



thyssenkrupp

Insights\_Uhde



# Under Pressure: Fresh and healthy food with HPP

It's Monday morning at 7:45. Theresa has just woken up and would like to start the day with a healthy smoothie. After a quick look in the fridge, she is disappointed to find that only one of the two smoothies she bought last week is still drinkable. She wonders: "How can it be that the smoothies have such different shelf lives, even though I bought them on the same day?"



## High pressure processing - 10x longer shelf life, 100% vitamins and 0 trade-offs

This is where high-pressure processing, or HPP, comes into play. This ecological and gentle process can extend the shelf life of food by more than 10 times, while preserving nutrients, vitamins, taste, consistency and color - in contrast to many other processes.

### How HPP works:

Products are conveyed in their final packaging into a high-pressure vessel. This is filled with water, which is pressurized up to 6,000 bar by means of high-pressure intensifiers (This is roughly equivalent to the weight of two jumbo jets on the surface of a smartphone). Since the product is surrounded by high-pressure water, forces act from all sides. It remains under the full pressure for a certain time to denature the pathogenic germs. After the treatment, the vessel is depressurized and the product is transported out of the vessel again. It is then dried by means of compressed air, labeled if necessary and made available to the retail.

**In concrete terms, this means that Theresa's smoothie can be consumed for 12 weeks longer thanks to HPP, without losing any of its flavor, aroma or naturalness.**

### Ecological and efficient with HPP

HPP plants from thyssenkrupp require only electricity and drinking water as well as employees for loading and unloading. The water can be reused, so no wastewater or waste products are generated. In addition, the plants and their components are extremely robust and durable.

Since the food is already in its final packaging, different products can be treated at the same time, for example fruit juice and puree within the same cycle. This increases the flexibility of the user.

### Simple and safe - with Uhde

As a global leader in high-pressure technology and a subsidiary of thyssenkrupp, our experienced team of engineers, chemists and technicians has been building custom-fit HPP plants for more than 20 years. The [machines](#) are individually adapted to the high-pressure processing needs of our customers. In addition to manufacturing the systems, we also offer the full range of [services](#). This starts with consulting, in-house tests, a microbiological examination up to the use of our tolling center. If you have any questions, you can always contact [Boris Brockhaus](#) or get further information via [YouTube](#), [LinkedIn](#) and our [website](#).

## Advantages of HPP

- 1 Extended shelf life
- 2 Maximum safety



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3 Preservation of nutrients and natural flavors

4 Clean label products without heat

5 Processing in the final packaging

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**The bottom line:** Theresa's smoothie has been preserved for 12 weeks longer using high-pressure processing. Theresa, who is a fan of healthy eating, can rely on full flavor and preservation of vitamins, as no heat or additives are used in the process.

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