

# HIGH PRESSURE PROCESSING (HPP) SCIENCE AND TECHNOLOGY FROM AVURE



## Avure – The HPP leader for 50 years and 15 in Food.

Avure is the global leader in the science and technology of High Pressure Processing (HPP) for the food industry. Avure's complete line of HPP equipment and expertise in the application and innovation of HPP have been second to none.

From product development to process integration, Avure is THE source for your every HPP need. Our team of world-renowned food scientists and microbiologists work with you and regulatory agencies to take full advantage of the benefits of our HPP technology. In addition to our widely used HPP equipment, we provide guidance and expertise in developing new food products that maximize the unique advantages of HPP technology.

Avure provides the means to create food products that align perfectly with the market's trend towards natural, convenient, fresh, wholesome and preservative-free foods. Avure is HPP.

## If you aren't considering HPP, your competition might be...

HPP is a proven commercially viable process, with nearly 100 installations across the globe. Thanks to the efforts of Avure's scientists, the FSIS (USDA) now recognizes HPP as a viable means of controlling Listeria in RTE products.

With increasing consumer emphasis on natural, clean label products, there has never been a better time to consider implementing HPP for your business and there is no better partner to ensure the success of your investment in HPP, than Avure.

## HPP is simple and its possibilities are endless

- Prepackaged food is loaded into a vertical or horizontal processing vessel and subjected to high levels of hydrostatic pressure.
- The high pressure produced by Avure's processing equipment interrupts the biological functions of microorganisms and they die off with no/limited effects to sensory properties of the food.
- Pressure is uniformly and instantly transmitted throughout the product, thus treatment time is not dependent on product size. A large package can be processed as quickly as a small package.
- Since HPP only uses filtered water and high pressure to process food, it is environmentally friendly and consumes less energy than traditional thermal pasteurization.



# CURRENT APPLICATIONS OF HPP

## RTE Meat

- Listeria control for regulatory and import standards
- Extend shelf-life – greater than 2X
- Reduce or eliminate preservatives
- Maintain / Improve sensory properties
- Quality extension
- Eliminate post process contamination
- Reduce or eliminate the use of lactates and diacetates
- Eliminate the use of chemical preservatives (sorbates, benzoates, etc.)
- Satisfy the FSIS (USDA) alternative 1 rule for LM control in RTE meats
- Has no/little negative effect organoleptic properties
- Improve emulsion properties/hydration of starches, gums, and proteins
- **MEET ORGANIC STANDARDS**



## Fruits, Juices, and Vegetables

- Meet or exceed FDA's 5-log pathogen rule
- No changes to flavor or nutrients
  - No Changes to sugars: (Sucrose, Fructose, Glucose)
  - No Effects on Citric Acid
  - No Effects on product pH
  - No Effects on Aromatic Components
  - No Effects on Carotenoids
- Extend shelf life (inactivates spoilage microorganisms -Yeast, molds, LAB, etc.)
- **MEET ORGANIC STANDARDS**



**Avure Technologies Inc**  
Corporate Headquarters  
22406 66th Ave S.  
Kent, WA 98032 USA  
p 800.610.1798  
f 253.981.6229  
[www.avure.com](http://www.avure.com)

**AVURE**



## Seafood

- 125% or more yield without chemicals
- Increase productivity
- Lower labor costs
- Eliminate worker injuries
- Use less chemicals
- Microbial reduction – Safer, and longer lasting
- 100% meat separation from shells
- Extend shelf-life – greater than 2X
- **MEET ORGANIC STANDARDS**



## Raw Meat / Marination

- Marinate and tenderize meat almost instantly
- Thorough and uniform marination
- Faster and safer processing than traditional methods
- Improve shelf life and quality
- Reduce chemical preservatives
- No contamination
- Low pressures, short exposure
- Creative/functional marinades: modified for product specificity
- Textural improvement

**Avure Technologies AB**  
European Office  
Quintusvägen 2  
SE-721 66 Västerås Sweden  
p +46 21 327 000  
f +46 21 141 817  
[www.avure.se](http://www.avure.se)