



All in Good Spirit

FILTRATION SOLUTIONS FOR CRAFT DISTILLERS

Objective

Craft distillers have similar objectives as larger producers with regards to the quality of spirit produced and removal of haze. As such, filtration prior to bottling is vital to ensure long shelf life, stability and minimal turbidity. To this end, the removal of hazes and the precursors to haze formation is particularly important.

Challenges for the Craft Distiller

Larger producers tend to use filter presses which are specifically designed for high capacity and flows in demanding spirit applications and environments and which can incorporate multi-stage filtrations, i.e. coarse to polishing in one pass. For craft distillers, smaller filter presses can be employed and used in the same way as their larger compatriots and, when used with the same Carlson Filtration XS speciality filter media, can achieve a similar quality of spirit and haze removal as larger presses.

However, due to smaller, in-frequent batches and varied product changes from white to dark, or blend to premium spirits, craft distillers sometimes require a more flexible, easy to use, cost effective filtration system, without compromising product quality.

Solutions for the Craft Distiller

Modular Systems

Another option to the filter press and one whose use is growing world-wide in the spirits industry is the lenticular module. Incorporating exactly the same speciality XS filter media as in the filter press but designed into a module for mounting in a completely sealed simple housing.

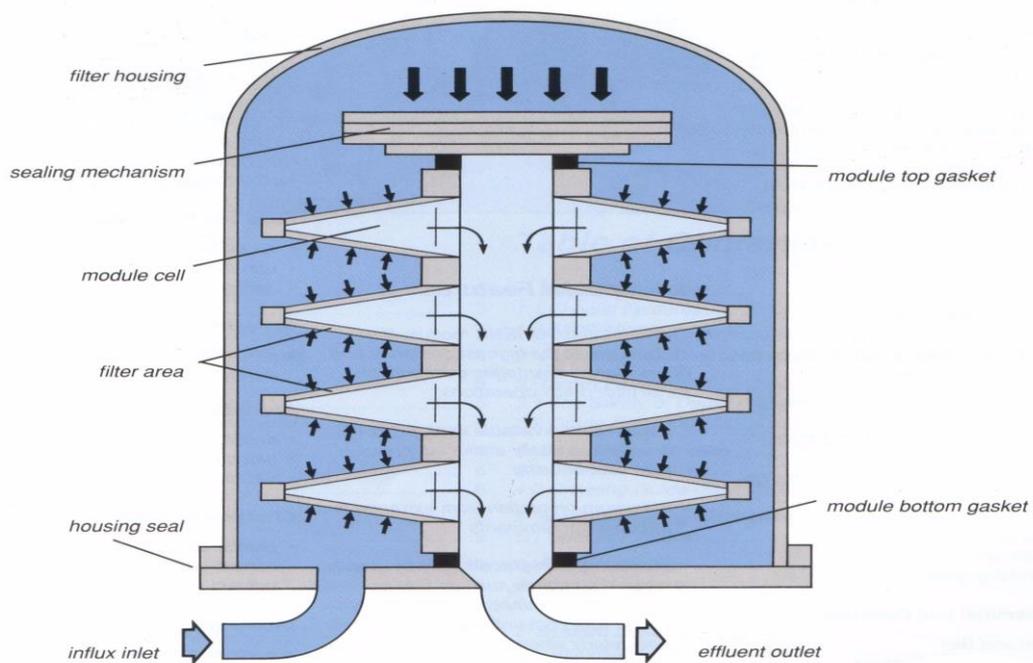
Carlson's range of modules are available in an array of sizes and types to suit the batch size and flowrate required.

- 12" (1.8m² per unit) and 16" (3.6m² per unit) diameter modules, ability to multi stack 1, 2, 3 or 4 modules
- DOE (double open ended) and DOR (double 'o' ring) format
- Protective scrim used as a pre-filter or to allow back-flushing
- Downstream filter paper for added filtration
- Heavy duty support feet between cells to stop movement
- Extra space design for high solids (barrel char) removal
- Small module design for single cask filtration
- Small footprint
- Skid mounted systems, to run in series or parallel and for increased filtration area
- Multi stage systems
- Lifting device for safe removal and quick replacement of spent modules



Ability to multi stack 1, 2, 3 or 4 modules

Small module design for single cask filtration, is available in 12" diameter with 4 or 5 cells



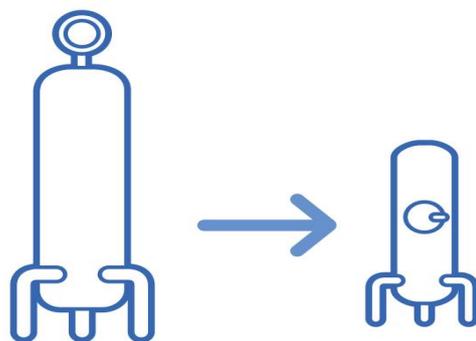
Lenticular Module Flow Diagram

Benefits for the Craft Distiller

- A lenticular filter system is a simple, self-contained, filter housing that can take 1, 2, 3 or 4 lenticular cartridge modules depending on its size. Some of the advantages that this type of filtration system offers are:
- Totally enclosed filtration.
- Ability to sterilise the system inline.
- Range of interchangeable filter grades, to sterile microfiltration.
- Ability to use XS speciality and Carbon treatment filter media.
- Ability to pipe the housings in series or parallel to offer multi-stage filtration, increased filter area or as a duty and standby set-up.
- Minimised product loss with the ability to blow down the housing(s) at the end of a run.
- Quick and simple to change out spent filter modules.
- Back washable.
- Low capital cost.
- Economic running costs.
- FDA quality

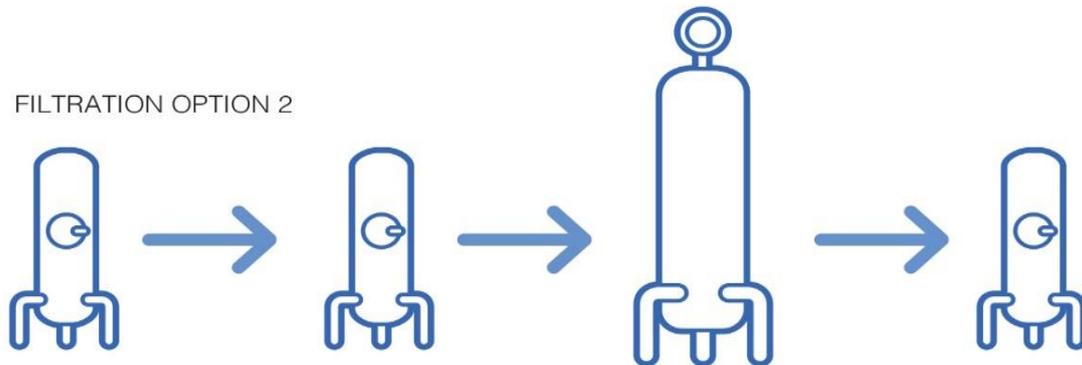
Some example filtration options are shown below-

Option 1 - where pre-filtration is not required, lenticular module filter followed by final 10 micron absolute pleated cartridge filter and then bottling.



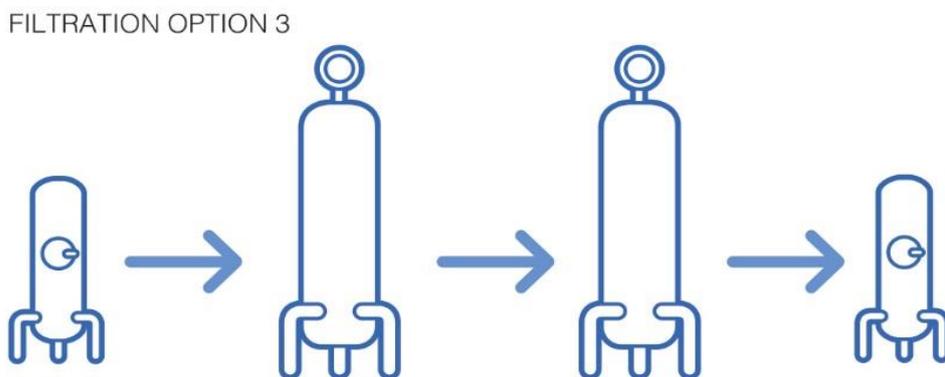
Example- XS350K MODULE →P2-100F-100S

Option 2 – 40 micron pleated cartridge filter followed by a 10 micron pleated cartridge filter, then a lenticular module filter and final 10 micron absolute pleated cartridge filter and then bottling.



Example – P2-400F-100S → P2-100F-100S → XS350K MODULE → P2-100F-100S

Option 3 - where activated carbon is used, 40 micron pleated cartridge filter followed by activated carbon module and then polishing module and 10 micron absolute pleated filter cartridges and bottling



Example – P2-400F-100S → PROC3ACN MODULE → XS350K MODULE → P2-100F-100S

CORRECT FILTRATION CHOICE – to enable the craft distiller to make the correct choice of filtration equipment and media, Carlson can offer a full range of laboratory scale filtration options to make the decision easier.

Through extensive laboratory trials the correct filter type, level of filtration, flowrate and potential lifetime of the filter can be determined.

Trials can be either carried out at the customer's site, or under controlled conditions within the research and development facility at Carlson Filtration.

For details on any of the products Carlson Filtration can offer to the craft distiller, please contact your sales consultant.

Complementary Filtration

Cartridges, Bags and Housings

Carlson can also offer a comprehensive range of cartridges from wound, pleated and thermal bonded through to PES membranes as well as bags in felt, nylon monofilament, polypropylene and polyester. 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.

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. Manual and fully automatic closing systems are 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 and 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.

Filter spares

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

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

PURITY THROUGH QUALITY™



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