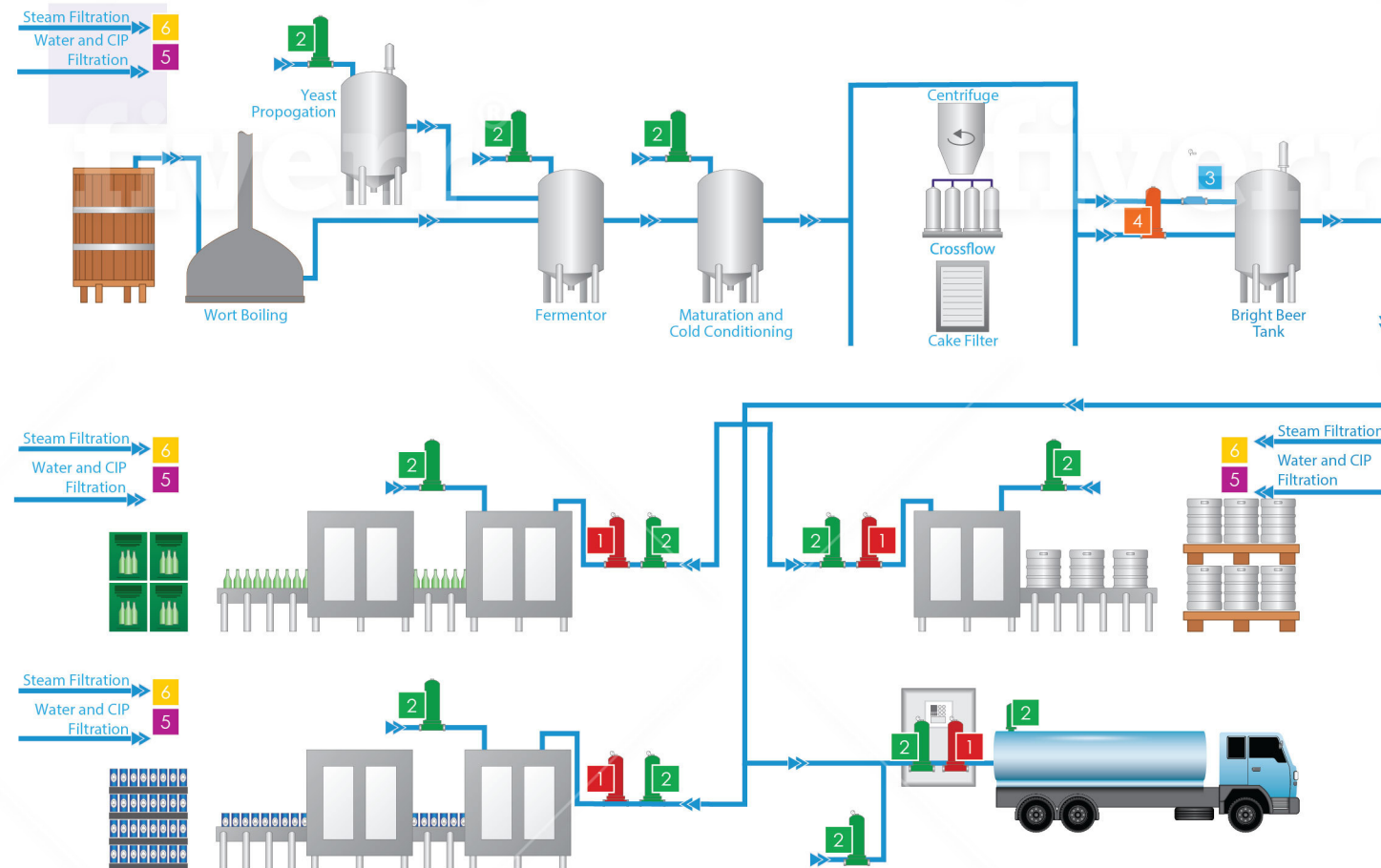


# Filtration within the Brewing Process

VAN BORSELEN FILTERS



## 6 Steam Filtration

Culinary steam filtration is vital for the sterilisation of bottling and canning lines, product packaging, sterilising equipment, removing pipe-scale, and the prevention of fouling of valves and injectors. A culinary grade filter will ensure that membrane filters further downstream are not damaged by particles entrained in the steam.

**Van Borselen products designed for this application:**

- BorsoPorous Sintered Metal Powder

## 5 Process Water and Chemical (CIP) Filtration

Clean filtered water is vital throughout the brewing process and each stage has differing filtration requirements dependent on its use within production. Filtration is applied to deaerated liquor, bottle washing, chlorine reduction and cleaning in place solutions for process equipment.

**Van Borselen products designed for this application:**

- BorsoPES-Biological
- BorsoCrypto
- BorsoPleat-P
- BorsoPleat-K
- BorsoPleat-M
- BorsoPleat-T

## 1 Stabilisation and Sterilisation

Stabilisation of the beer is crucial to protect the beer during storage, extend the shelf life and protect systems further downstream. This filtration stage reduces the microbial loading whilst retaining colloids to prevent beer haze and assist in filling operations.

Sterilisation is a fine filtration stage to remove spoilage organisms to extend the shelf life without compromising the flavour of the final product.

**Van Borselen products designed for this application**

- BorsoPES-Biological
- BorsoPES-Biological PLUS
- BorsoVino
- BorsoNylo•BorsoPVPP

## 3 Pre filtration and Clarification

Prefiltration and clarification are important to ensure an economically viable process.

Prefiltration with absolute grade filters ensures that the bulk of solids are removed, bioburden is reduced and sterile membrane filtration is cost-effective.

**Van Borselen products designed for this application:**

- BorsoPleat-P
- BorsoPleat-K
- BorsoPleat-M
- BorsoPleat-T
- BorsoPES-Aqua
- FilterModules XE and AF
- Filtersheets XE and AF
- Cross Flow - Cerinox
- SECUJET - Precoat Candle
- Filter-O-Mat (FOM) Leaf Filter

## 2 Sterile Process Gases and Venting

Compressed gases such as carbon dioxide, nitrogen and oxygen come into direct contact with the beer during its manufacturing process. These operations include feed-gas for fermenters, maintaining 'top-pressure' in storage vessel and bottle filling. It is vital that these gases are sterile to prevent contamination of the product to ensure quality and shelf-life.

Sterile venting is critical for product storage vessels, pipelines and packaging to prevent contamination. An effective tank filter will ensure sterility while reducing the risk of damage due to pressure changes during empty-fill operations and steam condensation.

**Van Borselen products designed for this application:**

- BorsoPTFE
- BorsoPTFE PLUS
- BorsoPleat-C
- BorsoVEN

## 4 Guard Filtration

Primary filtration processes can sometimes fail to effectively remove yeast or release powder. Guard filtration can be used to remove yeast in case of process problems and capture powder released during cake filtration.

**Van Borselen products designed for this application:**

- BorsoPleat-P
- BorsoPleat-K
- BorsoPleat-M
- BorsoPleat-T



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