

## Pet Food Technologies

Chilled or Frozen



Canned



Ropes or Dices



High Pressure Processed



Preparing

Chilling

Freezing

Filling

Packaging

Wet Processing

# JBT, Your Total Solutions Provider

Wet, dry or raw, JBT has a solution for your pet food production needs.



## Strand or Rope Meat Paste Processing Line

### JBT FTNON, for the production of wet pet food for cats and dogs

Over 35 years JBT FTNON has built up a vast experience in the field of wet pet food technology. Our wide range of installations have been used very satisfactorily by many leading pet food manufacturers worldwide.

Thanks to our advanced pet food technology, our customers have been able to improve efficiency and optimize the quality of their products.



#### Extruders

The extruder produces uniform strands or ropes of meat paste. Each die for extruding strands/ropes of pet food is custom made; therefore, it is possible to supply various shapes and dimensions.

#### Steam tunnels

After extrusion, strands or ropes of meat paste enter the steam tunnel on a conveyor belt. With the aid of steam, the meat is cooked. Compared with cooking with water, the steam tunnel is a more efficient method of obtaining equivalent or even better product quality. When the cooked meat arrives at the end of the tunnel it is cut in pieces by a cutting unit. Afterwards, the product will be cooled and packed in tins or pouches, and then sterilized.

In respect to steam tunnels JBT FTNON supplies various systems:

- Steam tunnels with stainless steel belt
- Steam tunnels with Teflon coated Kevlar belt
- Steam tunnels, type DCC

#### Product hoppers with pump systems

JBT FTNON Emulsion Hoppers can be provided with one or two mono pumps, depending on whether you want to work with multiple colors and/or different recipes.

#### Color dosing systems

The color injection system has proven to create very efficient in-line coloring, without disturbing the extrusion process. The coloring agent is injected directly into the mono pump of the pet food product hopper. The color injection system is mounted on a separate frame on wheels.



Color dosing systems

## Preparing

### Steam tunnels type DCC

The JBT FTNON DCC – Dynamic Cloud Control is a revolutionary steaming technology that considerably improves the energy efficiency of steamers.

The new concept is based on the intelligent use of the difference in density between atmospheric steam and air.

Thanks to this technology you will be able to realize an end product of excellent quality, at lower unit costs. The DCC system also considerably improves the energy efficiency of steamers.

### Cooling conveyors

After being steamed, the products can be cooled by means of the JBT FTNON Cooling systems.

### In-feed belt to cutting unit

Conveyor to transport strands/ropes of pet food to the cutting unit.

### Cutting unit

The cutting unit is used for cutting strands or ropes into chunks. All cutting units will be provided with a variable system in order to be able to cut with an angle from 0 to 45°.



Preparing



## Meat Feed and Dosing System

This machine is designed to transfer product with vacuum. The product is dumped onto a hopper scale controlled with software to regulate up to 11,000 lbs per hour. The Vacuum Pump is mounted on a frame with casters and has a built-in vacuum separator.



## Injection and Marination Solutions

**Tailor-made Solutions for Over 50 years!**

JBT Schröder is a globally recognized manufacturer of technologically advanced injection and marination solutions. Our diverse range of machines are designed to solve even the most unconventional needs of facilities that process meat, poultry, fish, as well as other food products.



## Chilled or Frozen Pet Food

Chilling

Freezing



## Leading Freezing Technology

JBT Frigoscandia offers an extensive range of high capacity spiral freezers.

The latest Frigoscandia GYRoCOMPACT® 40 self-stacking spiral freezer is the most compact, hygienic and efficient spiral freezer ever made. It is capable of freezing capacities of up to 1,000 kg/hour and can be shipped as one single piece of equipment for quick installation and easy relocation.

Frigoscandia has gathered a vast knowledge in the freezing business and is the natural business partner for any food processes involving the chilling or freezing of food products.





## Filling

## JBT FILLING

## Pocket filling

Pocket fillers are used to fill granular products into rigid or semi-rigid containers. As compared to conventional deadplate fillers, individual fill gates offer gentle product handling, hygienic operation, no container-no fill, and easy cleaning of the filler.



Pocket Filler



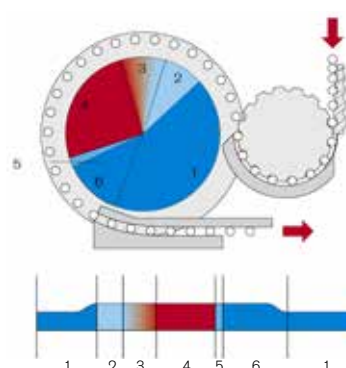
Unifiller

## Volumetric Rotary Filler

The Unifiller concept offers unmatched product versatility: from low viscosity products without particles, to high viscosity products with particles; both cold and hot filled.

## Vacuum filling

Vacuum fillers are used to fill brine, sauce or syrup in combination with previously filled solid products. Our Vacuum Fillers feature a unique fill principle, consisting of four filling phases: Vacuum | Fill | Vacuum-fill and Vent-to-Atmosphere.



1. Atmospheric
2. Vacuum
3. Fill
4. Vacuum-fill
5. Vent
6. Run-off

## JBT CLOSING

## Broad range

Over the years, JBT has built a wealth of seaming expertise, supported by a large, worldwide installed base. This unmatched expertise has allowed JBT to create innovative, cost-effective seaming solutions in food, powders, beverages and can making.

## Operating efficiency

Our seamers meet the industry's need for lower maintenance, higher up-time, easy cleanability, faster can format change-over, reliable performance and enhanced operator comfort and safety.

## Sanitary design

JBT seamers set the standards in hygienic design and machine cleanability. This explains why JBT is the only manufacturer to market a can seamer dedicated to high-value powders in cans.



X-59 Seamer

## JBT Filling-Closing groups

TwinTec™: A JBT Unifiller - Seamer monoblock

TwinTec™ is the integration of the JBT filling and seaming technology in one single machine, with one robust, sanitary base, one control system, one drive, one lubrication system and under one guarding. The TwinTec™ provides short, gentle and highly reliable can transfer from filling to seaming stations running at a line speed from 100 to 600 cpm.



TwinTec™

## Packaging



## AP60 Tray Sealer

Our JBT Proseal Linear Conveyor tray sealing system is capable of sealing up to 240 Atmospheric packs per minute. The AP60 provides the flexibility required by food producers looking for a fully automated, turnkey production line. The customer can specify the length and width of the indexing conveyor to accommodate their tray de-nesting and filling requirements. Optional 'Gas Flush' of 'Vacuum Gas Flush' Modified Atmosphere Packaging application available to aid shelf-life extension.



## JBT In-Container Sterilization

## Wet Processing



## Energy Efficient In-Container Thermal Processing, Continuous and in Batch

JBT has a long history and record of accomplishment for consistent, high quality sterilization of packaged foods. Our solutions are renowned for their outstanding temperature distribution and low utility consumption. JBT offers a portfolio of Batch and Continuous processing solutions to meet specific requirements and to partner in continued growth of production volumes.

Our global Research & Technology Centers are available to assist in equipment selection and developing the most efficient thermal processes to ensure consistent product quality, food safety and extended shelf life.

## Continuous Hydrostatic Sterilizer - Hydromatic®

Our Hydromatic® sterilizer is ideal for processing products that require long cook and cool times, high throughputs and little or no agitation. The continuous hydrostatic sterilizer stands out for its safe and consistent processing.

With its high capacity and very low production costs it can, in the safest possible way, give added shelf life to a wide variety of packaged products.

Key characteristics of the Hydromatic:

- Very high efficiency
- High reliability
- Uniform product quality
- Energy regeneration
- Minimized water consumption
- Small footprint



## Wet Processing

## JBT RETORTS

### Batch Sterilizers

The best way to sterilize small-to-medium volumes of pet foods in a wide variety of containers.

JBT Static Retorts are recognized in the market for their:

- High reliability and availability
- Product uniformity
- High product quality and safety
- Container flexibility
- Strong handling integration with upstream and downstream equipment



Static Retorts

## Cold Pasteurization Processing



### High Pressure Processing for Pet Food

HIGH PRESSURE PROCESSING (HPP) is cold pasteurization in pure water; it uses ultra-high pressure purified water to keep raw pet foods free of pathogens and staying fresh longer. HPP is used in several segments of the food industry to inactivate foodborne pathogens and spoilage organisms. For the raw pet food industry, HPP provides an FDA-recommended process for inactivation of *Salmonella*, *Listeria monocytogenes*, and *E. coli* O157:H7. HPP helps producers increase food safety and extend shelf life while providing consumers and their pets with nutritious, natural, flavorful meals. JBT AVURE helps producers implement HPP from recipe development and process validations to installation, regulatory affairs and post-installation support.

### Food Safety

HPP is strongly recommended by the FDA as a food safety intervention step for raw pet foods. This non-thermal technology inactivates pathogens and spoilage organisms while leaving the nutrient quality of raw food ingredients intact.



**Avure's HPP processing inactivates foodborne pathogens to extend shelf life.**

### Benefits of HPP for Pet Food

Pet food manufacturers can benefit hugely through the application of high pressure to ensure product safety and expand market opportunities. HPP is used extensively in the pet food industry to:

- Inactivate pathogens to keep both pets and humans safe from dangerous cross-contamination
- Extend refrigerated shelf life
- Preserve the flavor, texture, and nutrients in raw food ingredients
- Provide a safe alternative for immunocompromised dogs and cats who would otherwise not be able to eat a raw diet

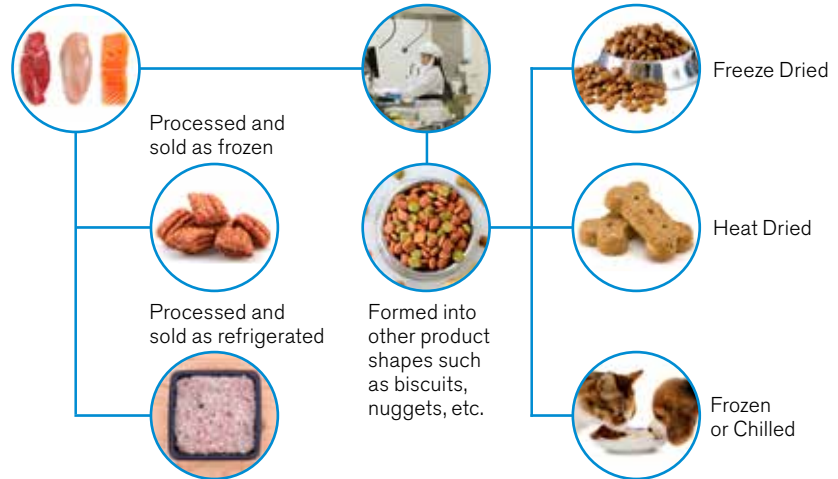
## HPP for Raw Materials

After HPP, the product can be sold as refrigerated or frozen pet food, or sent to a clean room to be formed into shapes such as nuggets, bones, or biscuits.

The "shaped" pathogen-free product can then be sold refrigerated or frozen, or further dehydrated by heat or freeze drying.

Raw Materials are HPP'd and refrigerated for 24 hours

Further processing in clean room



## 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 PROTEIN PROCESSING

#### SECONDARY

BRINE PREPARATION | HOMOGENIZATION | INJECTION  
INJECTION & RETURN MILLING | MACERATION | MASSAGING  
TENDERIZATION | TVI MEAT SLICING | AUTOMATED TRAY LOADING

#### FURTHER

WEIGHING | PORTIONING/TRIMMING | COATING | FRYING & FILTRATION | PROOFING | COOKING  
COOLING | CHILLING | FREEZING | REFRIGERATION | CLIPPING & PACKAGING SOLUTIONS  
X-RAY TECHNOLOGY | TRAY SEALING | HIGH-PRESSURE PROCESSING

### 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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We're with you, right down the line.™

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