

JBT's filling & sterilization technology for baby food in glass jars

High-quality baby food
Deserves the perfect
Packaging & Sterilization

Take a deeper look inside the JBT Unifiller and the JBT in-container sterilization solutions for baby food in glass jars.

Get to know what makes the JBT offering unique, and how it satisfies quality conscious baby food consumers while keeping your operational costs low.



Processed Baby Food Market Insights



Baby Food in glass jars Put your product in the spotlight

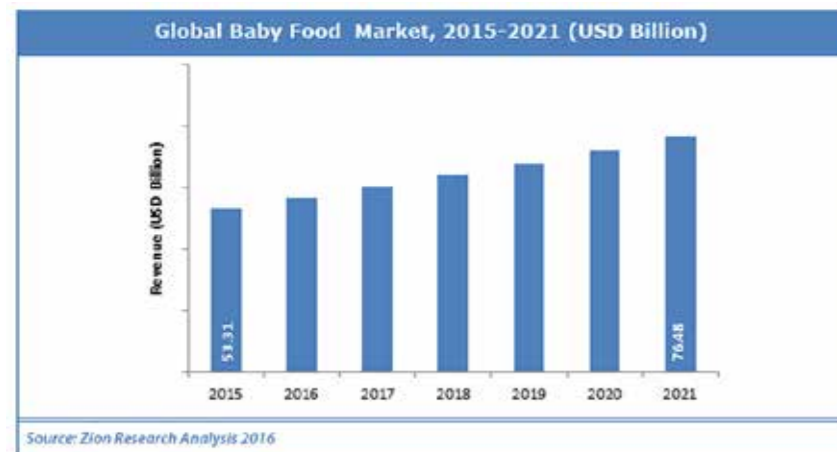


Baby food is a rapidly developing category worldwide designed for infants (4-12 months) and toddlers (12-36 months). The global baby food market accounted for USD 53.31 Billion in 2015 and is expected to reach USD 76.48 Billion by 2021, growing at a CAGR of around 6.2% between 2016 and 2021. (Zion Market Research).

Milk formula is the major driver of the growth of baby food sales. In global retail sales of baby food, according to Euromonitor International, milk formula accounts for more than 70% of the total. Besides milk formula, there is also increasing demand for prepared food with a share of 15% in global retail sales in 2016. Working parents may be too

busy to prepare food at home. Packaged or canned baby food, such as baby rice, fruit and vegetable purees, are convenient substitutes for home-made baby food. It is forecast that baby food sales will increase at an annual rate of more than 9% in the next four years. Milk formula is expected to see an even stronger growth of more than 10%.

In this white paper we will focus on JBT's filling and sterilization technology for baby food packed in glass jars. In this category JBT supports processors to market baby food products with high product quality and safe shelf life while producing at the lowest cost per glass jar.



Growth in the processed baby food or formula market is driven by an increasing number of women working outside the home. As many working mothers return to their jobs shortly after giving birth, prepared baby foods and formulas provide the tempting substitute for working mothers, bridging their desires for nutritious, healthy food with their need for convenience.

Hypermarkets and supermarkets are globally the key distribution channels serving the baby food industry.



The baby food category is characterized by strong innovations for added value. Parents put product quality and safety far above price, demanding a strong, safe brand image and good health credentials. As a result of this we can see following trends in the production of processed baby food:

- ✓ Safe, high quality and wholesome baby food purees
- ✓ Higher nutritional value and fresh taste and color
- ✓ A broader offering from vegetable/fruit purees (main meal) to smooth fruit purees (dessert/snack)
- ✓ The use of organic food ingredients

In glass jars, parents can see your product: its color and texture, the size of the particles and its viscosity. It also allows processors in the most transparent way to showcase the baby food to the greatest degree possible. For all these reasons, consumers associate glass jars with quality, safety and freshness. Consumers associate glass jars with high quality baby food products. Fruit and vegetable purees get an extra touch of quality when sold in glass jars.

Glass is one of the safest, purest containers to preserve the integrity of the food post thermal treatment for extended periods of time. If the product needs to be pasteurized or sterilized, glass withstands the temperature providing good protection to the food product. Glass jars offers processors of high moisture baby foods great flexibility in formats and design in lower quantities than other container types. An ideal package that allows your marketing staff to make your products stand out on the shelf.

Flexibility to produce a wide variety of baby food purées

A production line for baby food purées needs to handle a wide variety of different products, smooth to particulate, and low to high viscous products, in order to meet consumer demand for a wide range of baby food purées to choose from. This, in addition to a range of jar formats, puts demands on product and container change-over flexibility.

The product-specific challenges that come with baby food require precise filling. It goes without saying that the filling process must guarantee complete hygiene and an easy-to-use, easy-to-clean and easy-to-maintain environment to meet the high 'Critical to Quality' characteristics demanded by today's customer. Moreover, the filling line requires fast and cost-efficient format and product change-over, and maximum product flexibility.

Meet, in the first part, the JBT Unifiller. Ideal for high value-added baby food where hygiene, product & jar flexibility, filling accuracy and gentle particle handling is key. Liquid or jelly; silky smooth or chunky; in simple round-shaped jars or jars with complicated shapes; filled boiling hot or ice cold – anything is possible.

In the second part we take a deeper look at JBT's sterilization technology for a safe shelf life.





JBT Unifiller

The perfect fit for baby food



Every baby food has its own specific features and requirements when it comes to filling. Some are liquid, making it harder to fill at high speed without spilling and thus wasting your precious product. Others have a viscous texture, forming headstrong droplets and threads, making it difficult to keep the filling line going when product waste could pile up in different parts of the machine. And then there are fruit & vegetable purées with sensitive particles, requiring the most gentle handling.

To ensure perfect filling of all these products, JBT customizes every Unifiller to meet your particular needs. It is the perfect solution for high value-added baby foods where filling accuracy, filling & format flexibility and gentle particle handling are key.

Every Unifiller is as individual as your product, like a perfectly tailored suit.



The design, number and size of valves, nozzles, CIP and other parts are custom-fit to suit your needs and the speed you would like to run it. In doing so, the Unifiller fits perfectly in your packaging line. A customized machine results in optimized accuracy and minimized product drip, meaning a cleaner machine, cleaner glass jars, and minimum risk of contamination of the glass rim leading to higher quality and a more consistent seal.

The Unifiller is designed for easy maintenance and a long life. The centralization of lubrication points allows for (automatic) lubrication when the filler is running. No precious production time is lost.

The Unifiller can be seamlessly integrated into different line layouts and block concepts. Its compact design and flexible layout options permit the machine infeed and discharge to be individually configured with up- and downstream devices, such as rinsers and cappers.

JBT experts offer technical assistance and project management to achieve smooth integration with (inline or rotary) capper or rinser units.

Want to see how the JBT Unifiller is customized to your needs?

JBT filling experts are at your service at hello@jbtc.com

Understanding the Unifiller

The filling principle: filled in 3 steps



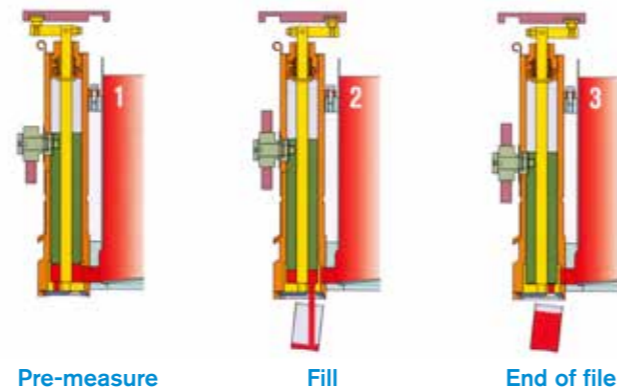
Accuracy
Perfect filling
Every time



The product path is kept to a minimum to optimize filling speed and accuracy. The large product ports and short product path, allow filling of highly viscous purées, with or without particles. Unifiller fill nozzles are especially designed for their application and can easily be exchanged. The Unifiller filling operation consists of three specific phases:

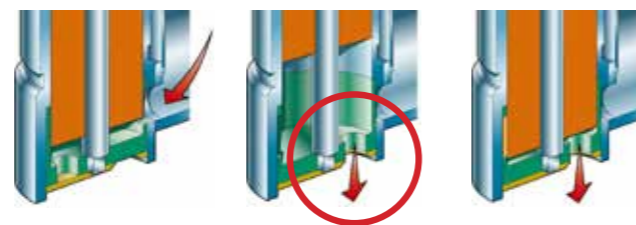
PHASE 1: PRE-DOSING

The valve port is open to the product bowl and the piston moves upwards bringing a pre-defined volume of the product into the cylinder.



PHASE 2: FILL

In a rotary movement of the valve, the fillings station is closed from the product bowl, immediately followed by the opening of the nozzle to the glass jar. The piston moves downward and the product enters the jar.



PHASE 3: END OF FILL

The piston is at the bottom of the stroke and the jar is filled. The nozzle is closed at the end of fill. The valve port is then opened to the product bowl and phase 1 is repeated.



A broad range of fill stations, from 100 cc to 1500 cc, allows for selecting the optimum filling station for each application. Application-specific, quick-change filling nozzles allow optimum filling quality and accuracy for each product.

The Unifiller is a volumetric filler. But to understand why the Unifiller stands out from a classical piston filler we need to look more closely at the interior of the valves.

If we compare the product paths at the bowl port, you can see that the traditional piston filler requires the product to turn almost 180 degrees, and upwards, to enter the cylinder as it flows through the valve plug.

In comparison, the Unifiller bowl port opens up directly into the cylinder and the path length is just the thickness of the bowl wall. The unique Unifiller valve, vertically actuated,

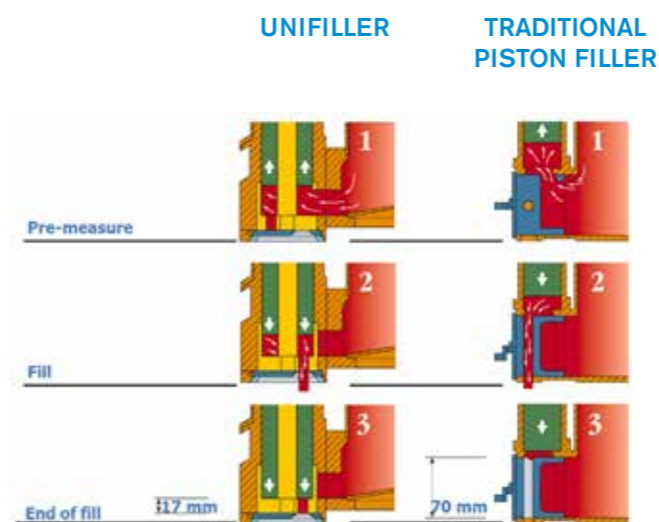
makes it possible to create a very large wide and tall bowl port. The key to being able to pump large particulates is in the relative size of the bowl port versus the particulate size to be filled.

All your glass jars, filled exactly as much as you want it to be. To the drop. Jar after jar, run after run. It requires accurate machine parts and a robust construction, together with an efficient filling mechanism. The JBT Unifiller is

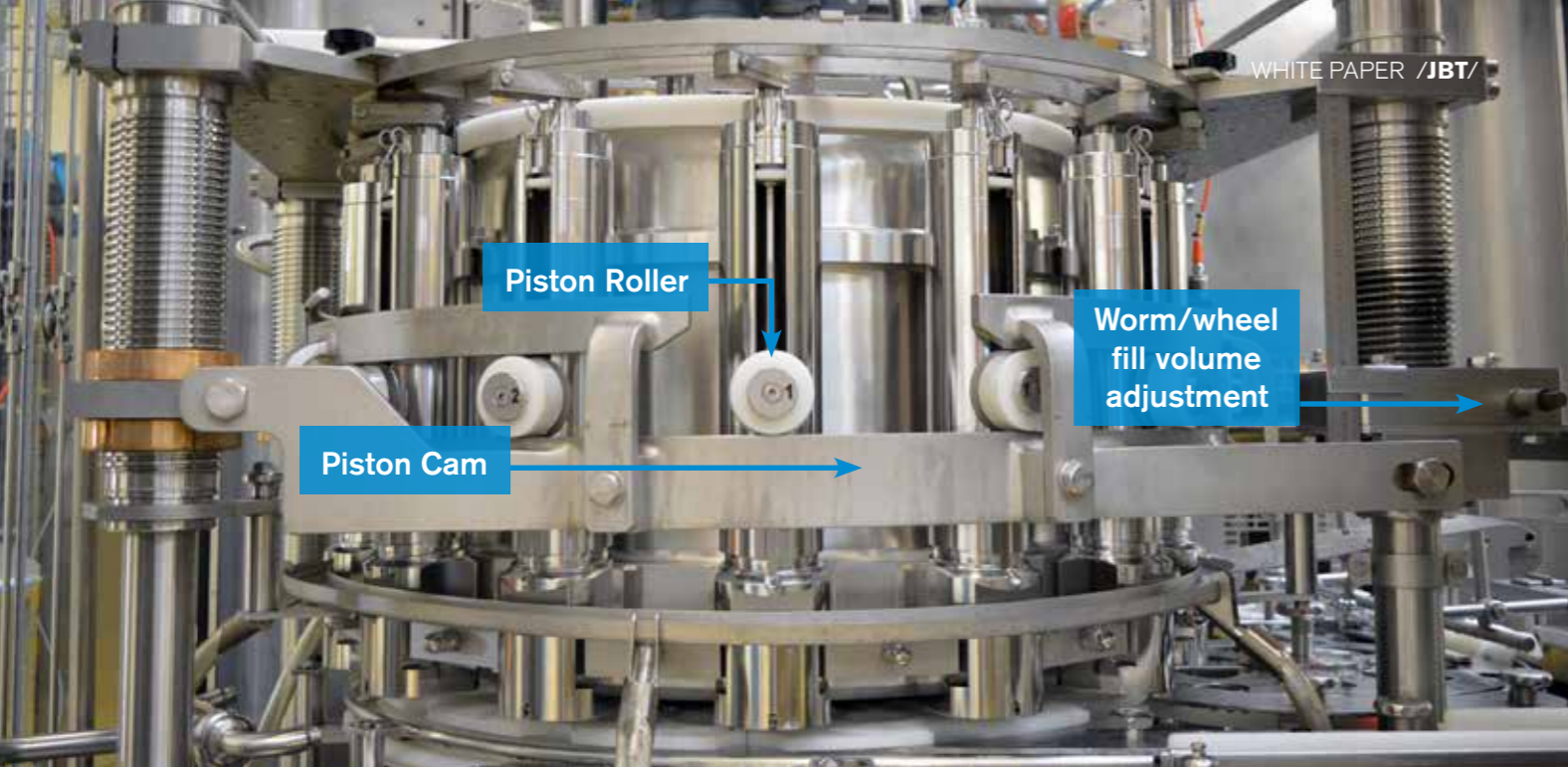
just that. Probably the only filling machine on the market that perfectly fills up every kind of glass jar, without a spill. Besides minimum product give-away, superior filling accuracy guarantees consistent head space.

The Unifiller's working principle is unique. The rotary, volumetric filler — with accurately machined filling stations and large bowl ports — guarantees gentle yet fast and accurate filling. Inclination of the jars eliminates spillage and optimizes filling speed. Gentle jar handling on the conveyor after filling without any sharp turns avoid product spilling. Of course, all parts are made using premium materials. Surfaces that come into contact with the product are of AISI 316 stainless steel or another high, food-grade quality, non-corrosive material.

In short: your baby food gets on shelf faster, cleaner and perfectly filled.



Product Versatility



Many of today's baby food applications require a wide range of products to be filled on a single filler. The Unifiller can do this. Were in the past, two different filling machines, with two totally different filling concepts was needed, today's Unifiller can handle the entire product range.

Unifiller fill nozzles are designed especially for their application and can be exchanged easily.

The custom-fit nozzles increase accuracy and minimize product drip for even the most complex products. The result is a cleaner machine, cleaner glass jars and minimum risk of contamination of the glass rim for a more consistent seal.

The Unifiller offers unmatched product versatility: from low viscous products without particles, to high viscous products with particles; both cold and hot fill. The large product ports and short product path allow filling of high viscous purées with or without particles, and high solid content (50%+) with ease.

Besides minimum product give-away, superior filling accuracy assures consistent headspace for trouble-free in-container thermal processing.

Besides accurately machined parts, the Unifiller has a solid central column that holds the product bowl and filling stations firmly in place. No rocking. Grouped greasing points on the corner of the machine is standard, automatic lubrication is a nice option to eliminate any potential human error factor.

At the end of the stroke when the piston is at its lowest position and the millisecond before the valve closes...will the product drop or stay in the valve?

Residual volume in the nozzle path is minimal in the unifiller product path. The piston actually enters the valve cup and positively displaces all product. Pushing all product out of the nozzle. The Unifiller nozzle path is short with very small residual volume making it easier to control the product flow. Therefore accuracy is tremendous between fills.

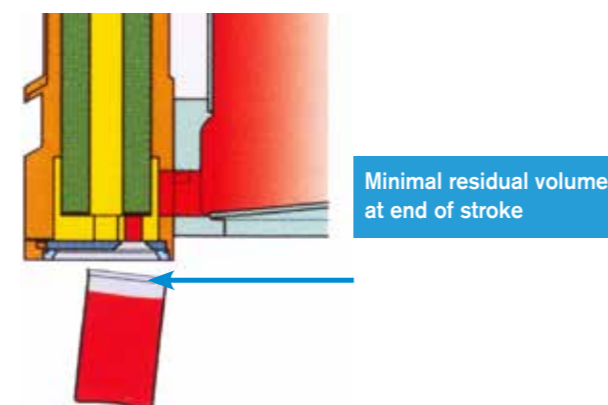
The volume cam is the largest and most rigid in its class. Minimizing deflection under high loads, even when very thick products are being pumped at high line speeds. The large center column, main bearing, and heavy duty fill cam contribute to maintaining the valve strokes within hundreds of a millimeter, making every stroke equal, so that identical fill volumes are pumped every revolution

Unifiller machine range for baby food

PACKAGING SIZE [ml]	TYPICAL NOZZLE PORT DIMENSIONS Particle Size [mm]	FILLING SPEED (Up to # jars per hour) [JPH]
80	Ø 8 - Ø 20	6.000 - 54.000
130	Ø 10 - Ø 23	6.000 - 54.000
200	Ø 12 - Ø 26	6.000 - 54.000
250	Ø 14 - Ø 26	6.000 - 54.000

Examples of applications and target filling accuracies

PRODUCT	FILLING VOLUME [ML]	TYPICAL FILLING ACCURACY (1 STANDARD DEVIATION) [GRAM]
CARROT PUREE	80	0,4
CARROT PUREE	130	0,4
PUDDING	130	0,3
VEGETABLES + RICE (PARTICLES 6X6X6 MM)	190	0,6
VEGETABLES + MEAT (PARTICLES 6X6X6 MM)	190	0,6
VEGETABLES + RICE (PARTICLES 6X6X6 MM)	250	0,7



Product Integrity

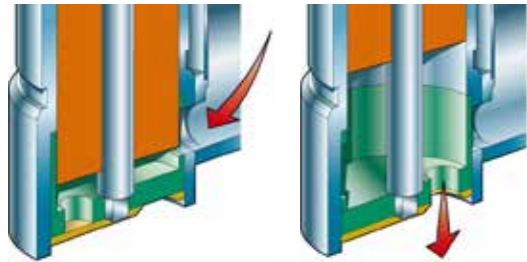
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Product damage is always a concern when running particulates and here the Unifiller outshines the traditional piston filler as well with only two (2) shear points: one at the bowl port, and one at the nozzle port. In comparison the traditional piston filler has three (3) shear points as the product flows through the valve plug: one at the bowl port, but two when filling through the plug towards the opening of the container.

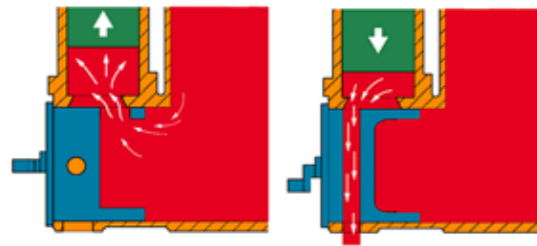
Over time there is a huge difference in product integrity, being able to reduce potential damage to product-pieces by one third, or 33%. Even if a piece is caught at the shear point, the surface is perfectly cut by the Unifiller porting so that the piece integrity is maintained, no smashed product.

With this in mind, why would you want to use a traditional piston filler at all when running particulates?

Unifiller – 2 shear points



Piston Filler – 3 shear points



Sanitary design and Clean-In-Place without disassembly

The JBT Unifiller is the only volumetric filler with Clean-In-Place capacity that does not require disassembly of the fill stations.

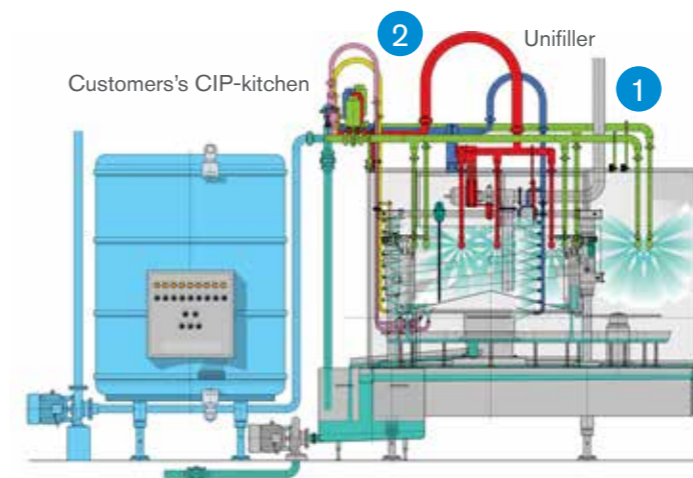
The Clean-In-Place (CIP) is the result of the Unifiller's unique sanitary design. Because of the unique self-draining design and absence of seals in the filling stations the Unifiller does not need to be (partly) disassembled for cleaning. Safe. Hygienic. Effective.

Optional guarding with safety glass (excellent CIP chemical resistance) adds to the sanitary aspect of the machine. Every single part that comes into contact with your product is made either of stainless steel or another, non-corrosive material.

The self-draining filling station design allows full CIP without disassembly. No need for labour-intensive manual disassembly or complex and maintenance-intensive motorized disassembly of the filling stations

Automatic CIP without disassembly results in:

- ✓ Less downtime for cleaning and product change-over
- ✓ Consistent, recurrent cleaning, independent from the operator
- ✓ No damage and soiling of technical components



1. Piping with sprays for direct and/or indirect cleaning of food contact surfaces
2. Main manifold with sanitary valves and filter
3. Return tank with pump to customer's CIP kitchen



- ▲ Watertight guarding with safety glass
- ▼ Multiple spray balls are positioned within the guarding for cleaning of food contact surfaces and nondirect product contact parts



- ▲ CIP Control valves and piping
- ▼ Main manifold with sanitary valves and filter



Heated product bowl

The product bowl can be equipped with a heated lower surface and insulated wall and cover to keep the baby food at a pre-set temperature (70-90°C), even when the filler is not running. A water-circuit cools or heats the bowl with the push of a button

No jar? No fill problem

With its No-Container-No-Fill system, the Unifiller knows if there is no jar under the filling station. It simply waits for the next jar to arrive to execute the three-phase filling cycle. No product loss, no mess.

Moreover, the sensor for NJ/NF (no-jar-no-fill) detection is equipped with an air blowing unit on top. This keeps the sensor clean from CIP liquids and dust, providing more reliable detection of the jars over many years of operation.

The Unifiller is fitted with an infeed system, especially designed for gentle and controlled handling of glass jars. Any glass jar, even those with the most irregular shape. The system operates flawlessly and reliably, preventing glass breakage.

Self-Cleaning Jar Detection



Product & Format Change-over in 30 minutes

Ready for another round? With a few basic readjustments, your Unifiller will reset itself to handle another product, another volume, and another glass jar.

No engineers, no tools required. Simple, colour-coded change parts guarantee a very fast change-over from one glass format to another. Optimal automatic height and step-less volume adjustment gets the job done without manual intervention. Both can even be adjusted while the filler is running.

When fitted with the optional automatic, recipe driven glass format change-over, the operator simply selects the glass format and the Unifiller adjusts itself automatically to the correct height and filling volume.

Thanks to the intermediate rinsing cycle, your whole filler is reset and cleaned within 20 minutes. Just in time to get back from your coffee break and watch the next product taking off.

For maximum reliability, long life and minimum maintenance costs, all electrical parts for automatic volume and height adjustment are mounted under the filler base plate, outside the CIP area.

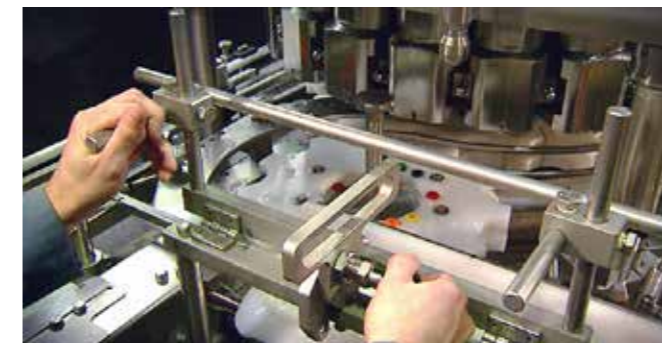
Typical change-over times (volume, height, diameter/shape)

Change-over times [minutes]	(1) Jar height	(2) Filling volume	(3) Jar diameter or shape
Manual	20 - 30	10 - 15	15-20
Automatic	5	5	15-20

Change-over times [minutes]	(1)+(2)+(3) Complete change-over
Manual	< 65
Automatic	< 30



▲ Heated product bowl with 2 hinged access doors allowing easy access to the bowl for inspection and cleaning.



▲ Colour-marked quick-change parts with locating pins for quick and correct positioning.

▼ Automatic height and volume adjustment



The JBT Process Technology Centre comes to you

Having sold over 2 000 machines, our engineers and technicians have faced and solved some of the toughest filling problems for processors within the food industry.

Put us to the test. Invite JBT over to your plant and witness the Unifiller Pilot customize itself to your product and specific needs.

The single station, highly flexible pilot machine that conducts filling tests is a smaller version of the Unifiller. By testing your own products, you can see the accuracy, determine valve configuration, optimize filling speed range and see filled product integrity.

If you already have a Unifiller running at your facility, the Pilot is still at your service. Whether it is to perfect your processes or experimenting with new product recipes. Because we understand that the decision to market a new food product often depends whether it can be integrated into existing operations or will need new equipment capable of handling the new formulations.

The option to perform filling tests provides you with the insurance the Unifiller can handle your difficult-to-fill product with increased accuracy, optimal product quality and consistency, prior to making a key capital purchasing decision.

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Thermal Processing of Baby Food in Glass Jars

WHITE PAPER /JBT/



Food safety and product quality are essential factors in baby food industry. The need for enhancing microbial safety without compromising nutritional and sensory characteristics represents an important challenge.

Optimum thermal sterilization of food always requires a compromise between the beneficial and destructive influences of heat on the food. On the positive side, heat destroys microbial pathogens, spoilage organisms and enzymes that would otherwise render the food inedible or unsafe. However the required thermal destruction is calculated according the slowest heating point of the food products and this can cause over-processing with some negative effects on the food: reduction of vitamins, organoleptic quality and carbonization of the product by contact with the inner surface of the hot jar. Excess heat also has economic implications. Energy consumption is a significant component of food processing costs.

This type of product is usually packed in small glass jars with PT closure. Another challenge during heat processing concerns the filling and capping of the glass jars to ensure the necessary vacuum in the glass jar. During the filling/closing of the glass jar, air must be kept at a minimum. The more air entrapped, the lower the vacuum that will be created during thermal processing. On the other hand, enough headspace is necessary to trap adequate amount of steam for forming the vacuum and to accommodate the product to expand during retorting.

SPECIFIC CHALLENGES FOR GLASS JARS

In-container sterilization of fluid or semi-fluid baby foods can be accelerated by so-called forced convection processes in which jars are agitated by axial rotation or end-over-end rotation or other movement during the cook phase. As a result heat penetrates faster to the cold spot and constant mixing within the jar greatly reduce overcook of the food. The classical approach to overcome or minimize undesirable quality changes in thermal processing is the high temperature short time (HTST) concept. The problem in applying the HTST principle to solid and high viscosity baby foods is that the parts of the food in contact with the hot surfaces will still be overheated and quality losses will occur.

Hydromatic®

high-capacity hydrostatic sterilizer



Continuous Hydrostatic Sterilizers process a constant steady flow of containers into a continuous way. This system ensures the continuous infeed, processing and discharge of the product containers. To go through the hydrostatic sterilization process the product containers are loaded into carriers. The carriers are closed during the entire process for full protection of the packaging. The containers move through a series of towers to pre-heat, cook, pressure cool and cool each single container exiting the system. At the end of the process product containers are automatically unloaded for further container handling.

CONSISTENT PROCESSING QUALITY

Continuous sterilizers are typically used for high volume products of a similar container type or size. These sterilizers permit short-time, high temperature cooking and rapid, efficient cooling in an automatic, continuous operation. Every container is cooked and cooled in the same manner and receives exactly the same thermal process for consistent product quality. By this way the occurrence of under- or over-processing is prevented. Reduced processing time also helps preserve the product's natural flavor, nutrients and appearance.

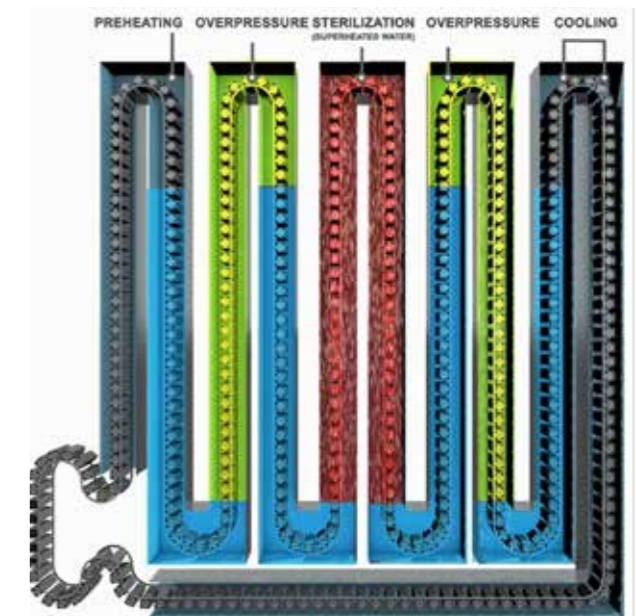
PROCESS FLEXIBILITY

The Hydromatic is a flexible system that can be easily adjusted to other recipes and packaging sizes, types or shapes within the range of your products.

Depending on the range of your products, packaging sizes and process range, a further increase of flexibility may be provided with a baffle wall allowing for multiple process modes. A baffle wall is a configuration whereby the hydrostatic cooling leg can be transferred from one position to the other, thus varying the holding capacity of the sterilizing section.

Baby purées are usually packed in small cans or jars with PT-closure requiring an overpressure process. This means that an additional pressure is required during the process whereby the pressure can be controlled independently from the temperature.

A specially designed soft touch handling system handles the glass jars with extreme care at speeds up to 1200 jars/min. The jars are gently loaded and unloaded by lateral lifting while keeping handling speed low. This prevents dislocation of the lids and chipping of glass particles inside the jar.



SuperAgi™

Full Immersion Agitating Batch Retort

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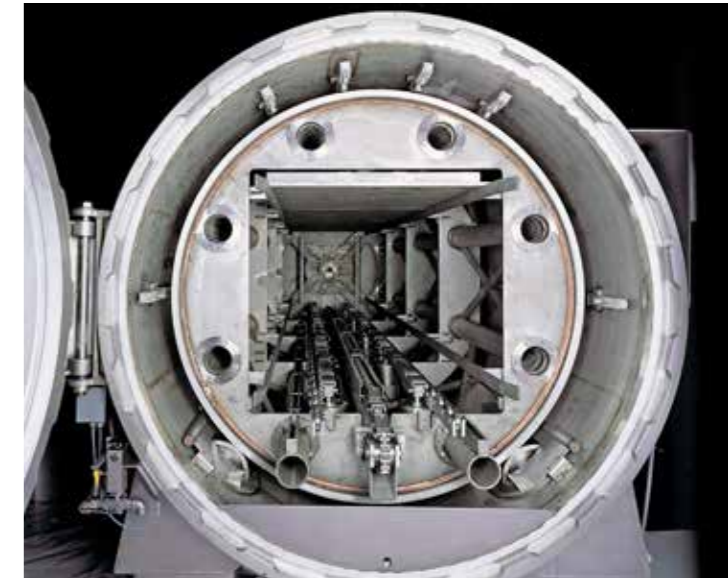
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Multi-process capability

SuperAgi™ is available in Steam Water Spray and full or partial water immersion mode, offering full container and process flexibility. Water immersion for high RPM processing and containers that require buoyancy. Partial Immersion for tight-pack rigid containers with minimal water channeling capability. By combining different process modes in one single machine, every package/product combination gets the most economical and gentle process.

Consistent process delivery

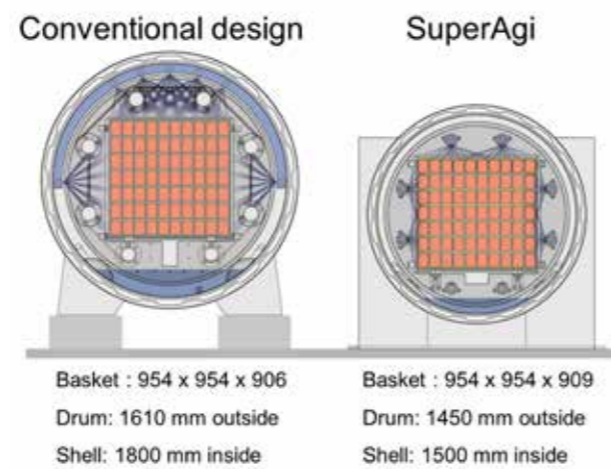
High temperature processes have shorter process times. This entails the need for accurate process control. A deviation in time, pressure or temperature when processing at high temperature for only a short time becomes a more critical issue. In the same way, the cooling process also affects the quality and safety of the finished product. Each JBT retort in a retort room is equipped with a local controller with touch screen that monitors the sterilization program and allows interventions during the retort process. JBT's Log-Tec® thermal process controls generally monitor the retort system, consisting of one or more batch retorts, on a central host PC. They execute self-tests and check all field devices and sensors prior to start-up. Log-Tec® also controls centrally and automatically records temperature deviations without operator intervention. Optional online lethality tracking software allows process deviation correction on the basis of online Fo calculation. Log-Tec® thermal process controls incorporate a central host PC for easy supervision of the retort installation. Process recipes are edited and managed on this host PC. Process data is safely stored in encrypted format and access to the various functions of the host system is password-protected.



Batch retorts process product containers into baskets. A steady flow of containers moves onto an accumulation table to a basket loader. The filled baskets are moved into a retort vessel for thermal processing. Once the cycle is complete, the baskets leave the retort vessel and are unloaded on a conveyor for further handling.

Retorts can easily be configured to handle a large range of container types and process a wide array of product recipes. Batch retorts offer high product and container flexibility, since the retorts are recipe-driven for each cycle. Today's batch retorts can be configured to run multiple processes to afford food processors maximum flexibility

The compact and innovative design of the SuperAgi™ vessel generates particularly attractive benefits for food processors. The new design ensures less utility consumption per unit produced. How does it work? In a conventional retort vessel with a conventional basket of 954 x 954 x 909 mm and a heavy tubular structured drum, the shell measures 1,800 mm. The spray pipes are attached to the shell. In a SuperAgi™ the light perforated plate structured drum closely links to the basket - with spray pipes integrated in the drum for a better heat distribution. The vessel measures 1,500 mm. The narrow fitted drum enables top clamping of the basket, ensuring high holding capacity for a large range of container types. The smaller diameter of the vessel and the narrower void between drum and shell generate savings in steam, compressed air and cooling/process water with minimal Fo differences and better heat distribution.



The comprehensive Log-Tec® software ensures exact repetition of programmed sterilization profiles, such as programmed temperature ramps in the come-up and cooling phases, temperature overshoot at start of cook etc., reducing Fo spread. Log-Tec®-generated process records meet HACCP requirements and are unconditionally accepted by the FDA and USDA.

ABRS

Automated Batch Retort



The trend in food processing is to move away from small retort vessels to larger shells to improve efficiency and product safety. Larger vessels imply larger baskets that can't be handled manually.

Large baskets are simply too bulky and too heavy for one person to move around.

The need to handle these enormous baskets opens the way for ABRS. 'Automated Batch Retort Systems' (ABRS) refers to the fully automated integration of all hardware designed for transportation of baskets from loader station to sterilization retorts and from there on to an unload station and packaging area. The global handling system can be monitored by a basket/pallet tracking system.

Different alternatives are available to transport full/empty baskets to/from the retorts: by fixed conveyor, shuttle on rails or automated guided vehicles (AGV).

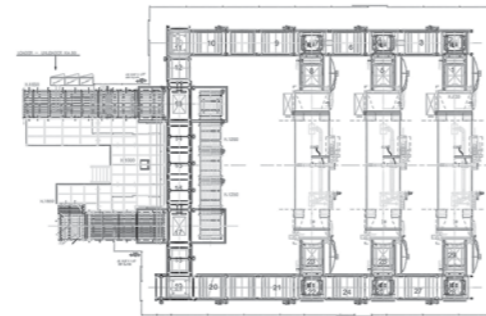
All JBT retorts can be ordered with resident, internal conveyors for automated basket loading/unloading. Conveyors are made of stainless steel and are designed to integrate with external conveyors.

The shuttle is an automated basket delivery system that delivers and collects batches. The shuttle is integrated with the conveyor system of loader/unloader.

The JBT automated guided vehicle (AGV) is a machine that operates without track.

A short conveyor section is mounted on the AGV that docks with the loader to pick up baskets for retorting. A fleet of conveyor-deck AGVs transports baskets from the loader conveyors to the batch retorts for high temperature cooking. Once the sterilization cycle is complete, the retort opens automatically and an AGV is sent for unloading. An AGV is ordered to remove the baskets and deliver them to the unloader or a buffer conveyor. AGVs also transport empty baskets to and from the buffer conveyors.

An AGV Manager Host Software system coordinates all vehicle movements and communicates with plant production software to facilitate basket movement.



- ✓ Loaded baskets feed the retorts by a fixed conveyor (double-door vessels)



- ✓ Loaded baskets feed the retorts by a shuttle on rails (single-door vessels)



- ✓ Loaded baskets feed the retorts by a shuttle on rails (single-door vessels)

Basket/Pallet Tracking System (BTS)

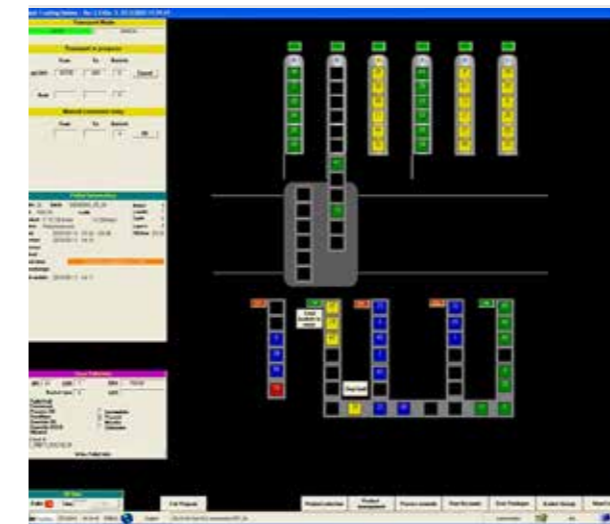
The whole operation of an ABRS stands or falls with a performant tracking system for the baskets and product process batches.

BTS not only coordinates all movements of baskets, but also records all data and monitors preprocess dwell time deviations. The eyes of the BTS are the barcodes that identify the baskets in key locations of the process while they move along:

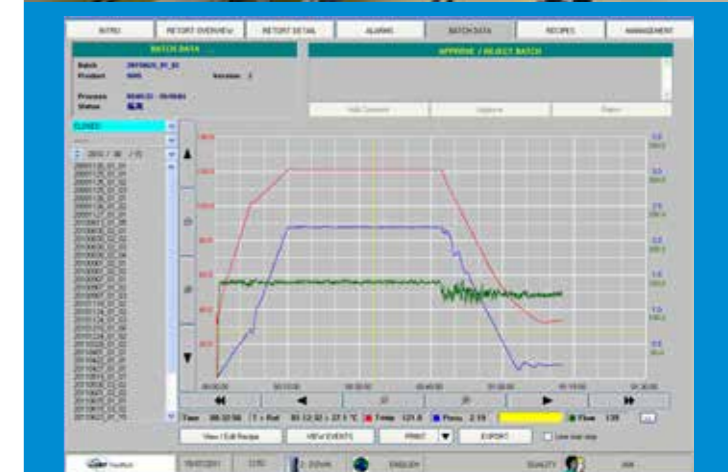
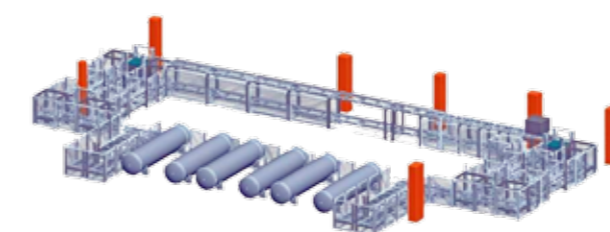
loading (fill time for dwell time tracking), in the retort, Process start and end, and unload.

BTS flags any anomaly (e.g. baskets with a different product, unsterilized or wrong product at unloader etc.). In that case, a QC privilege is needed to release the product that has been flagged.

Screen visualization provides a good system overview, so that only a small number of operators can keep an eye on a multi-retort system.



JBT can offer you a complete turn-key solution for the implementation of an automated batch retort room: batch retorts, loaders/unloaders, transport system, tracking system and central host monitoring.



JBT Process Technology Center

JBT will help you optimize your current process or develop the most advantageous one for your particular equipment/product/packaging combination. Our state-of-the-art pilot plants can simulate different thermal processes on any type of sterilizer to optimize the safety and quality of your products. Besides Process Validation and Thermal Process Development, JBT can also assist in Training & Audits and Container Performance Testing.

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Food processing expertise at your service, around the globe

Our mission: providing you with maximum uptime and smooth operation. Therefore, you can count on JBT for technological support, installation supervision, training and after-sales support anywhere in the world.

JBT has a long history of food processing equipment. Having sold over 40,000 machines worldwide our service technicians have faced and solved some of the toughest problems for processors within the food industry. JBT offers OEM parts for repairs and maintenance. Over 6,000 parts can be shipped within 24 hours to all continents. Other examples of JBT customer service include the standard exchange assemblies and preassembled kit to reduce downtime due to maintenance and repair. Our range of service packages make sure your equipment keeps running as profitably as possible, for as long as possible. With minimum downtime.

More than 50% of the world's shelf-stable foods are filled, sealed or sterilized on JBT equipment. With several thousands of canning lines in operation worldwide, JBT is the world's leading supplier of integrated processing solutions for metal, glass and plastic containers. From single machines to complete processing lines, we enhance product value and safety. JBT equipment captures the quality, nutrition and taste of your product while producing them at the lowest cost per unit.



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