Donaldson
FILTRATION SOLUTIONS

YOGURT FILTRATION APPLICATIONS

A SUCCESSFUL PARTNERSHIP

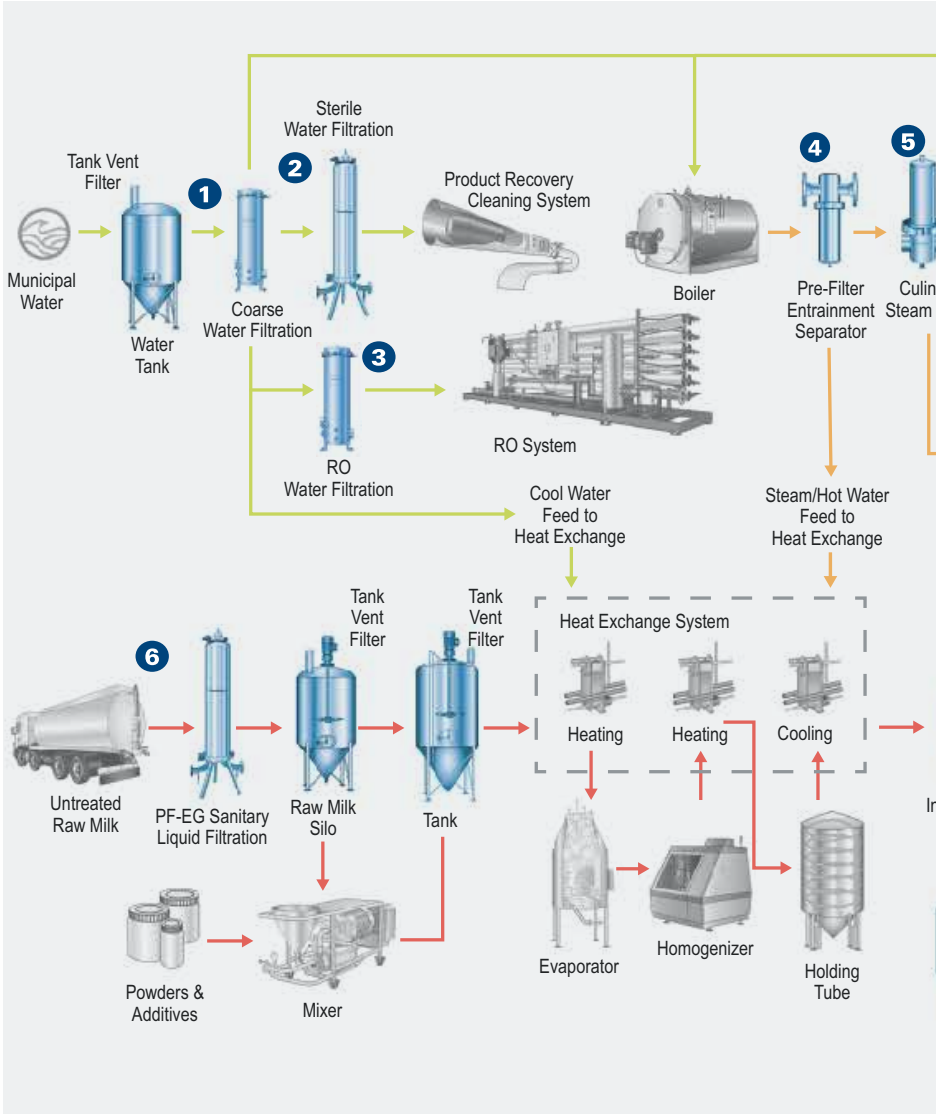
for the yogurt industry

1 Pre-Filtered Water

Water used to feed boilers for steam, provide cooling for heat exchangers, and clean process lines typically comes from municipal or well sources. These sources have contaminants that will reduce the life and reliability of process systems. Coarse filtration used to purify any water entering these systems will prolong the system's useful life by removing dirt, rust, and scale that corrode and clog the system. Use a PF-IG or P-KG housing (depending on flow rate) with a PP-TF N filter when temperatures are below 82°C. Use the P-GSL N 25 micron for high temperature condensate returns.

2 Ingredient & Process Water

Water may be used as an ingredient, or as part of the cleaning process in conjunction with a liquid propelled product recovery cleaning system to remove yogurt residue and bacteria that build-up in process lines during production. A PF-EG housing and PES 0.2 micron element will ensure that this water is clean and free from microorganisms and particulates.



3 Pre-Filtration for RO System

Ingredient water can also be supplied from a Reverse Osmosis (RO) system. Pre-filtered water to the RO system improves the longevity and efficiency of the system by removing larger containments that will dd additional wear to the system. Pre-filtering the incoming water through a P-FG housing with PP100 1 micron elements will ensure longer life and better performance from the RO system.

4 Steam Pre-Filter

The heat energy contained in steam contributes to accelerated 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, that can provide initial protection for heat exchangers and other systems that require steam.

5 Culinary Steam Filter

Contamination introduced by boilers can be especially problematic for steam based cleaning processes. Even the smallest amounts of contamination can cause problems for Clean-In-Place (CIP) and Sterilization-In-Place (SIP) systems because these contaminants clog CIP wands and spray balls, and render them ineffective. Use a P-EG housing with a P-GSL N 5 micron filter to produce culinary grade steam. Stainless drains should be installed on all steam filter housings to evacuate condensate.

6 Raw Milk Filter

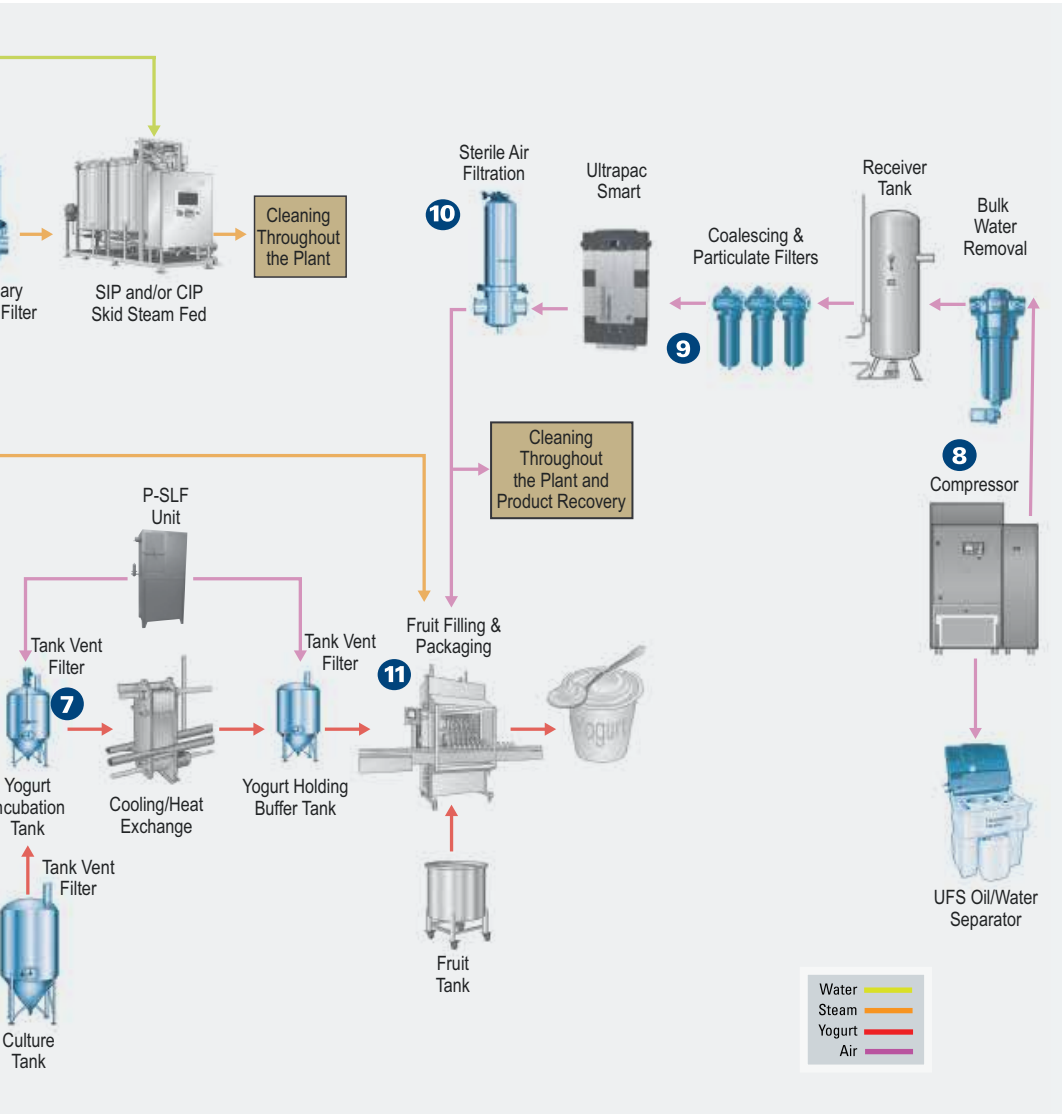
Raw milk is supplied from a number of different sources with varying levels of contamination. Types of contamination include dirt, rust and grime from shipping containers, and various sizes of organic and inorganic particulates. If left unchecked, particulates can degrade the quality of milk and contaminate the manufacturing process. Use a sanitary PF-EG housing with a PP N or GSLN filter to remove particulates from bulk raw milk to ensure a cleaner process and product.

7 Tank Vent

As yogurt ingredients or cleaning liquids are added, mixed, or pumped out of holding tanks, makeup air is needed to prevent the tank from collapsing. Makeup air is also needed when steam condenses or temperature changes during sanitation or sterilization. In order to ensure that the makeup air is safe and sterile, use a P-BE tank vent housing with P-SRF V element. In order to provide a steady flow of a revolving blanketing air cushion, we recommend the use of a mobile P-SLF sterile air unit.

8 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 UFS oil-water separator which will allow the wastewater discharge stream to be clean and compliant with environmental and safety regulations.



9 Plant Compressed Air

Other compressed air users such as airveyors, packagers, palletizers, and general pneumatic equipment should be supplied with clean, dry air to prevent malfunction. The DF filter housings and the corresponding filter elements have the ability to remove both dirt and oil and water aerosols to protect equipment. Use three DF housings in series with V, M, and S filter elements and the Ultrapac Smart from Donaldson to meet ISO 8573-1 regulations for compressed air.

10 Sterile Air Supply

Sterile air is used in processing equipment and to also remove moisture from process lines after a liquid cleaning rinse. In both instance, sterile air is required to ensure that no contamination is introduced into the final product. Donaldson's PG-EG housing with a PT-N 0.2 micron filter will ensure that sterile air used for product contact surfaces is clean and free from microorganisms and particulates.

11 Fruit Filling & Packaging

Modern yogurt filling and packaging lines require a high degree of cleanliness during normal operation. Sterile air is needed to maintain a sterile open-air environment as the cups are formed, and to counter-fill sealed yogurt tanks as they are emptied. Sanitary steam is used to sterilize foil wrappers to ensure that no contaminant is introduced before the cups are sealed by the foil.

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Membra-Check

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