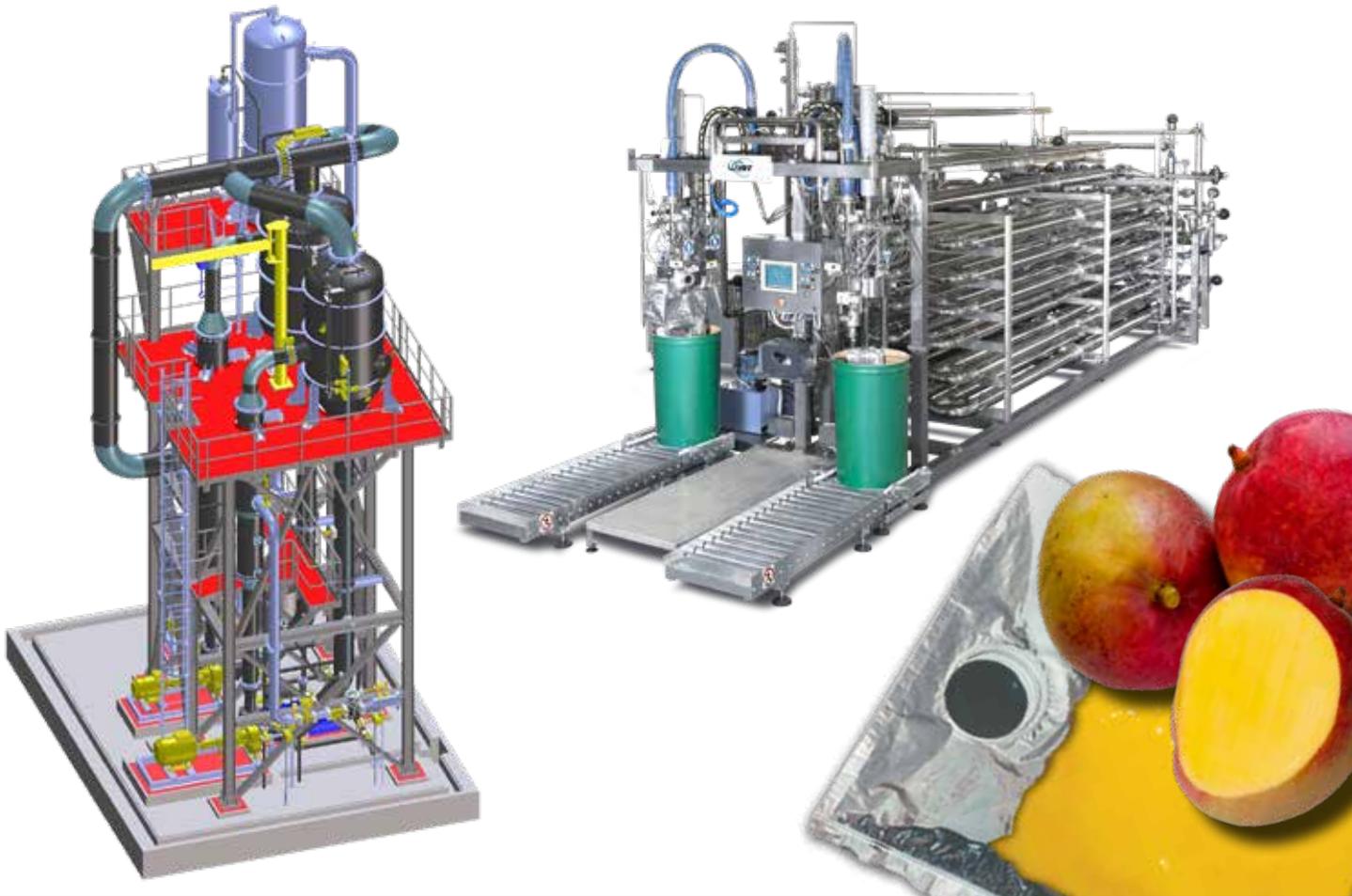




## Mango Processing Line



JBT provides tropical fruit solutions for discerning processors

## Features and benefits of JBT's Mango processing systems

JBT's technology has been developed to meet the demands of today's mango processing requirements. Our total commitment has led to the development of innovative equipment to improve overall operating efficiency, minimize downtime for maintenance, and, most important, reduce capital investments.

### Receiving and Sorting for Ripening

Fresh fruit are sorted for ripening degree, eventually stored for maturation and then processed.



### Sorting, Brushing and Washing

Fresh fruit are sorted before brushing, scalding and destoning.



Sorting & Brush Washer Group



## Fruit Scalding

The machine is able to warm up different fruits with double purpose of bringing tannins on the outer peel and dramatically increase the extraction yield of the destoner. The feeding hopper receives automatic or manually the fruit. The screw transport the fruit along the scalding. Residence time it will be easily changed varying the screw rpm. The warm up is accomplished by hot water directly heated by steam injection located in the scalding body.



## Destoner

The machine is specially designed for mango processing.

Main features are:

- very strong structure
- special fruit infeed unit
- overdimensionated rotor with special multipaddles and brushes
- special self supporting screen
- dedicated CIP



Fruit Scalding



Destoner



## Hot Break/Cold Break

Designed to produce the best quality Hot Break mango puree (it is so flexible that it can be used for Cold Break as well), the unit inactivates completely the pectolitic enzymes by instantaneous product heating. The unit provides with the following advantages:

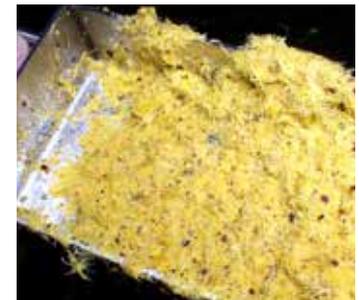
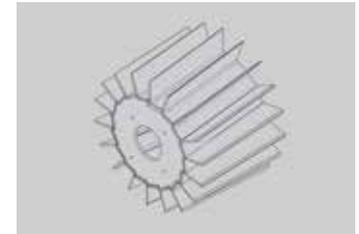
- Increased juice extraction yield
- Increased viscosity by practically eliminating the syneresis phenomena
- Increased consistency in the final concentrate.

## Product Refining

Variable speed turbo-extractor separates the peels and other coarse parts from the pulp, extracts and refines the puree. Extractor FTE offers the possibility to adjust the squeeze grade during machine running. The rotor, featuring uninterrupted blade contour, combines high puree extraction capacity with a unrivalled product smoothness. The machine includes an automatically programmable CIP.



Hot Break/Cold Break



Main Panel Control Board





Double Effects and Single Effect Evaporator

## Evaporation

All JBT's evaporators are specifically designed to obtain high quality mango concentrates. As a matter of facts, the low temperature profile of all the machines is the key factor in maintaining the organoleptic properties of the fresh fruit. The multiple effects design allows energy saving thus reducing operating costs.

Each effect basically includes:

- a vertical tube-nest
- a vapor separation chamber
- a recirculation pump

The evaporator operates under vacuum which is maintained by a condenser connected to the evaporator's last effect and to a vacuum pump. Machine operations, including start-up and shut-down, are controlled by PC/PLC system; operator's intervention is consequently limited to menu's selection.



Evaporator TFCE 2E 2S - 5

## High Quality Juice Preparation

JBT's methods of enzymatic inactivation is the major reason for the high quality of mango juice to be concentrated.

JBT's Corporation has developed state-of-the-art evaporators designed to provide:

- Superior mango juice quality, achieved by:
  - Reduced holding time, particularly at the higher concentration
  - Very low temperatures in all the effects
  - Very high circulating speed in all the stages, specially in the finisher, to minimize the thermal damage to the product during the heating phase (inside the tube nest). This solution together with finisher's reduced size permit longer operating cycle, even with high viscous products (low Bostwick), without stopping for washing
- Reduced water consumption (only required for technical needs: pump seal cooling, cooling tower circuit make-up, etc.); Even condensate water from the secondary vapors can be recovered and reutilized in the fresh product supply circuit
- High performance of product recirculation pumps, helical centrifugal type, specifically designed and tested to operate even in the most difficult working conditions
- Special inducers to ensure extremely high efficiency and very low NPSH, thus preventing the well known cavitation phenomena
- Excellent performance of the recirculation pumps and fast product flow inside the tube nests, results in high final concentration.
- Juice deaeration before concentration
- Automatic set-up
- Reduced steam consumption by using multi-effects machines.



Compact Hot Break enzyme inactivator and TFCE 1E-1S-3 Evaporator

## Quad Tube Sterilizer/Cooler

Quad Tube design type, heat transfer effectively occurs from both sides. Scientifically disposed fins, inside the annular space, act as static mixer, to ensure a more uniform and effective heat exchange by convection also at low product speed.

- High-viscous
- Concentrate



Deaerator



CIP group

Quad Tube Sterilizer/Cooler

## Aseptic filling

After proper heat treatment, paste is filled in aseptic bag. The JBT's wide range of single and double head machines, gives the possibility of filling any type of aseptic bags ranging between 5 and 300 US gallons.



Filling Head



Drum Filling



Bin Filling



READYGo™ ASEPTIC MONOBLOCK



Aseptic Fillers

## JBT Pilot Plant in Parma

JBT experts can assist customers in innovative researches, optimizing traditional fruit and vegetable technologies, process, final product and laboratory analysis.

### Pilot Plant activity:

- Aseptic System Operation
- Thermal treatment principles
- Quality assurance
- Extraction line consulting
- Risk analysis (HACCP)

- Hands-on maintenance training
- Start-up and troubleshooting
- CIP procedures
- In-depth training programs

### Laboratory activity:

- Real-time analysis of quality properties and equipment performance data collection
- Raw material analysis as a support to process development
- Determination of optimal analytical methods as a QA support in accordance to international standards.



Laboratory Analysis

## COUNT ON JBT TO HELP PROTECT YOUR INVESTMENT

JBT's greatest value in PRoCARE® services comes from preventing unexpected costs through smart, purposeful, and timely maintenance based on unmatched knowledge and expertise. PRoCARE service packages are offered as a maintenance agreement in various service levels, depending on your production and cost management requirements.



## 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

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