



Carlbrew Filtration
Total filtration for the brewing industry



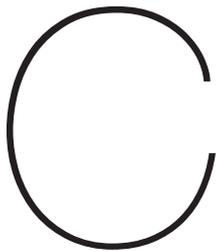
A range of ales, lagers and bitters
treated with Carlson filters



Introduction

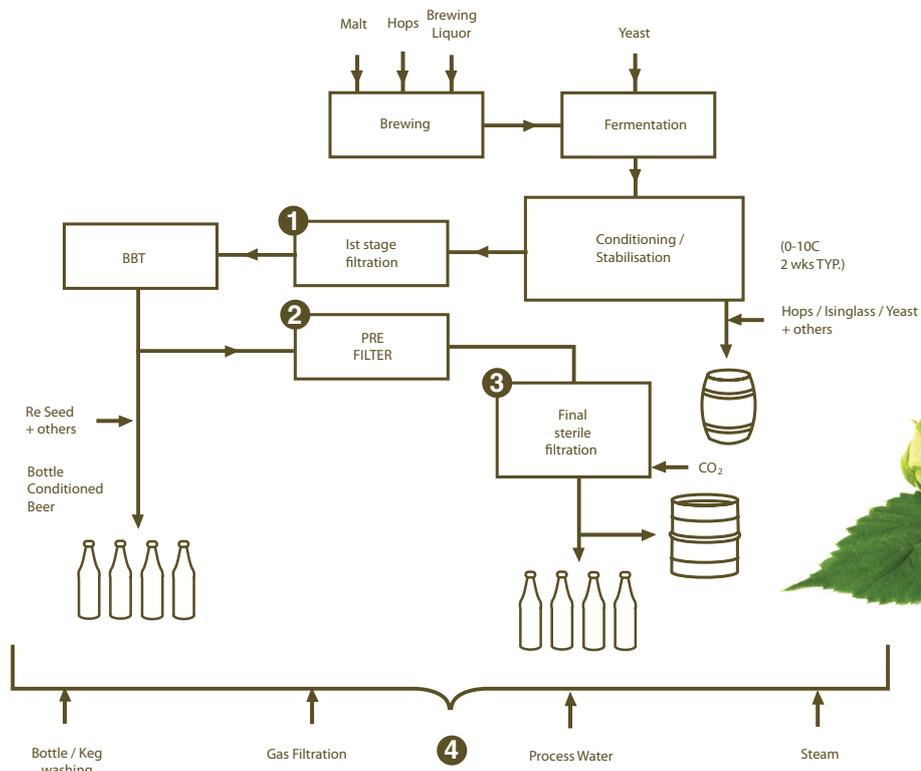
The role of filtration in any brewery is vital to the production of bright, haze free, stable beer.

Beer Filtration

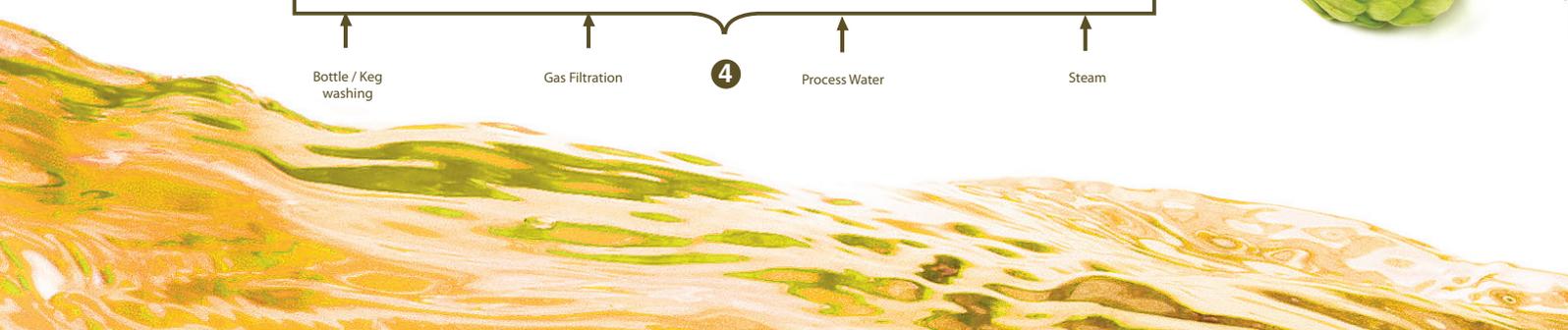


Carlson Filtration has been supplying the brewing industry with filtration solutions for over 8 decades and are highly regarded for their expertise in the filtration process. Whilst technologies have expanded, the main objectives of stable, fresh, bright beer have remained the same.

Typical Process for: Micro Brewing / Craft Brewer / Small Brewer

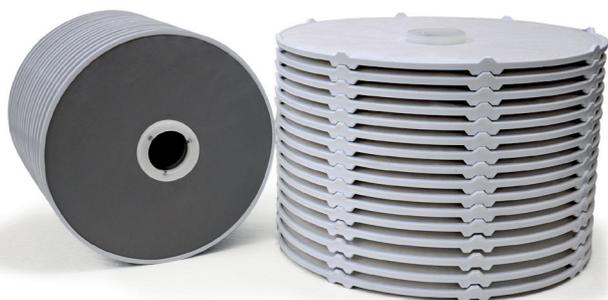


1. 1st stage filtration
2. Pre filter
3. Final Sterile filtration
4. Ancillary filtration



Carlson filters are used in some of
the worlds best beers

Carlson plate and frame filters



Lenticular filters and
Carbon filters



The 1st Stage Filtration can be done in a number of ways depending on the condition of the beer from cold store (maturation). Ideally the beer should be as bright as possible from maturation, but this is not always the case.

1. 1st Stage Filtration

Kieselguhr or Diatomaceous Earth is a common filter aid (powder) used in the first stage of beer filtration. This filter aid is added directly to the beer prior to a frame filter press and traps the small yeast particles and stops them from blinding the filter surface. This is commonly used where condition time is limited and large volumes of beer requires filtering quickly. Carlson offer a range of complete kieselguhr filtration systems designing dosing rates and kieselguhr type to suit the specific beer requirements.

Where the conditioned beer quality is higher the addition of loose kieselguhr is not required. In these instances Carlson's range of filter media, impregnated with kieselguhr, can be utilised directly in a filter press or in a lenticular module format. Carlson will design this into a total filtration system or as a specific beer filter to meet your requirements.

For small volumes or particularly bright beer from conditioning, Carlson can supply specifically designed cartridge filters for this first stage of filtration.

The beer will typically be held in a bright beer tank after this stage prior to the specific route to packaging.

2. Pre-Filtration

Beer being processed for sterile packaging requires pre-filtration prior to its final sterile guard filter. This is an important stage of the sterile filtration route as this is where the work is done. The pre-filtration is responsible for the removal of the bulk of spoilage organisms and will produce sterile beer. This step utilises Carlson's range of sterile filter media, held in either a filter press or lenticular filter module format. This special filter media is designed specifically to remove beer spoilage organisms with a large capacity to ensure long and efficient service life.

The pre-filtration stage, for small volumes, can be carried out with the use of

specialist cartridge filters. Carlson will offer the best economic solution to suit your specific current and future needs.



3. Final, Sterile Filtration

The final stage of sterile filtration is critical to the quality and life of the beer once packaged. This final stage is done close to the packing line to avoid the possibility of any further contamination. Whilst this is called sterile filtration it is really a guard or policing filter to ensure no contamination passes through to the final packaged beer. As a critical part of your beer production process it requires a high quality membrane designed specifically to target beer spoilage organisms.

Carlson will ensure the correct filter is put in use, checking size against required flow rate, pressure and back pressure requirements for optimal performance and supplying the sanitary designed housing to suit.

4. Ancillary Filtration Requirements

To fulfil the total filtration requirements of a small to large brewery Carlson can advise on and provide all the ancillary filtration needs. These would incorporate process water for bottle / keg washing and tank cleaning, brewing liquor (water softening and de-aeration), steam filtration and CO2 filtration for sparging and blanketing.

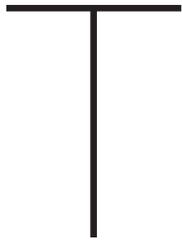
Total Package

Carlson's Technical team can provide on-site support and offer a total filtration solution to meet your brewery's needs. Every customer's needs are slightly different and require a specific bespoke solution.

Carlbrew Filtration

Total filtration for the brewing industry

Filter sheets



To eliminate the specific contaminants associated with the filtration of beer Carlson Filtration has developed a range of filtration media specifically for these purposes which are available in all customary sizes. Special formats to suit a variety of filter presses are available upon request. Further information on the Carlson range of sheets can be obtained either from your Carlson representative or the company website.

Lenticular modules

The lenticular module offers a compact, self contained, liquid filtration solution utilising proven filter media technology.

The lenticular module can incorporate the full range of Carlson Filtration filter media.

Carlson Carlent lenticular filters are essentially composed of Carlson depth filter media, supported on a polypropylene skeleton and supplied in modular format normally comprising of 16 cells of either 12" (300mm) or 16" (400mm) diameter. They offer all the advantages of traditional filter sheet filtration but in a totally enclosed, sterile environment, thus eliminating product losses and external contamination. They are designed to fit industry standard housings incorporating 1,2,3 or 4 modules.

For further information on this product and the associated housings please see our **Carlent** brochure.

Complementary Filtration

Cartridges, Bags and Housings.

Carlson can also offer a comprehensive range of cartridges from wound, thermal bonded and pleated through to PES membranes as well as bags in felts of Viscose, Rayon, Polypropylene, Polyester, Nylon or Nylon monofilament. They are available for either new application or to retrofit to current installations. A full range of housings are also available to compliment this range.

For further information please see our **Carlcart** brochure.

Filtration Equipment and Spares

New filter equipment

Carlson offers a comprehensive range of new filtration equipment, incorporating a full range of filter presses and plate and frame filters. The range includes plate and frame and sheet filters from 20x20cm to 120x120cm of varying lengths. Manual models and fully automatic closing systems are available. Test equipment i.e. 6cm housings and 2 sheet 20cm press is also available.

Filter spares

Another important element of Carlson's support service is to supply spare parts for their filter range. These are categorised into:

- Consumable spares which include eyelet seals in a host of materials including Nitrile, Silicon, Natural Rubber, EPDM, Butyl and Viton.
- Servicing spares including pump spares, sight glasses, valve diaphragms and pressure gauges etc. Service kits for hydraulic filter press closing systems are also available.

Reconditioned filter equipment

Carlson also offers reconditioned sheet and plate and frame filter presses. We have developed a wide ranging network of contacts in the filter press community as well as amongst dealers in used factory equipment. On arrival at Carlson's factory all filters are rebuilt to exacting standards to meet customers filtration requirements and to achieve an "as good as new" quality.

Dealer stamp



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