

Research & Technology Center

Parma, Italy



Tuna Processing simulating capabilities

A pilot plant dedicated to serve our customers

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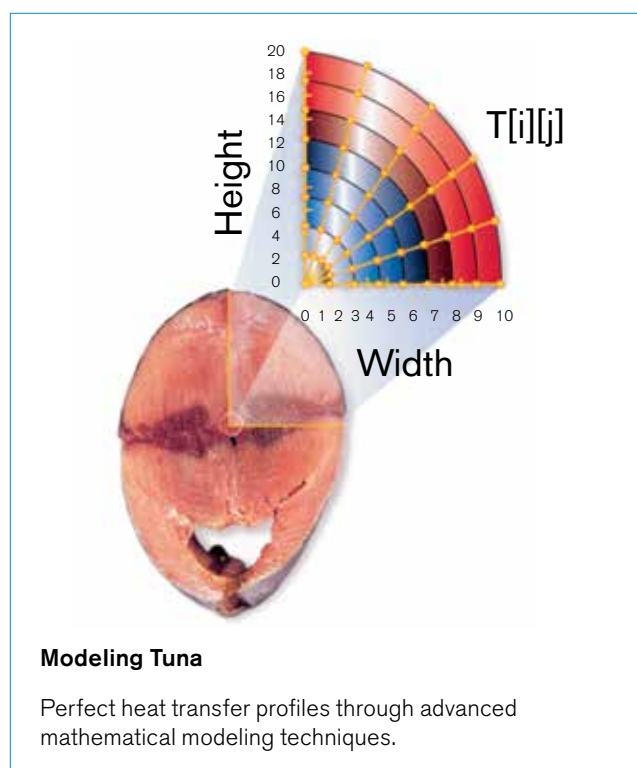
For the Tuna Processing System JBT provides a full range of services with the process lab. of Parma (Italy) as well as the laboratories of Madera (California) and Sint Niklaas (Belgium).

The new Laboratory enables product trials with the appropriate equipment using customer supplied raw material and our specialists to provide advanced technical assistance for customers in development, analyses and training on equipments start up and maintenance.

We can provide consulting services for a HACCP plan applied on a JBT processing line or individual equipment, but also plans and procedures to improve quality assurance in actual production. Our experts can assist you with feasibility studies on new products and processes to be included in your processing line.

Tuna processing simulating capabilities:

- Thawing process: JBT can study the thaw of raw tuna and tuna loins to minimize drip loss, to improve the yield and to optimize tuna quality (reduce microbial contamination). Utilize ThawCAL™, a mathematical model, to optimize the process.
- Cooking process: in the laboratory we have a vacuum cooker and cooler pilot machine that could be available for customer facilities. This small pilot plant has exactly the same instrumentation as the industrial ones, so we are able to

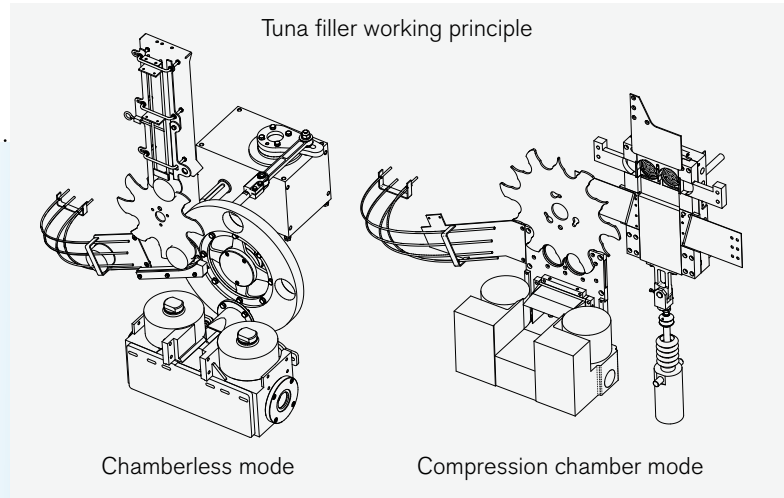


duplicate the real situation. We can check the relation between cooking and yield. Also our food scientists can utilize TunaCAL, a mathematical model that can optimize the pre-cooking process and provide benefits in yield, consistency and quality of the tuna.

- Filling process: we can test the filling operation with the capability of preparing tuna tablets that reproduce the industrial situation using manual or industrial equipment.
- Oiling/brining process: we can simulate the vacuum filling with different media (oil, brine). Afterwards we can analyze the drain weight and connect it with the previous process.
- By-products recovery and reintegration.



Vacuum cooker and cooler pilot machine

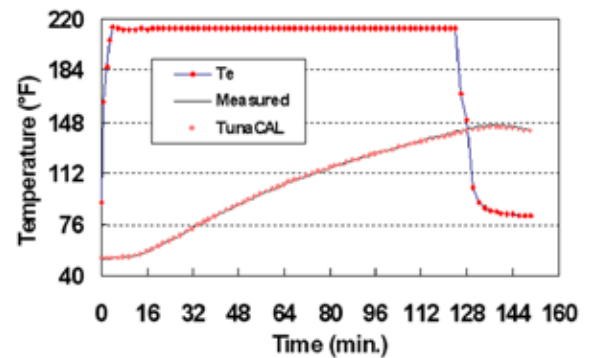


Tuna laboratory analyses include:

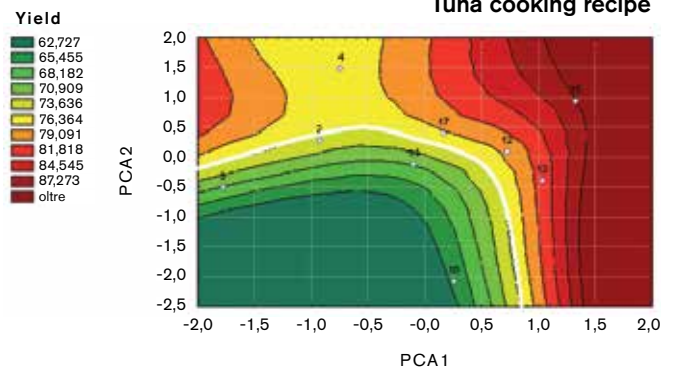
- Raw material and finished product analyses as a support to process development (moisture, protein, fat, NaCl, pH, histamine, drain weight, vacuum).
- Texture analysis: study tuna reologic transformation in different process phase.
- Real-time analyses of quality properties and equipment performance data collection.
- Determination of optimal analytical methods as a QA support in accordance to international standards.
- Performance evaluation of processing line with principal component analysis. As a result, we can identify the significant effects of the process variables and assist in performance improvements.

In-depth training programs can be scheduled on:

- Working principles
- Hands-on maintenance training
- Start-up and troubleshooting
- Critical Control points
- Thermal treatment principles
- CIP procedures
- 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.
- They conduct continuing programs for the development of new processing techniques and support food processors in their ongoing processing requirements. All services are provided strictly on a confidential basis.



Tuna cooking recipe



Principal component analysis



Laboratory of analyses

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 LIQUID FOODS

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

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