



SOFT DRINK FILTRATION APPLICATIONS

Process Filtration



A SUCCESSFUL PARTNERSHIP P

1 Boiler Feed

Boiler feed and makeup water typically comes from municipal or well sources. Efficient systems will return condensed steam to the boiler as a supplemental source. Any of these options has contaminants that will reduce the life and reliability of a boiler and steam system. Coarse filtration used to purify any water entering the boiler will prolong the system's useful life by removing dirt, rust, and scale that corrode and clog the system. Use a P-FG housing with a PP-Q filter. Use the P-GSL N 25 micron for high temperature condensate returns.

2 Culinary Steam Filter

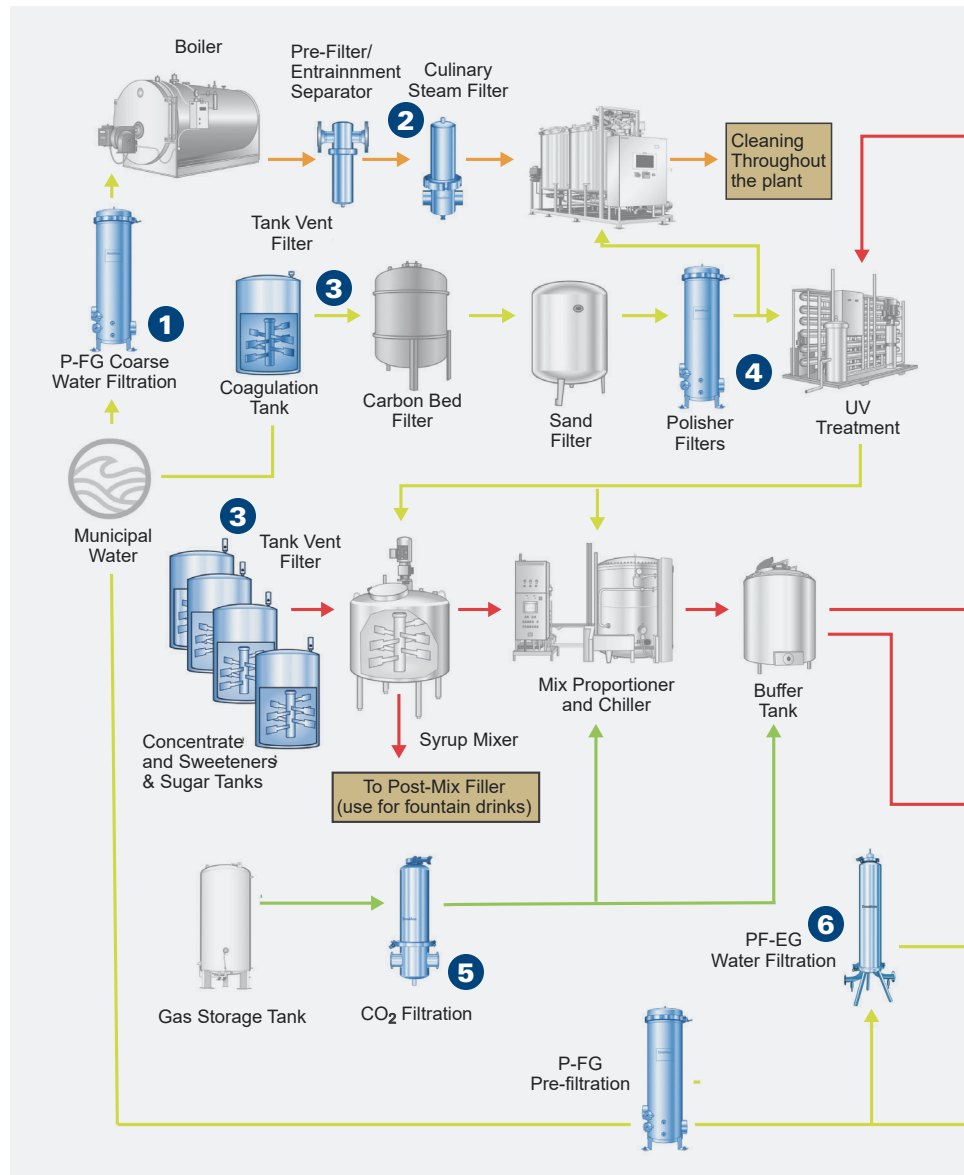
The heat energy contained in steam contributes to accelerated degradation of system components such as carbon steel pipes, sealing elastomers, and mechanical components like pressure reducing valves. This is problematic when CIP and SIP are used together because these contaminants clog CIP wands and spray balls and render them ineffective. Use a P-EG housing and P-GSLN 25 micron filter as an entrainment separator followed by a P-GS 5 micron filter to produce culinary grade steam. Stainless drains should be installed on each housing to evacuate condensate.

3 Tank Vent

As liquids are added, mixed, or pumped out of the concentrate tanks, makeup air is needed to prevent the tank from collapsing. It is also used during sanitization or sterilization when steam condenses or temperature changes. In order to ensure that the makeup air is safe and sterile, use a P-BE tank vent housing with P-SRF V element.

4 Polisher Filters

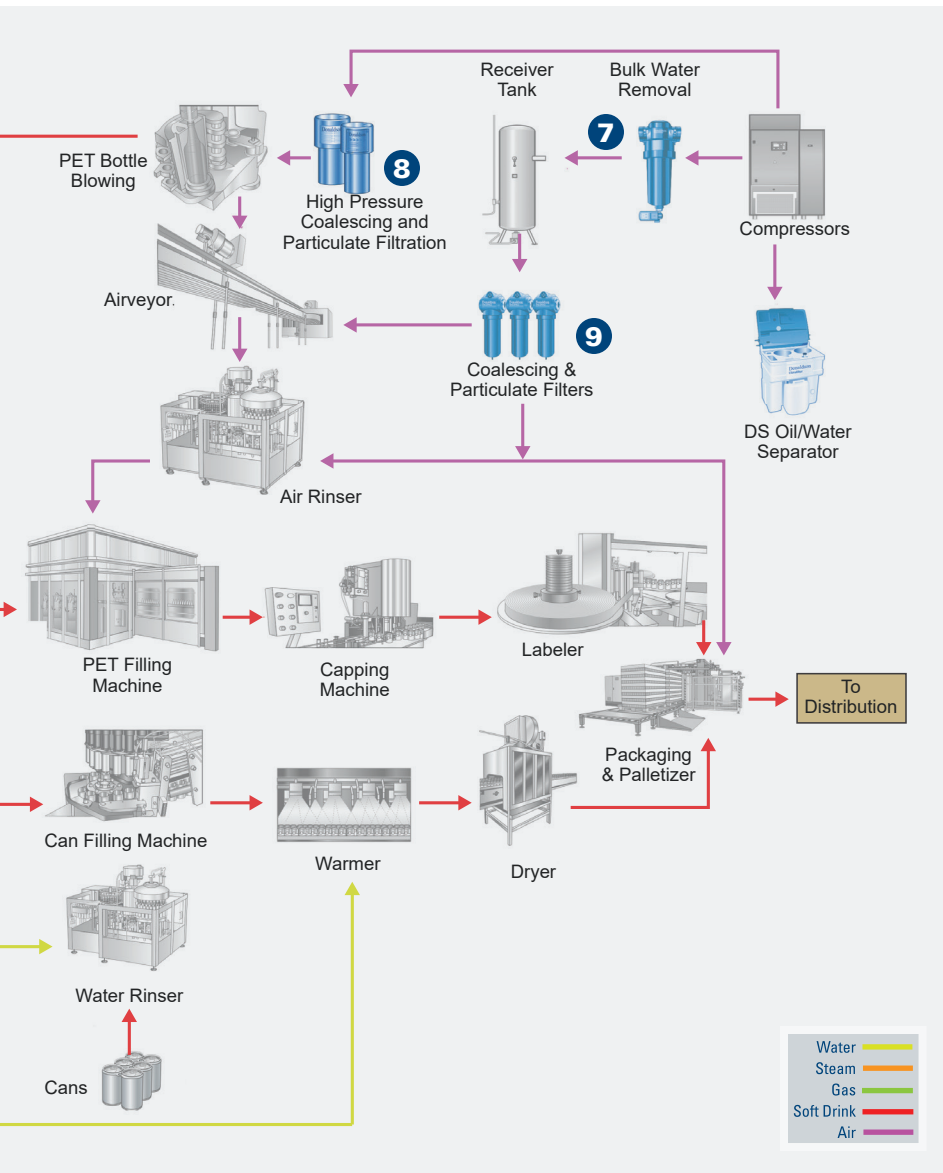
Ion exchange, sand and carbon filters have been used for years and are usually the most economical way to pre-treat water in the plant. Although these low-cost technologies do clean the water of certain contaminants such as large particles and chloramines, bits of sand and carbon often find their way downstream where they can damage more expensive and sensitive treatment equipment like UV sterilizers. A P-FG housing and PP-Q or PP-FC 5 micron elements placed after the treatment equipment ensures the downstream equipment operates smoothly.



FOR THE SOFT DRINK INDUSTRY

5 CO₂ Filtration

CO₂ is stored under pressure to save space. In doing so, it is often compressed with a mechanical compressor and should be filtered in a way similar to compressed air in order to ensure oil aerosols or vapors are not present, as these can cause off-tastes or films in beverage products. Another concern with CO₂ is that it is in part produced as a hydrocarbon combustion by-product. A PG-EG housing with an AK element will help to remove any hydrocarbons that did not fully oxidize and improve purity.



6 Rinse Water

Water is used to remove dust and dirt in cans before they are filled to ensure cleanliness. The water must also be filtered to ensure the effectiveness of this operation. A PF-EG housing and LifeTec™ PES-WN 0.2 micron element will ensure that water used for product contact surfaces is clean and free from microorganisms.

7 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.

8 High Pressure Coalescing and Particulate Filtration

For plants that are making their own plastic bottles, high pressure sterile air is required to expand the preforms. The HD high-pressure housing and SRF filter are well-suited to this application and will help ensure that the warm soft bottles are not impacted with impurities.

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 combination housings are three housings in series with coalescing and activated carbon elements. These housing combinations have the ability to remove sediment, and aerosols such as water and oil to protect equipment.*

*Microorganism retention rates not tested and certified by NSF.

SUPPORTING PROCESS AND PRODUCT INTEGRITY

Extensive Product Portfolio

- Process air, steam and liquid filtration products
- Performance engineered to sanitary guidelines
- Wide range of filtration media for any application
- Housings, elements, and parts in-stock, ready to ship

Advanced Technology

- Optimized filtration performance and efficiency
- Extensive research and development capabilities
- Advanced design and testing capabilities
- Over 1,000 engineers and scientists worldwide

Unrivalled Support and Expertise

- Expert technical specialists available as resource
- Comprehensive pre- and post-sale support
- Extensive filter analysis and trouble-shooting
- 100 years of successful global manufacturing



Registered



Standard No. 10-04*



Member of



Member of



Member of



This L30™ PPS-05 Series is Tested and Certified by NSF International against NSF/ANSI Standard 42 for material requirements only.

COMPONENT



This L30 Series with PPS-05 is Tested and Certified by NSF International against NSF/ANSI Standard 42 for material requirements only.

COMPONENT



This L30™ PPS-05 Series is Tested and Certified by NSF International against NSF/ANSI Standard 42 for material requirements only.

COMPONENT



donaldson.com/process

Donaldson Company, Inc.
Minneapolis, MN

Contact us



Important Notice: Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, specifications, availability and data are subject to change without notice, and may vary by region or country.

F117061 ENG (01/24) Soft-Drink-Applications ©2024 Donaldson Co., Inc. All Rights Reserved. Donaldson and the color blue are marks of Donaldson Company, Inc. All other marks belong to their respective owners. (Contains Donaldson proprietary technology.)