

draftstream™

Draught carbonation &
dispense from Bag in Box

A TECHNICAL OVERVIEW

Unique New Membrane Process allowing draught carbonation and dispense from Bag in Box

Patents pending

- Pre-set Carbonation; within the range from 3 to 12 gm/l
- Silent, 100% gas-efficient operation
- Normal dispense, best retention of carbonation in the glass



Wine



Cocktails



Mixers



Cider



Beer/lager

The technology behind the innovation: Hollow fibre membranes

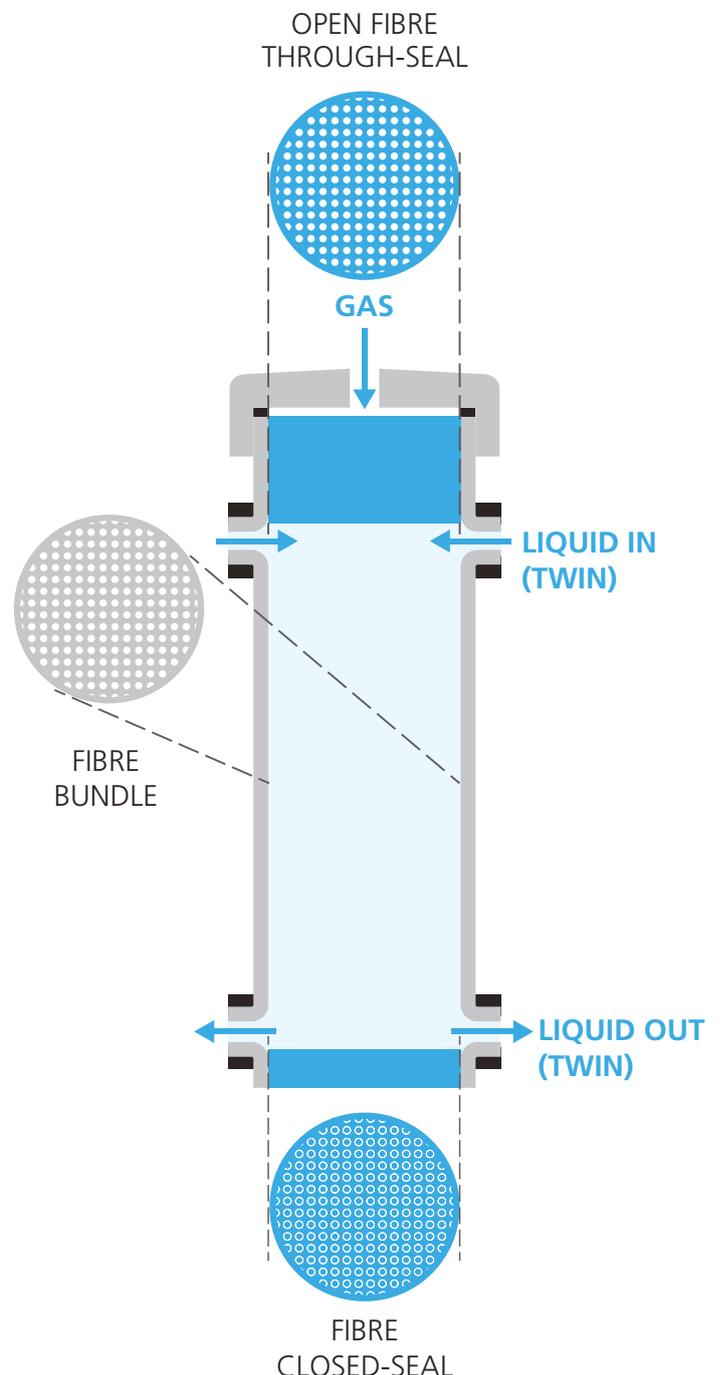
Carbonator modules in **draftstream** systems use polysulphone hollow fibres with graded porosity culminating in a thin, "defect-free", outer skin which is hydrophobic and gas-permeable.

Permeation, governed by this outer skin, is uniform over the whole surface – indistinction from the microporous types which give localised high-flux passage of gas via through-holes or slits in the fibre wall. Such differences are key in gas / liquid applications, since liquid must be prevented from entering fibre bores and stopping gas transfer.

Even under controlled conditions, microporous fibres become less hydrophobic with prolonged use and repeated cleaning. When this happens, liquid can easily seep back through individual pores. Skinned fibres are far less prone to that effect; gas permeates evenly to the whole external surface to dissolve in surrounding liquid.

At a given temperature, carbonation level is simply proportional to the absolute pressure of CO₂ gas applied to the fibres. Each **draftstream** module contains an axial fibre bundle with a seal separating the liquid-contact region (at outer fibre surfaces) from the gas feed (to one end of the fibre bores – they are sealed at the remote end).

Twin liquid feed and outlet ports at each end of the liquid region, combined with the selected number of fibres and module dimensions, provide high efficiency gas / liquid transfer helping provide accurate and best retention of carbonation in glass.



Controls

While skinned polysulphone fibres have big advantages for carbonation, it has only recently been understood exactly why the stop / start nature of practical beverage dispense makes special demands on the system's controls in order to maintain long-term reliability and efficiency. All **draftstream** systems therefore include a unique control unit (patents pending) which sets carbonation level and dispense rate and also manages the pressures of liquid and gas inside the membrane module –during both dispense and standby periods. These new features automatically keep the carbonator module operating under ideal conditions for its fibres and include an exclusive facility preventing gas breakout from those beverages which are normally prone to foaming in the dispense line.

Easy
cleaning
procedure

Excellent CO₂
retention in
glass

High
efficiency
transfer

draftstream



- **Compact "plug & play" system**



- **Flexible installation schemes** – designed for both Cellar and Bar. For >8 gm/l operation, bar installation with added cooling is recommended



- **Compatible with standard beverage demand pumps** – Gas or Electric, no control connection required



- **Low-voltage 12V DC power**



- **Straightforward cleaning procedure (CIP) Using specified solution** – CO₂ remains connected



- **"Run-to-Empty" facility** – all product can be dispensed before starting system clean, no waste



- **Secure run-time totaliser** – non-volatile, non-resettable; allows quantifiable measurement of throughput



- **Excellent draft quality** – Replicating the small bubbles experienced through traditional bottled and kegged carbonated beverages.

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carbonate
solutions

Carbonate Solutions Ltd,
Unit 12, Moor Place Farm, Plough Lane,
Bramshill, Hampshire RG27 0RF
Tel: 0118 9326911
www.carbonatesolutions.com