NON-ALCOHOLIC BEVERAGE FILTRATION APPLICATIONS

Process Filtration
A SUCCESSFUL PARTNERSHIP FOR THE NON-ALCOHOLIC BEVERAGE INDUSTRY

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-PT or P-FG housing (depending on flow rate) with a PP-TF filter when temperatures are below 180°F. 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-TF or PP-FC 5 micron elements placed after the treatment equipment ensures the downstream equipment operates smoothly.
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. An activated carbon filter will remove anything that did not fully oxidize and ensure 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 P-FG housing and PES 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 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 housings and elements have the ability to remove both dirt and oil and water aerosols to protect equipment.
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.

SUPERIOR FILTRATION. MAXIMUM PROTECTION.

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

Unrivaled 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

Donaldson Company, Inc.
Minneapolis, MN
donaldson.com
shop.donaldson.com

Australasia
marketing.australia@donaldson.com
Brazil
vendas.brasil@donaldson.com
China
info.cn@donaldson.com
EMEA
europe@donaldson.com

India
india@donaldson.com
Japan
ndl-ultrafilter-web@donaldson.com
Korea
cap-kr@donaldson.com
Latin America
industrialair@donaldson.com
North America
processfilters@donaldson.com
South Africa
samarketing@donaldson.com
Southeast Asia
asia.salesenquiry@donaldson.com

F117061 ENG (03/19) Brochure Name
© 2016 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.)