



## BREWERY FILTRATION APPLICATIONS



# A SUCCESSFUL PARTNERSHIP

## for the brewing industry

### 1 Process and Rinse Water

Water is used both as an ingredient in the Mash and also as process water to rinse the sugar from the grain in the Lauter Tun. In both cases, PF housing and LifeTec™ PPN 5 micron elements filter the water to remove particulate.

### 2 Sterilizing in Place (SIP Skid)

Filtered steam is essential to avoid product contamination and equipment downtime. Donaldson's P-EGS housing and P-GSL N 25 and 5 micron steam element ensures purified steam for your SIP system.

### 3 Boiler Feed Water

Feed water consists of both returned condensate and fresh make-up water, and should be filtered. Any contaminant in the feed water can be introduced into the steam distribution system. Clean water produces purified steam and helps maintain high boiler efficiency. Donaldson PF-EG housing and P-GSL N filter element are designed to handle the high temperatures and solids loads associated with feed water filtration.

### 4 Steam Heated Mash and Lauter Tun

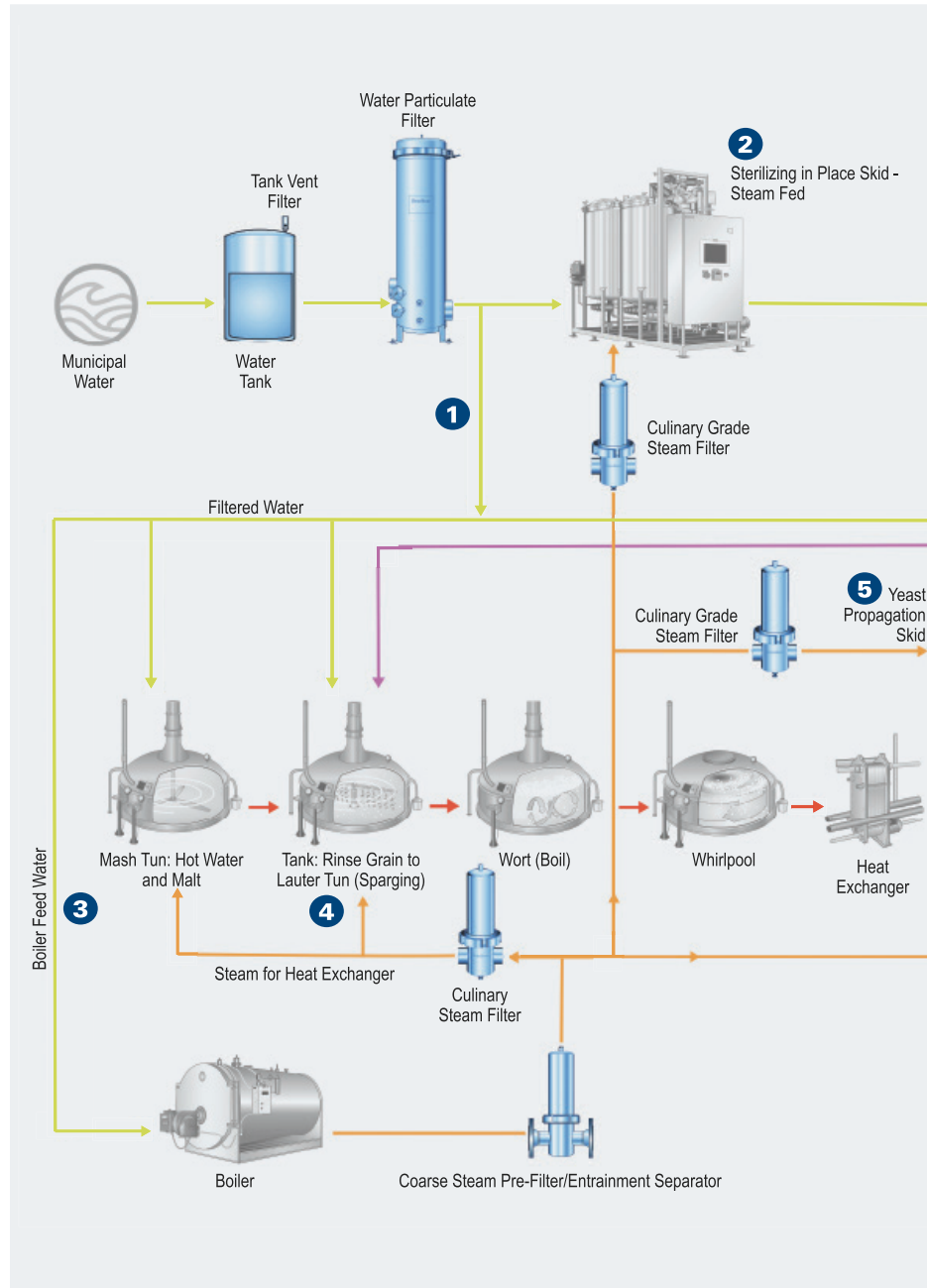
Steam can be in-directly used in the Mash or Lauter Tun as a consistently, reliable heat source. Removing rust, scale, and dirt from steam is essential so that heat transfer equipment operates without issue. Donaldson's P-EGS housing and P-GSL N 5 micron filter element removes contaminant that could reduce heating efficiencies over time.

### 5 Yeast Propagation Systems and Wort Aeration

Wort Aeration and Yeast Propagation Systems require sterile air and oxygen to aid in the start of fermentation. Steam Filtration is used to sterilize the equipment between batches. Air is used to "kick start" the fermentation process; specifically, filtered air ensures that nothing is compromised during this critical step. Using Donaldson's Culinary Steam and Sterile Air Filtration ensures that yeast growth is done effectively and consistent each time.

### 6 Plant Compressed Air

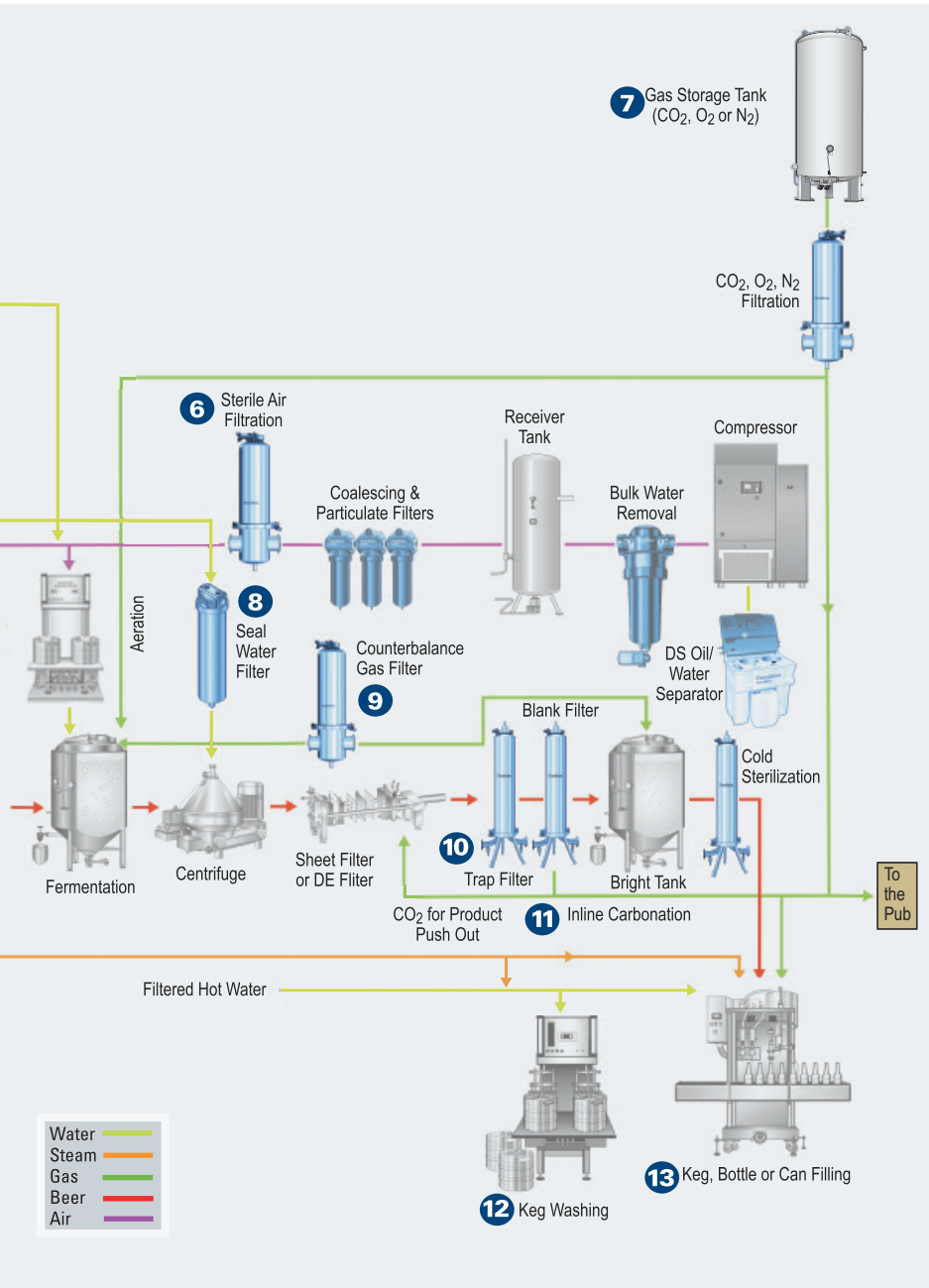
Contamination in compressed air systems can come from many sources. Dust particles, hydro-carbons and humidity are collected from the environment and concentrated by the air compressor. Oil aerosols from the compressor lubricant and rust particles from the piping can break free and enter the compressed air stream. Donaldson's DF series filtration ensures equipment continues to run without disruption as well as provide essential pre-filtration for sterile air elements.





**7 Product Push Out**

At times, CO<sub>2</sub> may be used to push out product and clean processing lines. Donaldson's P-EG housing and P-SRF C filter element ensures that the CO<sub>2</sub> is sterile and will not contaminate the finished beer or equipment.



**8 Centrifuge Seal Water**

Seal water is used to provide a hydrohermetic seal that ensures minimal O<sub>2</sub> intake in the clarified beer. The PF -EG housing and P-GSL N 5 micron filter element ensures that the seal is effective.

**9 Counterbalance Filter**

Counterbalancing is used as an alternative to tank ventilation when designing to minimize oxygen ingress. Donaldson's P-EG housing and P-SRF V sterile air filter placed in the balance line will prevent cross-contamination.

**10 Trap Filter / Blank Filter**

The Trap filtration is installed to ensure a Diatomaceous Earth (DE) – free beer while maintaining the unique characteristics and flavor. The subsequent Blank Filter removes unwanted trub and ensures a bright and clear beer. For both filtration steps Donaldson's LifeTec PP100 N & PP N elements with our sanitary PF-EG filter housings are a recommended filter combination.

**11 In-line Carbonation**

Venturi pipe aeration systems are a method of carbonating beer. Filtration of the CO<sub>2</sub> gas is one way to help ensure quality standards are maintained. Donaldson's P-EG housing and P-SRF C filter element ensures that the CO<sub>2</sub> is sterile and will not contaminate the finished beer or equipment.

**12 Keg Washing / Sterilization Equipment**

Ensuring that finished beer is put into clean containers is essential in protecting your investment. When cleaning and sterilizing kegs, it is important for the rinse water to be properly

filtered in order to remove critical contaminant. Donaldson's PF-EG housing and nominal LifeTec filter element can provide the necessary point of use filtration.

**13 Cold Sterilization and Filling Machine**

In the last filtration step before filling, Donaldson's LifeTec PES-BN filter range removes beer spoiling microorganisms and ensures a long shelf life. Donaldson's P-EG housing and sterile gas filter is used to clean bottles and purge oxygen before filling. The sterile air filter P-SRF C ensures that the counter pressure gas used during the filling process is free of any microbiological contamination. Donaldson's filtration helps support integrity of these processes.

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