



High Pressure Processing for Pet Food



No other HPP supplier provides the range of services that AVURE can deliver

# High Pressure Processing — Pet Food Application Brief

## High Pressure Processing

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.

JBT-Avure operates an in-house HPP foods applications center in Erlanger, Kentucky, USA to help partners perfect their products, formulas, and packaging. Additionally, we partner with several HPP certified laboratories worldwide to facilitate HPP product process optimization and regulatory requirements. JBT-Avure has an extensive library of process- and package-validated studies conducted for regulatory approval which are available for clients considering HPP technology.



**Avure's HPP processing inactivates pathogens, extends shelf life.**



## Benefits of HPP for Pet Food

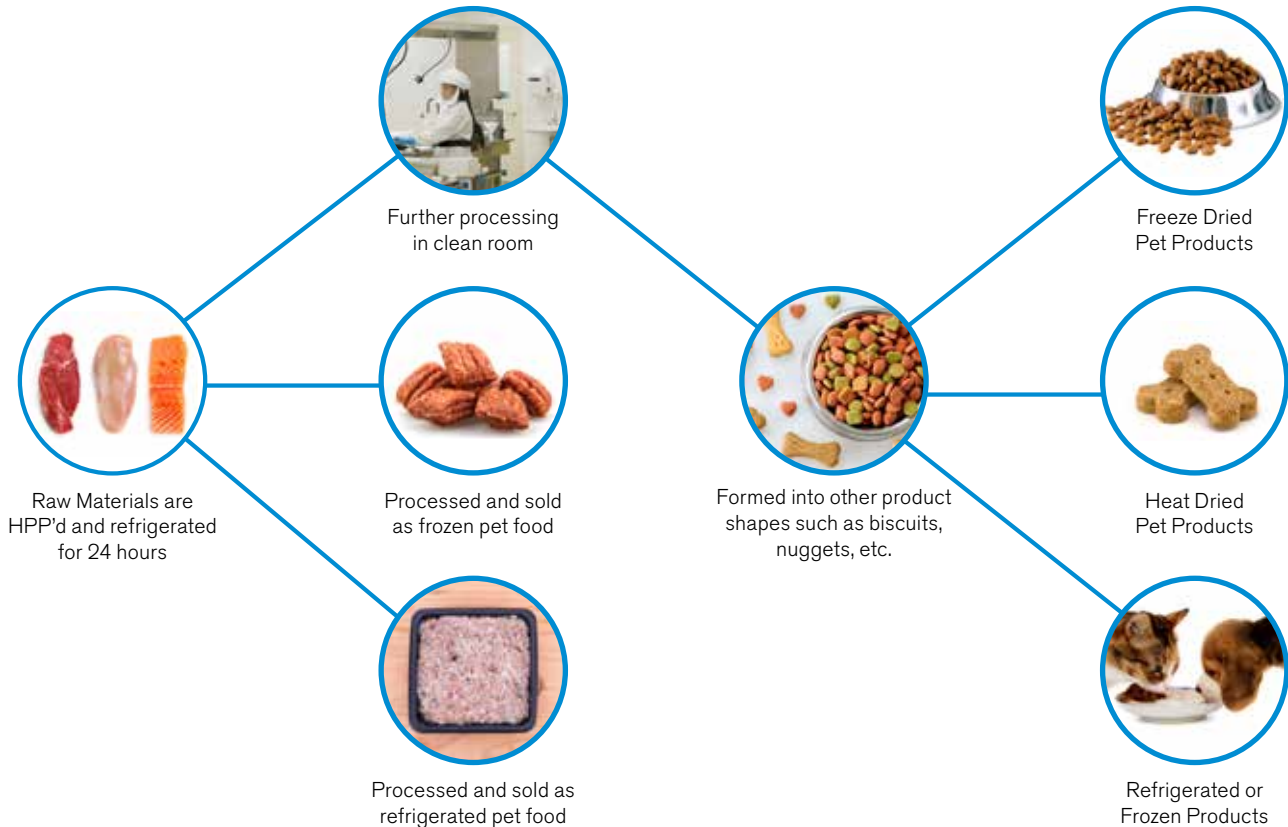
Pet food manufacturers can benefit hugely through the application of high pressure to ensure product safety and expand market opportunities. HPP is used extensively in the pet food industry to:

- 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 offers both microbiological benefits and process enhancement for most raw pet food ingredients including meat, poultry, fruits, and vegetables. Innovative food processors use HPP to expand their product offerings as well as their distribution chain.

## HPP for Raw Materials

HPP is widely used for the inactivation of pathogens in the raw materials of pet food. 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, biscuits etc. The "shaped" pathogen-free product can then be sold refrigerated or frozen, or further dehydrated by heat or freeze drying.



## 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. While moderate levels of pathogenic bacteria naturally found in raw meat may not be harmful to dogs and cats who eat a raw diet, cross-contamination poses an extremely dangerous risk to the humans who encounter these pets, as well as their food and dishes. HPP allows pets to reap the benefits of a raw diet while keeping them, and their humans safe.

## Bioavailability

Comprehensive studies of HPP on proteins of raw, cooked and cured meat showed no changes in protein solubility or protein degradation and peptide, amino acids or nucleotides release. Vitamins and micro-nutrients such as iron, calcium, etc. remained stable after HPP and subsequent storage. All nutritional factors are substantially bio-equivalent to untreated controls. HPP does not affect nutritional compounds in meat nor the digestibility and bioavailability of any nutrients found in these or other food products. Your pet gets the same nutritional benefits of non-HPP treated foods except that HPP products are free of foodborne pathogens that may otherwise lead to contamination of pet handlers.





## AVURE High Pressure Processing for Pet Food



### 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 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

#### OUR BRANDS



### 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

#### OUR BRANDS



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