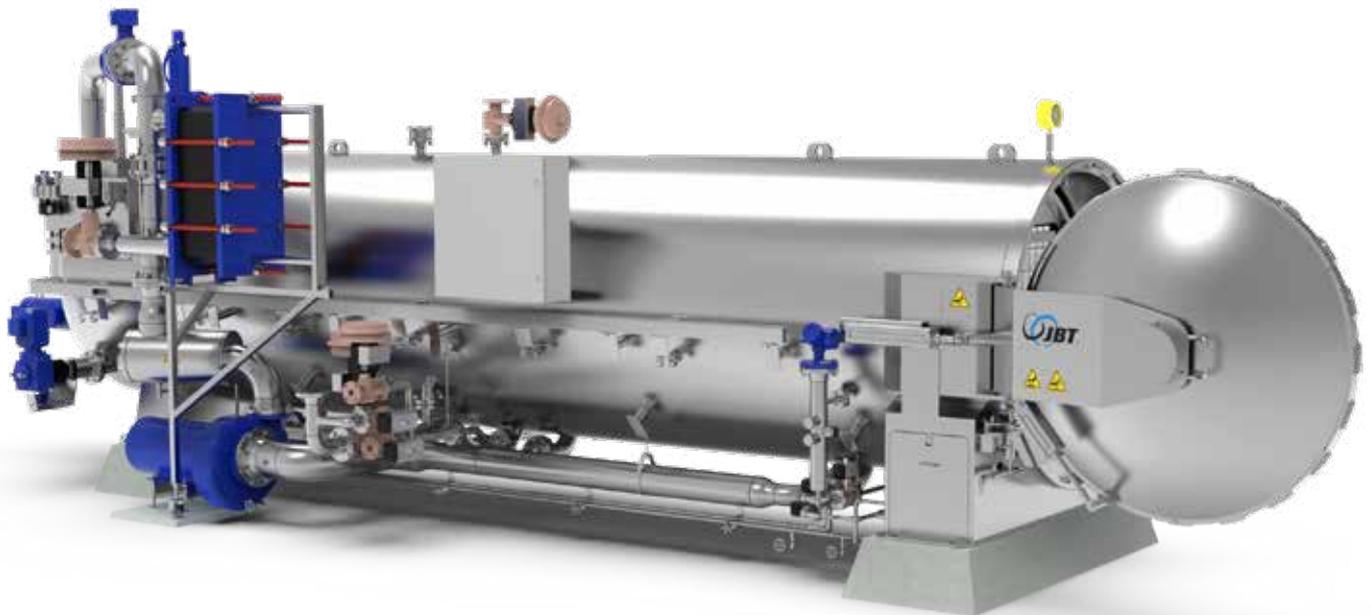


## Batch Retort Sterilizers



Ensuring Consistent Product Quality and  
Proven Food Safety

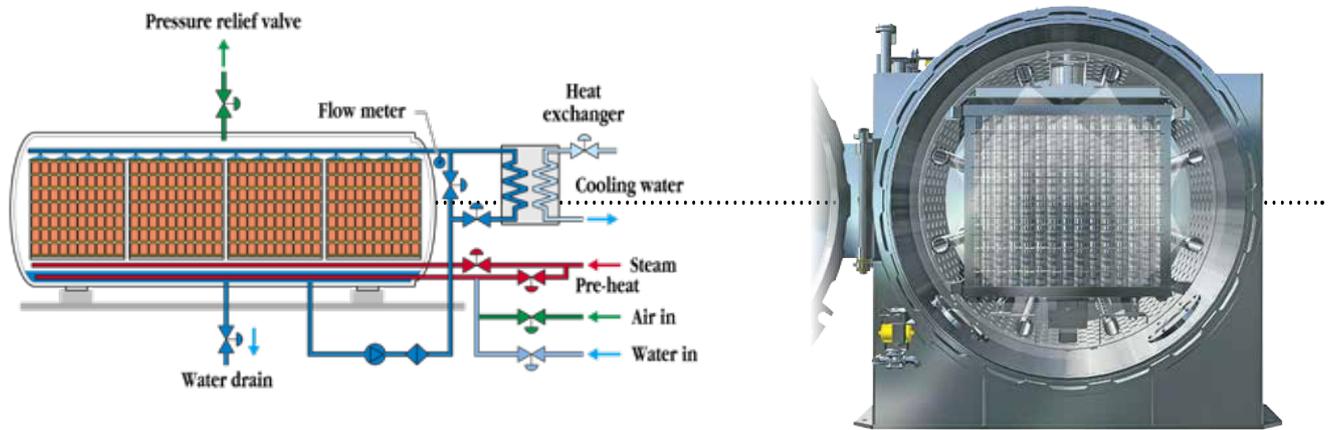
Consistent and High-Quality Products  
Proven Track Record of Food Safety  
Low Utility and Chemical Consumption



### Why consider JBT?

JBT is a leading global solutions provider to the food processing industry. We have a long history and extensive track record in in-container sterilization of packaged food. Our batch retort sterilizers are renowned for their outstanding and consistent temperature distribution. Our global Research & Technology Centers can assist you in developing the most efficient thermal process to achieve consistent product quality, food safety and extended shelf life.





## In-Container Sterilization: It is all about optimal temperature distribution in a Steam Water Spray System™ (SWS)

JBT Batch Retorts are all equipped with a Steam Water Spray System (SWS), ensuring uniform and efficient thermal processing of your packaged foods.

### Consistent High Quality Products

#### Excellent Temperature Distribution

Precisely placed water sprays cover the entire vessel creating a homogeneous mixture of steam and water to maintain consistent temperature throughout the vessel. Spray water absorbs the heat from the direct injected steam before transferring the heat energy uniformly across the products during come-up and cook.

#### Precise Process Control

- Our LOG-TEC® Process Control System accurately controls and records the thermal process
- Micro-cooling, a controlled and gentle transition from sterilization cook to cool, avoids thermal shock or uncontrolled pressure drops, thereby minimizing container damage
- Meticulous temperature, pressure and water flow measurement
- Proportional steam, air, vent, and cooling water valves accurately maintain process set-points
- An encoder accurately measures and monitors rotation on agitating retorts

### Proven Food Safety

- Self-test and device checking with deviation correction

- Central host PC with automated USDA/FDA documentation
- Secure record keeping and recipe management

### Operator Safety: JBT's Highest Priority

- Doors are specifically designed to release internal pressure prior to opening using a passive pressure lock
- The vessels are insulated and clad with either aluminum or stainless steel, reducing heat losses and ensuring operator safety
- Harmonized decals with pictograms
- When applicable, conforms to CE, ANSI, ASME, GB and other global standards

### Low Utility and Chemical Consumption

#### Low Water Level

- The Steam Water Spray System (SWS) process is executed with a single vessel; no hotwell needed
- A low volume of water in the vessel minimizes the required energy to heat and cool the water
- A patented suction manifold can further reduce water volume in the vessel for static retorts (optional)

#### Indirect Cooling

- Sterilized process water is used as the cooling media to eliminate the need for the addition of biocides
- A plate heat exchanger efficiently transfers the heat energy and keeps the process water separate from the cooling water

#### Indirect Heating for Static and Agitating Retorts (optional)

- A tube-and-shell heat exchanger efficiently transfers the heat energy and separates the process water from the steam and condensate
- Returning the condensate back to the boiler saves heat energy and reduces water and chemical consumption

# Batch Retort Portfolio



## Agitating Retorts: SuperAgi™

MODEL	DIAMETER	NO. OF BASKETS OR TRAY STACKS	BASKET DIMENSIONS (W X L X H)	CAPACITY PER RETORT (½ kg can: Ø 73 x 110 mm) (15 oz, 300 x 407)	CAPACITY PER RETORT (450 g pouch: 200 x 140 x 30 mm) (15 oz, 8" x 5"½ x 1"¼)
SA151	1500 mm	1	approx. 990 x 990 x 940 mm	1176 cans	480 pouches
SA154	1500 mm	4	approx. 990 x 990 x 940 mm	4704 cans	1920 pouches
SA155	1500 mm	5	approx. 990 x 990 x 940 mm	5880 cans	2400 pouches
SA156	1500 mm	6	approx. 990 x 990 x 940 mm	7056 cans	2880 pouches



## Static Retorts

MODEL	DIAMETER	NO. OF BASKETS OR TRAY STACKS	BASKET DIMENSIONS (W X L X H)	CAPACITY PER RETORT (½ kg can: Ø 73 x 110 mm) (15 oz, 300 x 407)	CAPACITY PER RETORT (450 g pouch: 200 x 140 x 30 mm) (15 oz, 8" x 5"½ x 1"¼)
A142	1400 mm	2	approx. 990 x 990 x 945 mm	2688 cans	960 pouches
A144	1400 mm	4	approx. 990 x 990 x 945 mm	5376 cans	1920 pouches
A146	1400 mm	6	approx. 990 x 990 x 945 mm	8064 cans	2880 pouches
A166	1600 mm	6	approx. 1150 x 1120 x 1070 mm	12852 cans	4620 pouches
A186	1800 mm	6	approx. 1260 x 1290 x 1220 mm	17280 cans	7488 pouches

# JBT's Agitating Batch Retort SuperAgi™

## A Unique Concept

The patented SuperAgi™ concept offers three unique features:

- Innovative drum design: strength and rigidity with fewer parts
- Process water sprays are mounted inside the drum resulting in the efficient use of space and excellent temperature distribution
- Multi-process capability: SWS and/or full and partial water immersion (optional)

### Broad Range of Holding Capacities

The SuperAgi™ retort accepts the same basket and pallet dimensions as our 1400 mm SWS static retorts. Depending on retort model and container type, one SuperAgi retort can process between 0.5 and 3.5 metric tons of product per batch.

### Reduced Footprint

By mounting the process water sprays inside the drum, the space available inside the pressure vessel is optimally used. This results in more efficient use of available factory floor space.

### Low Utility Consumption

The reduction of the retort vessel diameter for equal or even higher product holding capacity results in a drastic reduction of the compressed air consumption per container processed. The SuperAgi™ retort's compact design, reduced drum weight and minimal process water requirement ensure efficient use of steam and cooling water. Direct steam injection and indirect cooling with a plate heat exchanger further reduce steam and cooling water consumption.



- ➔ End-Over-End Rotation
- ➔ Rocking Agitation

### Easy to Maintain

The SuperAgi™ retort uses the same proven, long-life, robust designs used in previous generations of JBT agitating retorts. Trunnion wheels, drum drive and drum bearing can be adjusted and maintained without removing the drum.

### Excellent Temperature Distribution

By mounting the spray pipes inside the drum, obstructions between process water and food packages are eliminated. Deeper and better process water penetration results in excellent temperature distribution and reduced process cycle time, in either agitating or static modes.

### High RPM Application

The unique spray concept allows operation at high RPM while still achieving excellent temperature distribution in end-over-end or rocking agitation.

### Multi-Process Capability

The SuperAgi™ retort is available in Steam Water Spray and/or full or partial water immersion mode. As a result, most package/product combinations can receive a vary economic and gentle process.

### Container Flexibility

Multi-process capability gives you the possibility to process all commercially available products and containers at optimal conditions and at a low cost per container... today and tomorrow.



# Automated Batch Retort Systems (ABRS)

## Automated Batch Retort Systems (ABRS)

ABRS refers to the fully automated integration of all the equipment needed to load, unload, transport and sterilize products, thus providing a steady stream of containers in and out of the system.

JBT offers a complete and proven turn-key solution for the implementation of an automated batch retort system: batch retorts, loaders, unloaders, basket or tray stack, and a basket tracking system with central host monitoring.

### Loading and Unloading Systems

Our basket loading/unloading technology works for rigid containers (metal cans, glass jars, glass bottles). Additionally, we provide tray stack loading/unloading plus stacking/destacking technology for semi-rigid & flexible containers (plastic bottles, tubs, cups, trays and pouches).

### Transport Systems

Various alternatives are available to transport full and empty baskets or tray stacks to and from the retorts: fixed conveyors, shuttle on rails and automated guided vehicles (AGV).

### Optional Basket Tracking System (BTS)

We also offer an optional basket tracking system so that the ABRS operation can be controlled and monitored remotely to ensure that the product is properly processed.

The eyes of the BTS are the RFID readers that identify the RFID tags on the baskets or tray stacks in key locations of the process while they move along: loading (including dwell time tracking), transfer in/out of the retort, process start/end, and unloading. Our BTS not only tracks dwell time deviations but also flags many other anomalies (e.g. baskets with a different product, unprocessed or wrong product at unloader, etc.). In that case, a QC privilege is needed to release any product that has been flagged.

Screen visualization provides an excellent system overview so that only a small number of operators are needed to manage a multi-retort system.



Transport system using fixed conveyors

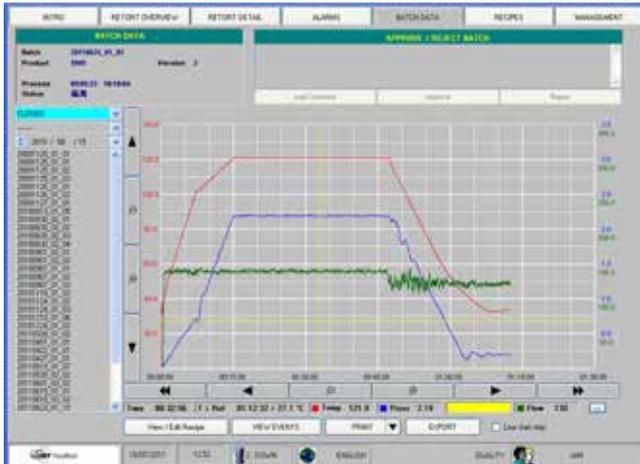


Transport system using a shuttle



Transport system using AGVs

## LOG-TEC® Process Management System



JBT's LOG-TEC® Process Management System provides built-in, user-friendly procedures for quality supervisors to approve thermal processes:

- Overview of manual interventions during the process
- Overview of alarms during the process with a quick link to the process trend
- Overview screens for a quick review of all your retorts.

### Consistent Process Delivery

All field devices and sensors run a self-diagnostic test and check prior to start-up.

### Automatic Process Deviation Correction

Retort temperature deviations are automatically corrected without manual intervention. Numeri-CAL®, an (optional) on-line lethality tracking software, allows process deviation corrections on the basis of on-line FO calculation.

### Central Host PC

A central host PC is incorporated for easy supervision of the retort installation. The host PC operates on Windows 64 bit operating systems.

### USDA/FDA Accepted

HACCP requirements, generated by the Documentation Computer, are accepted by the FDA and USDA.

### Safe Record Keeping

Process data is stored on the host PC in encrypted format.

### Central Process Recipe Management

Process recipes are edited and managed on the host PC.

### Access Control

Access to the various functions of the system are password protected.

## Research & Technology Centers

### Process Validation

To effectively address new consumer needs, packaging trends, and opportunities in the market, your products need thoughtful process development and process validation.

JBT is recognized as a thermal process authority and is in the unique position of being able to offer extensive thermal process expertise regarding virtually all low and high acid foods for nearly every type of sterilization system and a variety of package types.

### Research & Technology Centers

JBT's Research and Technology Centers (RTC's) maintain simulators and full size testing equipment (Steritorts, Pilot retorts, single basket SuperAgi's™) and have a broad range of data collection instrumentation for heat penetration and heat distribution studies inhouse or at a customer's facility. Based on these studies, JBT can also provide process deviation analysis and Thermal Process Filing (FDA).



### Thermal Process Development

Our RTC's have built widely appreciated know-how in virtually all process related issues and will help you develop the optimal process for your equipment and product combination, either in your facilities or in our pilot facility. We can simulate most sterilizers and filler-seamers to help you with new sterilization process development, process optimization, can seaming performance and can/jar filling performance.

### Container Performance Testing

JBT can perform services which validate thermal processing parameters around container design, such as delta-P, bulging, deflection, etc. We can also assist with the introduction of new packages on existing machines.

### Training

In addition, our RTC's can aid in the thermal process training of your line managers and operators. JBT RTC's are located around the world to provide local support of food processors: Sint-Niklaas (Belgium), Madera (USA), Araraquara (Brazil), Kunshan (China) and Bangkok (Thailand).

Our Pilot Retorts allow processors to simulate the type of equipment and/or process that best fits the requirements of their product container combination. Also available as a mobile test unit (rental) that can be shipped to your factory for on-site product testing.

Pilot Retorts				
MODEL	STATIC/AGITATING	DIAMETER	NO. OF BASKETS OR TRAY STACKS	BASKET DIMENSIONS (W X L X H)
A091	Static	900 mm	1	approx. 540 x 520 x 560 mm
AR091	Agitating	900 mm	1	approx. 460 x 520 x 540 mm
A092	Static	900 mm	1	approx. 540 x 1000 x 560 mm
AR092	Agitating	900 mm	2	approx. 460 x 1000 x 500 mm



### 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

### OUR BRANDS



#### North America

John Bean Technologies Corporation  
2300 Industrial Avenue  
Madera CA 93639  
USA  
Phone: +1 559 661 3200  
Fax: +1 559 661 3156

#### Latin America

JBT de México S de RL de CV  
Camino Real a San Andrés Cholula No. 2612  
Col. San Bernardino Tlaxcalancingo  
72820 San Andrés Cholula, Puebla  
México  
Phone: +52 222 329 4902  
Fax: +52 222 329 4903

#### South America

John Bean Technologies Máq.  
e Equip. Ind. Ltda.  
Av. Eng Camilo Dinucci 4605  
14808-900 Araraquara, São Paulo  
Brazil  
Phone: +55 16 3301 2000  
Fax: +55 16 3301 2144

#### Europe

John Bean Technologies NV  
Breedstraat 3  
9100 Sint-Niklaas  
Belgium  
Phone: +32 3 780 1211  
Fax: +32 3 777 7955

#### Asia Pacific

John Bean Technologies (Thailand) Ltd.  
No. 2525 FYI Center Building 2, 9<sup>th</sup> Floor  
Unit No. 2/901-2/903, Rama IV Road  
Klongtoei, Bangkok 10110  
Thailand  
Phone: +66 (0) 2257 4000  
infoasia-jbtfoodtech@jbt.com

#### South Africa

John Bean Technologies (Pty) Ltd.  
Koper Street  
Brackenfell  
Cape Town, South Africa 7560  
Phone: +27 21 982 1130  
Fax: +27 21 982 1136



We're with you, right down the line.™

hello@jbt.com | [jbt.com](http://jbt.com)

