



HPP for maximum freshness and safety



Gentle – fast - safe

High-pressure processing (HPP) of juices and fruit products efficiently inactivates pathogen and spoilage microorganisms in fresh beverages without using heat or additives. This results in up to 10 times longer shelf life with retained fresh-like flavour and vivid colours. Delivering subtle energy to the products preserves vitamins, minerals, antioxidants, aromas and pigments.

The advantages at a glance:



Longer shelf life – new markets

HPP inactivates acid-tolerant bacteria, yeasts and molds, while the activity of the quality degrading enzymes e.g. PPO and PME is being reduced. Longer freshness and improved microbiological safety extend shelf life. It facilitates distribution and minimizes the risk of costly recalls.



Minimize post-contamination risk

Hydrostatic pressure acts uniformly and instantly throughout the product. It prevents product deformation and ensures sophisticated pathogen inactivation. And a big plus: the products are treated in their final packaging so there is no recontamination e.g. from processing and filling.



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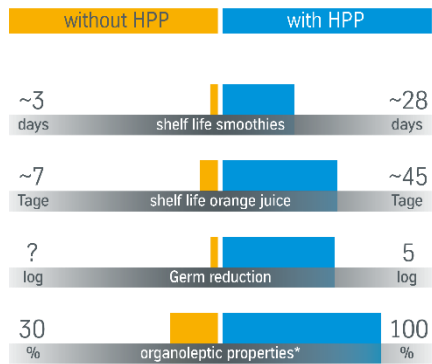
Reducing risk and prolonging shelf life

Treatment with high hydrostatic pressures between 400 MPa and 600 MPa inactivates pathogen and spoilage microorganisms within minutes.

Today, HPP is used to preserve cold-pressed juices, smoothies, vitamin shoots, detox cures, plant milks, teas, cold-brew coffees, energy and probiotic drinks.

HPP juices can be usually stored 3 weeks to several months at cool conditions depending on product parameters.

Shelf life extension and sensory attributes



*compared to heat pasteurization
Note: values can vary depending on product.

Sensory scores of HPP fruit-vegetable smoothie after 45 days



Andrés et al., Food Chem. 192 (2016) 328



High added value products

Quality

Non-thermal treatment using HPP minimize loss of vitamins, antioxidants, flavour and pigments.

High-pressure treatment reduces the activity of enzymes that impair colour, flavour and viscosity of juices such as PPO, PME, POD, LOX, PG, etc.

HPP works well with flexible packaging e.g. PET bottles.



Nutritious - energy boosting - convenient

Application of HPP in the beverage sector has fast expanded from the preservation of cold-pressed juices, vitamin shoots and plant milk to detox cures, probiotic drinks, cold-brew coffees and teas, fruit-infused waters and fermented beverages.



Highly perishable electrolyte-rich and energy-boosting beverages can be preserved using HPP up to 30 days. HPP is also used to stop the fermentation process for improving taste and preventing spoilage of fermented drinks.