

Research & Technology Center

Parma, Italy



Fruit & Vegetable Processing, Aseptic,
HPP Systems and Tray Sealing Solutions



A pilot plant dedicated to serve our customers

Contact: laboratory.parma@jbtc.com

JBT is proud to offer its 350 square meter pilot plant and laboratory facility, fully equipped with multiple fruit and vegetable aseptic processing technologies as well as HPP machines, to help customers improve their processing capabilities.

Thanks to this new laboratory, JBT is able to perform trials using various processing technologies to assist customers in the development and analyses of fruit and vegetable processing systems.

Using customer supplied raw material, our experts can assist customers with feasibility studies on new products and processes to be included in their processing lines. JBT also provides consulting services for HACCP plans applied to JBT processing lines or individual equipment, as well as plans and procedures to improve quality assurance in actual production.

Products include:

- ✓ Purees
- ✓ Crushed fruit and vegetables
- ✓ Diced fruit and vegetables
- ✓ Clarified juices
- ✓ Concentrates

In-depth training programs can be scheduled on:

- ✓ Introduction to extraction lines
- ✓ Aseptic processing principles and operations
- ✓ Start-up and troubleshooting
- ✓ Thermal treatment principles
- ✓ Working principles
- ✓ Critical Control points
- ✓ CIP procedures
- ✓ Hands-on maintenance and start-up training

Laboratory analyses include:

- ✓ Real-time analysis of quality properties and equipment performance data collection
- ✓ Raw material analysis to support process development
- ✓ Determination of optimal analytical methods for QA support in accordance to international Standards

Our capabilities include detailed performance evaluation of processing line with statistical analysis. As a result, we can identify the significant effects of the process variables and assist in performance improvements at your plant.

Fruit and Vegetable processing

Aseptic process validation

JBT provides in-lab thermal treatment evaluations with respect to the quality properties of the product. We are also able to provide in-field validation services to verify proper functionality of the whole plant with trial or actual product.

Aseptic treatment of product with particulates

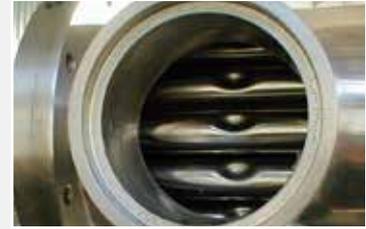
Our system set-up allows aseptic processing of liquids containing a high percentage of particles with a special emphasis on the thermal treatment, uniformity in the particle cold spot, mechanical and thermal damage control throughout the line, consistency of the mixing ratio, and evaluation of alternative processing technologies.



Sterideal® QT (Quad Tube Design)



Sterideal® DT (Dimple Tube)



Sterideal® TS (Tube-in-Shell)



Sterideal® DR (Direct Regeneration)



Scraped surface



Sterideal® Ohmic

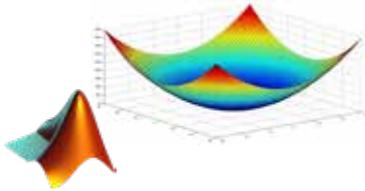
Pasteurization and aseptic filling

- ✓ Vacuum deaeration
- ✓ Aseptic sterilizer capable of handling both high-viscous and product with particulates
- ✓ Pumping systems designed for particulates
- ✓ Aseptic Filler with 1" or 2" spout
- ✓ Set-up for alternative sterilization methods



Modeling software

- ✓ Our food scientists utilize AseptiCAL™ technology to verify the sizing calculations of aseptic processing systems and reduce the time spent by food processors in new product development.
- ✓ Trial tests and mathematical modeling for the pasteurization of food products contained in glass, metal or plastic containers using tunnel pasteurization.



They conduct continuing programs for the development of new processing techniques and support food processors in their ongoing processing requirements. All services are provided on a strictly confidential basis.

FTE Juice Extractor

Multi fruit and vegetable: apple, spinach, pumpkin, carrots, onions, tomato for example. Produce puree and cloudy juices. Test in pilot plant with few hundreds kilograms of product. Lease the equipment to customer site.



Apple cloudy juices

Sterideal® Coil

Expands the capacity of conventional linear heat exchangers by adding the Dean effect which boosts the thermal exchange per unit of surface. The typical spiral shape allows minimum footprint and excellent plant configuration.



Sterideal® Ohmic

JBT Ohmic heating of foodstuff is the application of high voltage to the product flowing inside an aseptic sterilizer. The liquid food reacts as an electric resistance and generates heat by the Joule effect. The major advantage of ohmic heating is obtained in dice processing: the product quality is better compared to standard heating technologies.



Output capabilities

After processing in our pilot plant, product can be made available to customers in one or both of the following formats:

- ✓ Aseptic sample bags (3, 5, 10, and 20 liters)
- ✓ Aseptic drums (220 liter/55 gal)

Our years of experience, coupled with our extensive laboratory facilities, make us uniquely qualified to provide technical assistance to the food industry. Our knowledgeable food scientists have consulted on virtually all process-related issues.

HPP High-Pressure Processing

The Parma facility is also capable of running HPP trials on its JBT Avure lab scale system. In addition to the actual high pressure processing of the food and/or beverage, the lab is also equipped to run organoleptic and sensory tests in order to determine the shelf life of the following products:

- Wet Salads & Dips
- Ready-To-Eat Meals
- Meat
- Beverages & Juices
- Vegetables
- Avocados
- Seafood

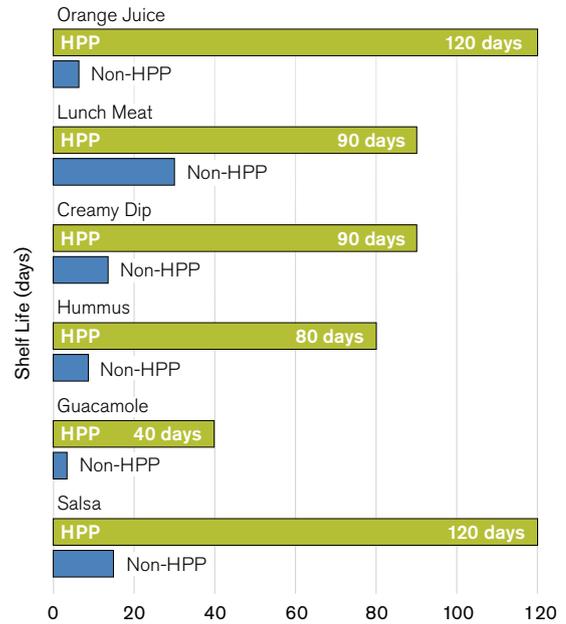


Avure™ Expandable HPP Machine

The world's first expandable High Pressure Processing machine. Produces from 40 to 70 million pounds per year.



Shelf Life Comparison



Alternative new technologies

Preservation Technologies Refrigeration solutions



WE ARE YOUR SINGLE SOURCE FOR PROFITABLE PROCESSING SOLUTIONS

JBT is a leading provider of integrated food processing solutions. From single machines to complete processing lines, we enhance value and capture quality, nutrition and taste in food products. With a local presence on six continents, JBT can quickly provide our customers and partners in the food processing industry with the know-how, service, and support needed to succeed in today's competitive marketplace.

JBT DIVERSIFIED FOOD & HEALTH

FRESH PRODUCE TECHNOLOGIES | FRESH-CUT, ROBOTICS, STEAMING | FRUIT AND VEGETABLE PROCESSING | SECONDARY PROCESSING | ASEPTIC SYSTEMS | FILLING AND CLOSING | IN-CONTAINER STERILIZING | TRAY SEALING | SECONDARY PACKAGING | HIGH-PRESSURE PROCESSING | POWDER PROCESSING | TUNA PROCESSING

OUR BRANDS



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We're with you, right down the line.™

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