



High Pressure Processing (HPP)



Preserve – Protect - Perform

High Pressure Processing (HPP) is a cutting-edge, nonthermal technology that uses cold water at up to 6,000 bar (87,000 psi) to safely eliminate harmful microorganisms in products sealed in flexible packaging. It preserves products while maintaining fresh taste, vibrant colors, nutrients, and bioactives - without heat or additives. With over 30 years of proven success in the food industry, HPP is now steadily gaining recognition in cosmetics, pharmaceuticals, and other non-food sectors.



Gentle Preservation

Hydrostatic pressure acts instantaneously and uniformly through the entire product, regardless of the product's size or geometry. It prevents product deformation and ensures a sophisticated pathogen inactivation.



Sustainability in every cycle

HPP replaces or reduces the need for additives to ensure microbiological safety, enhance technological properties, and preserve sensory quality. By extending the shelf life of fresh-like products, HPP helps reduce food waste and cut disposal costs.



Contact HPP Team!

Uhde High Pressure Technologie GmbH
High Pressure Processing
hpp@thyssenkrupp.com
<https://www.thyssenkrupp-uhde.com/>





Markets for High Pressure Processing



In HPP, cold water is used as medium to apply ultra-high isostatic pressure to inactivate harmful microorganisms, alter textural and functional properties or improve efficiency of food processing (e.g. shucking, extraction, etc.).

Shelf-life extension and safety

e.g. juices and beverages, meat, fish, dairy and egg products, dips, sauces, baby food, pet food, raw materials for food, feed, and non-food products

Increased efficiency

e.g. fast and clean shucking of lobsters, oysters, mussels, crabs with higher yield, pre-treatment to extraction or freeze-drying

Improved functionality

Improved texture, functionality, and processing of protein-based products without additives or heat.

Safety and functionality of cosmetics & pharmaceuticals

Improved shelf-life, safety, bioactivity, and technological properties of raw materials and finished products



Uhde HPP Plants – Built For Your Needs

Scalable HPP Systems

From startup units to scalable industrial solutions, our HPP systems are built to deliver maximum efficiency with minimal investment risk. Each system integrates seamlessly into existing production lines, enabling flexible and reliable operation.

Maximum efficiency

Modular design ensures low operating costs and consistent performance. Optional automation for product transport and handling further enhances efficiency and throughput.

Tailored Engineering – Made in Germany

All core components – from high-pressure vessels and yokes to high-performance pumps – are manufactured in accordance with international standards using proven engineering techniques to ensure maximum durability, operational safety, and precision.



R&D or Startup unit
Uhde 60-60



Why choose UHPT?

All-in-One Service Network

From process development, plant design, and integration to global service and maintenance, we provide complete support from a single source, ensuring smooth integration and maximum uptime.

Proven High-Pressure Expertise

Over 90 years of experience, in-house engineering and manufacturing deliver reliable systems with maximum safety, efficiency, and lasting performance.



Scalable Industrial HPP unit
Uhde 400I +