

## Cross Flow Filtration Systems



# Tired of convention?

If filtering your cider or wine is too slow, labour intensive, and costing you too much in consumable costs, it might be time to consider cross flow filtration.

There is a place for traditional plate filters. The capital equipment cost is relatively low, which is great for start-ups, but when filtering larger batches of cider or wine it is time-consuming and the costs of the filter sheets can make the process uneconomical.

With plate filters, though filtration quality is consistent, up to four filtrations may be necessary per batch, depending on the product and desired result. Sheets need replacing not only between each stage of filtration but often in the middle of each stage.

## THE BEAUTY OF CROSS FLOW

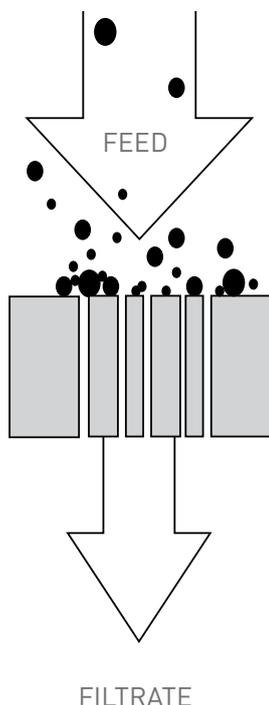
The remarkable features of cross flow filtration are that it takes place in a single step and, as it doesn't

use filtration consumables, such as sheets, there is no requirement to keep charging/discharging the filter with filter sheets. As a result, substantial savings can be made on running costs, labour costs and disposal costs. The filtration process is largely automated, which can also eliminate operator mistakes. Our customers are often surprised that the capital equipment cost is lower than they envisaged and that payback can be very fast.

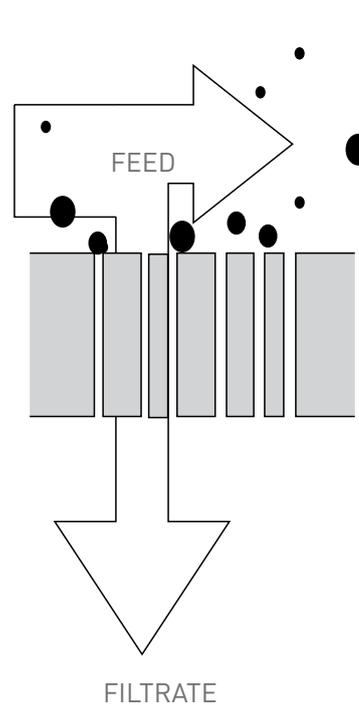
## HOW IT WORKS

Conventional filtration involves liquid passing through a filter surface in a perpendicular way. With cross-flow filtration, where a semi-permeable membrane is used, liquid passes both through and across the membrane, keeping the surface clean of residues.

### Traditional Filtration



### Crossflow Filtration





## CAREFULLY CHOSEN

For over 30 years we have been supplying producers with the equipment they need to produce the drinks they are passionate about. We offer quality, service and full technical support.

We chose Bared as our cross flow filtration supplier because they have specialised in membrane technologies for the drinks industry for over 30 years and employ a team of highly skilled cross-flow filtration specialists.

## YOUR PARTNER THROUGHOUT

We work closely with you to establish your specific filtration requirements. We take budget, space, existing equipment, and supply services all into account and this enables us to offer you a comprehensive service, including:

- Advice on the appropriate filter for you
- A comprehensive quotation outlining our recommended solution/s

- Experienced (Vigo) engineers to install and commission your filtration system on site and provide training to your and your production operatives
- Full technical backup and support (by phone or on site) from our engineers to achieve the longest possible service life

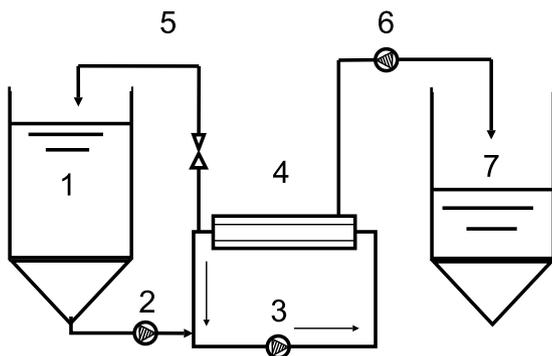
## THE RANGE

Bared's cross flow filtration systems can filter between 700 and 10,400 litres per hour, depending on the model and the product\*. Single step filtration is one of the many features of the system:

- Continuous running for minimal supervision
- Consistent flow
- Integral product recovery – lowest unfiltered volume achieved 0.2% of total volume
- Automatic back wash system (except B1, which requires manual initiation)
- Energy saving – 0.09kW/100 litres of filtered product
- Elimination of processing time for clarification and sedimentation, so less tank are 'locked-up' for this purpose

Each system includes a feeding pump (2) which draws the product from a storage tank (1), a circulation pump (3) which circulates the product through the filtration module (4) and back wash system (6).

During filtration, the system establishes the flow rate at the beginning of the cycle and this averagely kept constant to achieve a consistent flow rate.



## FLOW RATES

Model	Flow ( L/hr)*	Capacity (HL/day)	
		Min	Max
B1	Up to 700	90	140
B2	Up to 1,300	180	350
B3	Up to 2,000	270	500
B4	Up to 2,600	360	700
B6	Up to 4,000	540	1,000
B8	Up to 5,200	720	1,400
B12	Up to 7,800	1,100	2,000
B16	Up to 10,400	1,450	2,600

[\*] Filtration rates and cycles are dependent on solids content and type (i.e., colloids, bacteria, yeasts). Some products may require pre-filtration or enzyme treatment. Please contact us to discuss further.

## Before and after...



“ I am hugely enthusiastic about the cross flow filter... I am pleased to say that the filter has paid for itself this summer, in only a few months. Its ability to filter cider continuously to a very high specification may transform artisan cider making... When you see the ‘pea soup’ left after cross flow filtration, it is mind boggling – particularly to anyone who has spent days and days filtering with a plate filter. ”

Julian Temperley, Burrow Hill Cider

#### TECHNICAL INFORMATION

- Double AISI 304 stainless steel pre-filter with stainless steel pleated cartridge
- Filtering modules with stainless steel housings and capillary polymeric (PP) membranes of 0.2 micron nominal pore size
- Filtrate flow meter, observation glass, rates regulation valve, sample tap and pressure gauge
- CIP system
- Stainless steel construction

#### DIFFERENT APPLICATIONS

In addition to single step filtration of wine or cider, Bared cross-flow filters are ideal for:

- Obtaining clear products (turbidity <1 NTU) from turbid cider and wines which are normally too difficult or time-consuming to treat
- Using to block fermentation
- The production of wines and other drinks with sugar residue
- The prevention of malolactic fermentation
- Improved tartrate stability
- Filtration of sparkling wines



The B1 Model

**We look forward to hearing from you about your specific filtration requirements.**

**Please call us on 01404 892100 and ask us about filtration systems.**

**If you prefer to talk face-to-face we would be pleased to visit you or you are welcome to visit us. To arrange a visit please call 01404 892100.**

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Or visit us [www.vigoltd.com](http://www.vigoltd.com)  
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