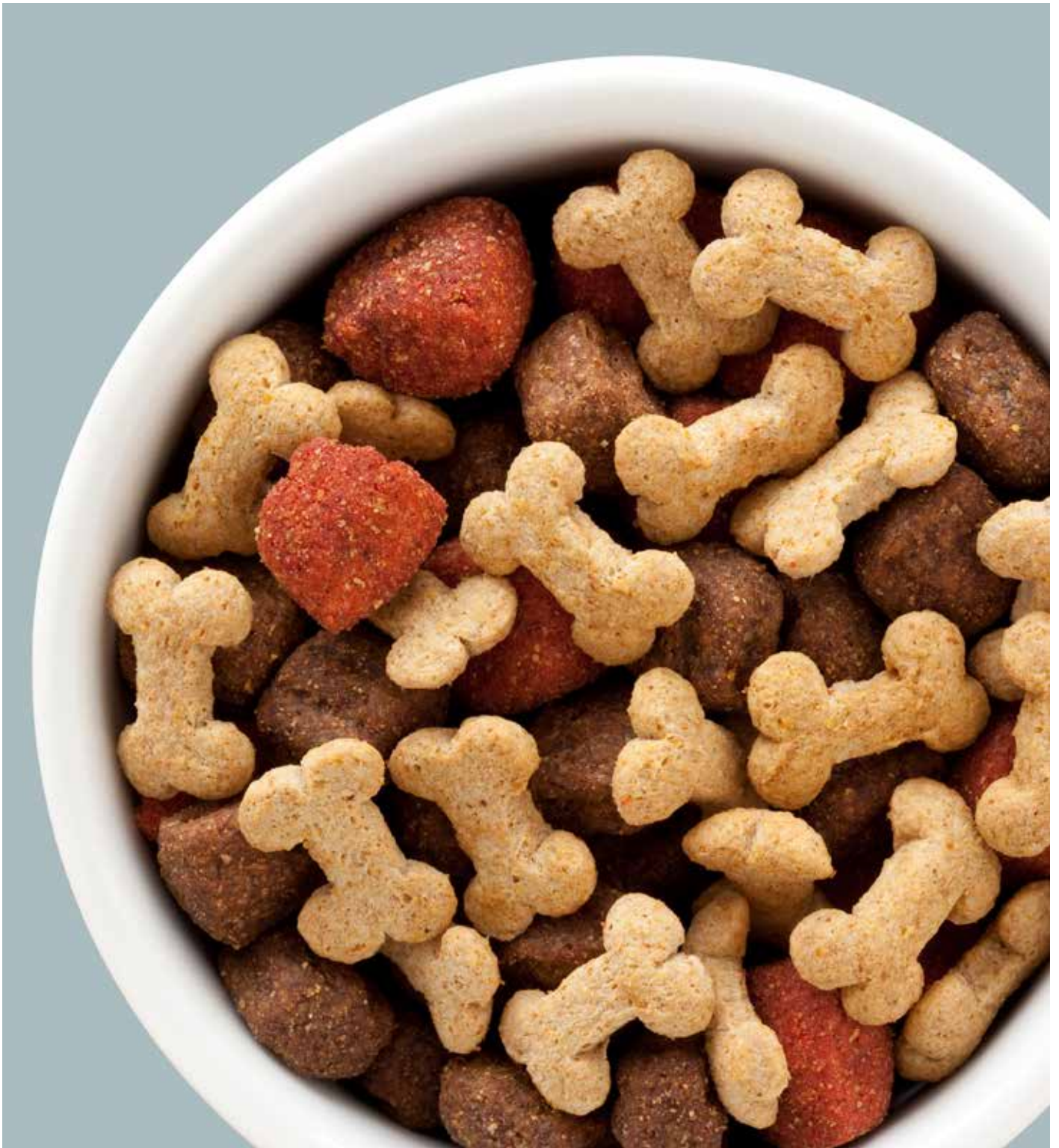




PET FOOD FILTRATION APPLICATIONS

Process Filtration



A SUCCESSFUL PARTNERSHIP

1 Tank Vent

As liquids are added, mixed, or pumped out of sealed tanks, makeup air is needed to prevent the tank from collapsing. In order to ensure that the makeup air is safe and sterile, use a P-BE tank vent housing with P-SRF N element.

2 Pre-filtered Water

Water used to feed Clean-In-Place (CIP) and Steam-In-Place (SIP) systems, and supply boilers for steam typically comes from municipal or well sources. These sources have contaminants that will reduce the life and reliability of process systems. Use a P-FG housing with a 25 micron LifeTec® PP-TF N element to purify incoming water and prolong the system's useful life by removing dirt, rust, and scale.

3 Ingredient Water

Water can be used as an ingredient to adjust the product's moisture content during the blending process. Water can also be used as a mist to deliver a uniform vitamin coating on dry food pellets. Filtered water improves the pet food quality and reduces the risk of contamination. A PF-EG housing and PES-WN 0.2 micron element will ensure that water which goes in the product is clean and free from microorganisms and particulates.

4 Steam Pre-filter

Contaminants contained in a boiler will be carried by steam and accelerate degradation of system components such as carbon steel pipes, sealing elastomers, and mechanical components like pressure reducing valves. Use a P-EG housing and P-GSL N 25 micron filter as an entrainment separator and pre-filter to provide protection for system components that use steam.

5 Culinary Steam Filter

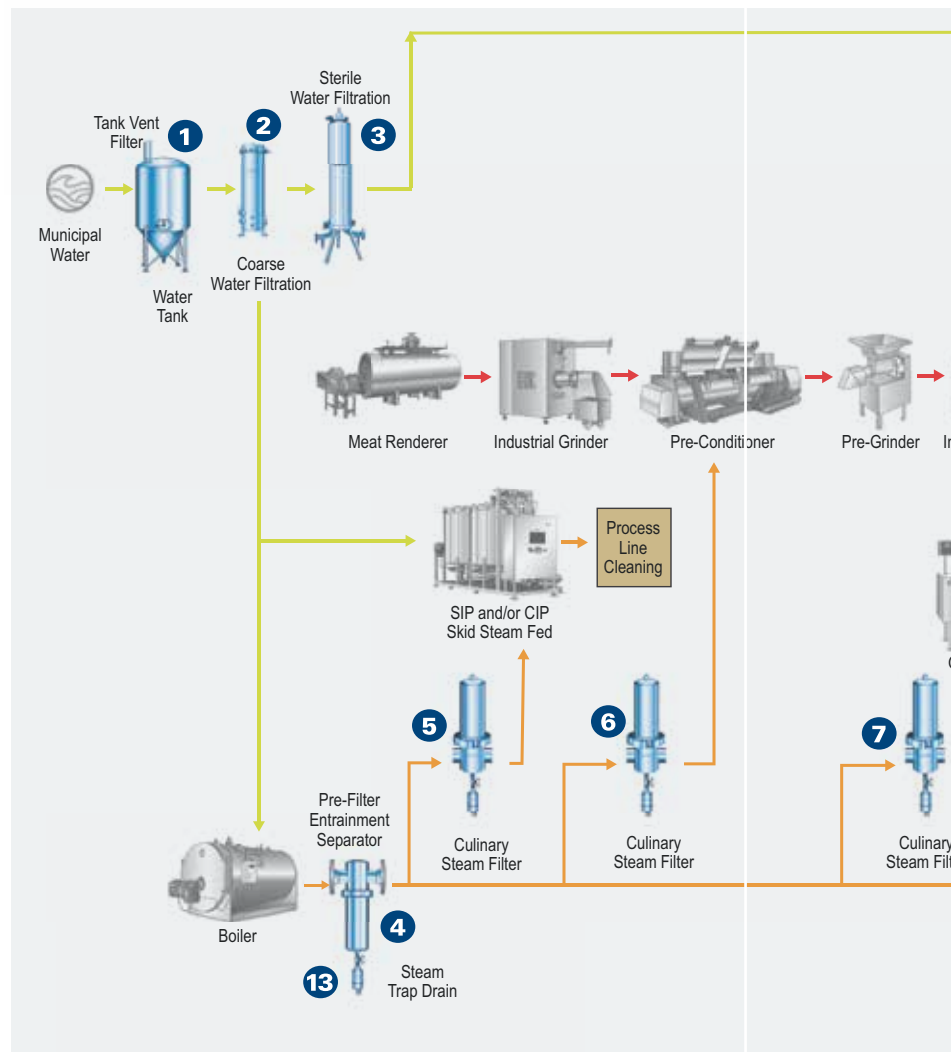
Contamination introduced by boilers can be problematic for steam-based cleaning processes. Even the smallest amount of contamination can cause problems for CIP and SIP systems by clogging spray wands and balls, making them ineffective. Use a P-EG housing with a P-GS 5 micron filter to produce culinary grade steam.

6 Pre-conditioning

After the initial grinding stage, ground meat is pre-cooked and conditioned in a continuous cooker with sanitary steam at the appropriate temperature. Use a P-EG housing with a P-GS 5 micron filter at point-of-use to produce culinary grade steam and reduce the risk of contamination.

7 Gravy Injection

Gravy can be added for flavoring and additional moisture content during the blending process. Direct steam injection is used to both warm the gravy and maintain a constant temperature during the delivery process. Use a P-EG housing with a P-GS 5 micron filter at point-of-use to directly inject culinary grade steam and reduce the risk of contamination.



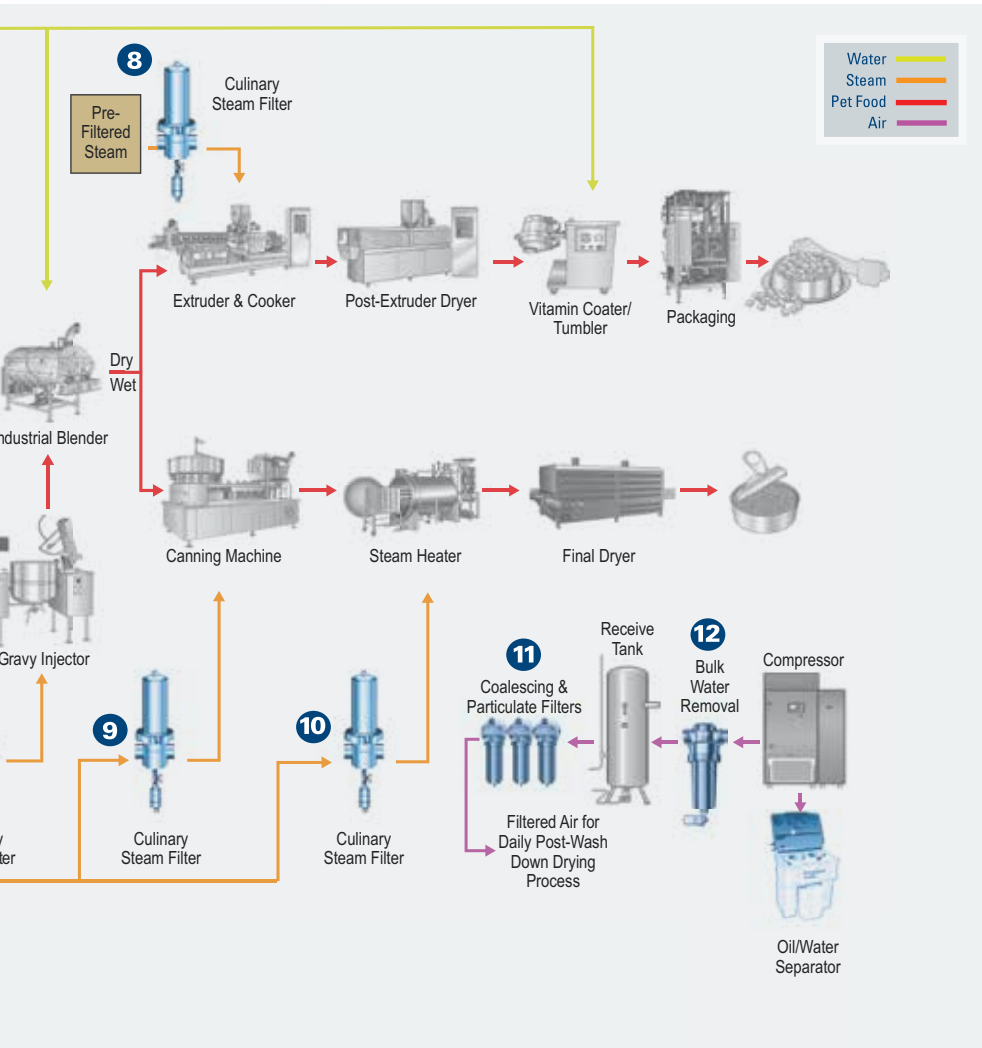
FOR THE PET FOOD INDUSTRY

8 Extruder & Cooker

Dry and semi-moist foods are extruded under high pressure through orifice plates to obtain the shape and size of the final product, i.e., biscuits, kibbles, meatballs, patties, pellets, or slices. Direct steam injection is commonly used in conjunction with high pressure to facilitate the final cooking phase of the dry and semi-moist pet food. Consider a P-EG housing with a P-GS 5 micron filter at point-of-use to produce culinary grade steam and reduce the risk of contamination.

9 Canning Machine

When canning wet pet food, best practices recommend sterilizing cans and lids with culinary steam prior to the final seal to reduce the risk of introducing contaminants. Use a P-EG housing with a P-GS 5 micron filter at point-of-use to sterilize cans and lids.



10 Steam Heater

Wet pet food is commonly cooked inside the can through the use of steam in an enclosed vessel. Long-term use of unfiltered steam can result in scaling and increased degradation on steam heater equipment. Use a P-EG housing with a P-GS 25 micron filter to remove particulates and improve the integrity of your equipment.

11 Plant Compressed Air

Chemical wash downs are performed daily to sterilize process equipment surfaces after a production run. Best practices require clean compressed air be used to dry all surfaces after a wash down. DF filter housings and elements remove dirt, oil and water aerosols to protect equipment. Use three DF housings in series with V, M, and S filter elements to meet SQF regulations for compressed air.

12 Compressed Air Condensate

Hot air leaving the air compressor is often cooled by an aftercooler or refrigerated air dryer which causes water vapor to condense. Use a DF-C cyclone separator to remove this water and ensure that storage tanks remain relatively clean and dry to prevent rust from forming. Run the condensate drains from all compressed air equipment to a DS oil/water separator

which will allow the wastewater discharge stream to be clean and compliant with environmental and safety regulations.

13 Steam Condensate

As steam cools within the system, it is natural for condensate to form. This condensate must be removed to prevent damage to the system components. Attach a stainless steel steam trap drain to each steam housing to remove unwanted condensate. This condensate can be returned to the boiler for re-use.

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- 100 years of successful global manufacturing



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