productivity – saves costs

Many processors of oyster and lobster worldwide already use HPP for the instantaneous opening of the shell which results in 125% or higher recovery of the fresh meat with significantly lower labour costs and minimized risks of contamination during processing.

Improves food safety

HPP is used to preserve ready seafood products. Hydrostatic pressure acts uniformly and instantly throughout the product ensuring sophisticated pathogen inactivation. And a big plus: the products are treated in their final packaging so there is no recontamination e.g. from aquatic environment or processing.

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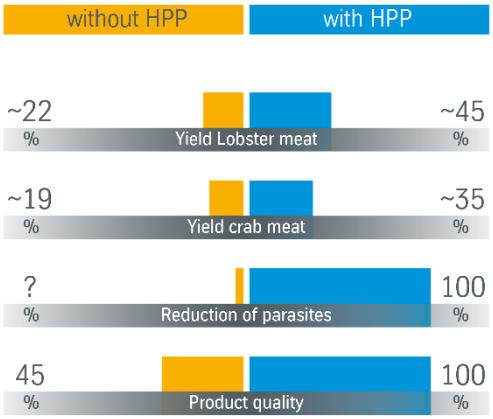
Productivity and safety

High hydrostatic pressure releases adductor muscle, which results in the automatic opening of the shell.

The pressure is built up in water-filled vessels. The water transfers the pressure to the food product in the high-pressure vessel.

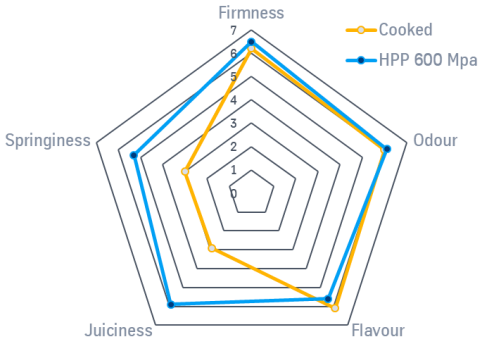
HPP is a proven non-thermal intervention for seafood pathogens such as Vibrio, Listeria, Salmonella or E. coli.

Increased productivity and safety



Note: Values can vary depending on product.

Sensory scores - HPP *vs.* cooking (blue crab meat)



Martínez et al., Innov. Food Sci. Emerg.Technol. 41 (2017) 323

HPP TREATED

High added value products

Quality

High pressure reduces the activity of endogenous enzymes that cause the breakdown of muscle tissue and oxidative enzymes responsible for colour and odour changes.

HPP retains nutrients and fresh-like taste of the seashell meat that, at the same time, appears more voluminous and juicer due to water diffusion under pressure that swells the muscle.

HPP works well with flexible packaging including vacuum and MAP-packed products.

Convenience and innovation

Safer seafood with better sensory attributes is favourable either for the end-use or as a component in ready meals. HPP is used to decontaminate and extend shelf life of ready fish products (unsalted cod, smoked salmon).

High pressure induces gelation of sarcoplasmic proteins which is advantageous for the production of salty pastes like surimi with improved textural and mechanical properties.