



Donaldson
FILTRATION SOLUTIONS

WINE FILTRATION APPLICATIONS



A SUCCESSFUL PARTNERSHIP for the wine industry

1 Water Polishing

Water used for amelioration, regeneration of the cartridges, sanitation, equipment washdown and feeding the boiler must be polished to reduce the risk of particulate causing equipment failure or contaminating the final product. A key component to preparing water for amelioration is removing chlorine. Use a PF-EG with carbon block elements to remove the chlorine. After the carbon block elements, it is important to filter particulate prior to using the water. To remove bulk particulate, use a PF-IG housing and LifeTec™ PP N and LifeTec™ PP 100 N elements to protect your RO system, when occurring.

2 Bulk Steam Filtration

Steam is an important part of sterilization in wineries because of the introduction of bacteria during the fermentation process. The first step to supplying your facility with quality steam is to remove bulk particulate and excess moisture from the steam. Use an inverted P-EGS housing and a 25 micron full stainless steel LifeTec™ P-GSL N element and steam trap to remove the particulate and condensate. To achieve culinary grade steam, filter the steam with a P-EG S housing and a 5 micron LifeTec™ P-GSL N element.

3 SIP and CIP

Larger wineries may have steam or water fed SIP and CIP systems to clean and sterilize equipment without disassembly. Filtered water and steam are essential to avoid product contamination and equipment downtime.

4 Bottle Rinsing

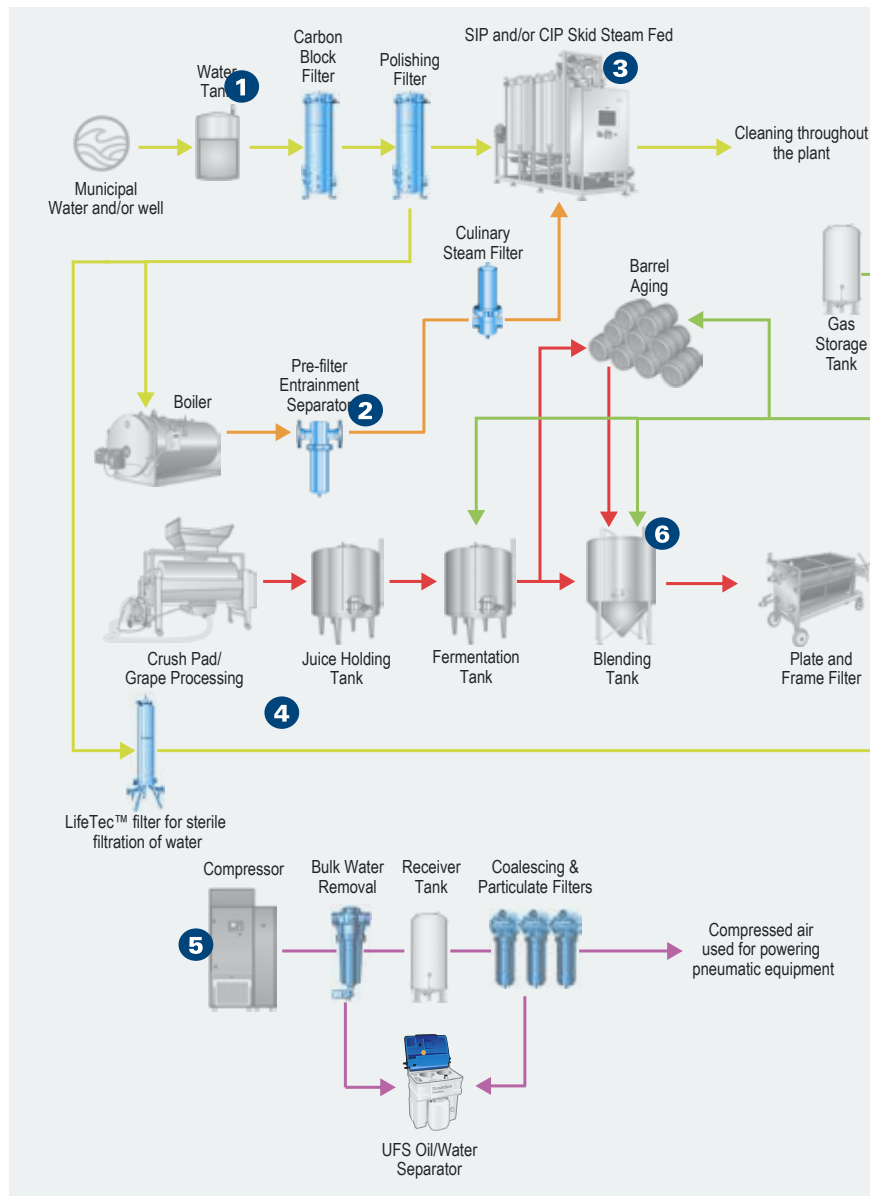
Bottle rinsing is a critical process for limiting the presence of particulate and microorganisms in wine. Rinsing the bottle with sterile water will help to remove unwanted particulate and microorganisms prior to filling and corking. The use of sterile water in combination with caustic chemicals is important to keep the wine microbiologically stable. Use a Donaldson PF-EG sanitary liquid housing and LifeTec™ PES WN 0.2 micron element to achieve sterile water.

5 Compressed Air Filtration

Compressed air is used to power the pneumatic tools and instrumentation on bottling lines. Clean, dry compressed air is important to prevent equipment breakdown and promote purity throughout a process. Removing oil, moisture, hydrocarbons, and particulate is easy with the Cyclone Separator and DF housing combinations. The UFS Oil/Water Separator will separate the oil and condensate collected from the compressed air line and prepare the condensate for environmentally safe disposal.

6 Wine Making

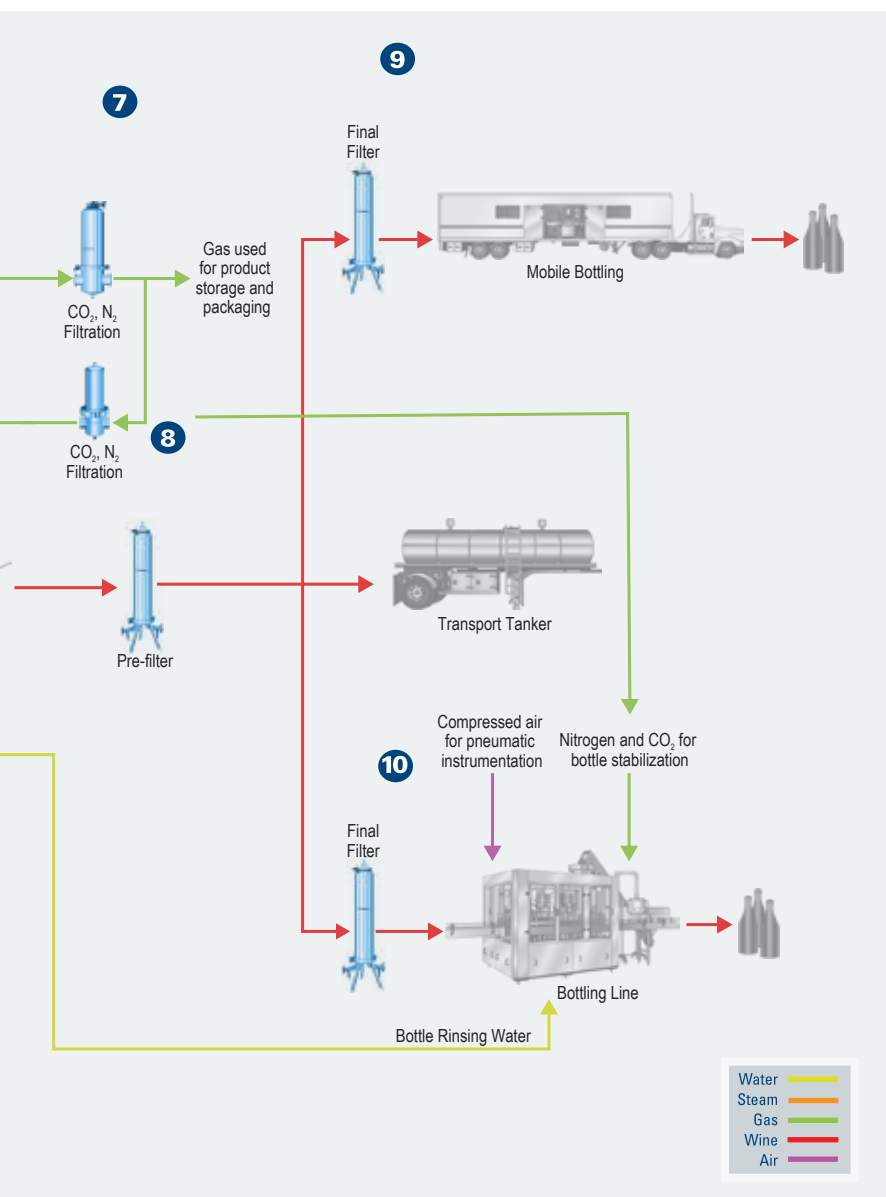
Every winery has their own methodology for making wine. A common practice among wine makers is to include residual sugars in the wine for a slightly sweeter profile. Including residual sugar in the wine means that there is a



possibility of further fermentation. Wine pre-filtration and final filtration will assist in removing articulate and live yeast cultures that could spoil the wine.

7 Gas Filtration

Nitrogen is a commonly used gas in a wine production process. Nitrogen is used to prevent oxidation of wine by blanketing the blending tanks and as a mechanism to purge oxygen from the bottles prior to corking. These gases come in direct contact with the wine so sterile filtration is crucial. Use a PG-EG housing and LifeTec™ P-SRF V or C elements.



8 Wine Pre-filtration

Once fermentation is complete, wine can be moved to barrels for barrel aging, or blending tanks to rest. Whether a mobile bottling operation is being used or if the wine will be bottled on-site, prefiltering is an important step in protecting the flavor profile of the wine. The pre-filter will capture sediment and particulate, polishing the wine and protecting the final filter from being overburdened. There are multiple technologies used for the prefiltration process including plate and frame and lenticular filtration, which are known for oxidizing the wine or releasing diatomaceous earth into the wine. Donaldson suggests a PF-EG sanitary liquid housing and LifeTec™ PP N/PP100 N elements.

9 Mobile Bottling Final Filtration

Due to the large investment required to bottle wine, many wineries opt to have a mobile bottler package their wine. The final filter used by the mobile bottler will remove yeast cultures from the wine and recover colour brilliance. For wine final filtration, Donaldson suggests a PF-EG sanitary liquid housing and a large choice of filtration solutions, from nominal LifeTec™ PP N to LifeTec™ PP100 N elements, ranging from 5 to 0.8 µm. Whenever required, our LifeTec™ PES-BN range will support a safe wine microbiology with 0.6 to 0.45 micron elements (i.e. Lactobazillus L., Pediococcus D. and Sacchamromyces C.). The Donaldson LifeTec™ range comes with full documentary quality control and certificates to support your traceability process.

10 Stationary Final Filtration

Whatever kind of prefiltration the wine went through, when it comes to the stationary final filtration of the wine, Donaldson suggests a PF-EG sanitary liquid housing and a wide range of filtration solutions, with nominal LifeTec™ PP N to LifeTec™ PP100 N elements, ranging from 5 to 0.8 µm. The success of Donaldson's LifeTec™ product range is based on a state-of-the-art clean room manufacturing concept and the sturdy construction of the filter liners, offering best-in-class sterilization cycles.

SUPERIOR FILTRATION. SOPHISTICATED SERVICES.

Your partner for a wide variety of service solutions

To enhance and complement our field services, we provide highly sophisticated in-house laboratory services to validate oil aerosols, oil mist, particle size or concentrations.

- Integrity Test Membranes (Membra-Check)
- Integrity Test Depth Filtration (Filter Test Center)
- Differential Pressure Measuring
- Particle Spectrum Analysis for Liquids
- Test Filtration for Compressor Condensate



Membra-Check



Filter Test Center (FTC)



Donaldson.
LifeTec™

Filters for Liquids, Sterile Air and Steam..



Donaldson.
FILTRATION SOLUTIONS

Total Filtration Management

Donaldson offers a wide variety of solutions to reduce your energy costs, improve your productivity, guarantee production quality and help protect the environment.

Total Filtration Service

A comprehensive range of services keeps your production at peak performance and at the lowest total cost of ownership.

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