

Improve your craft brewery with state-of-the-art CO₂ technologies

Union Engineering is the world leader within CO₂ technologies and also craft brewers can benefit from implementing some of the technologies in the brewing process from the expert. Union has since last year also production and sales facilities in the US when the Wittemann Company became a part of the group.

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Bubbles in the beer are crucial, both in size and quality. The injector plates in the Wittemann Pinpoint Carbonator are microporous and feature large contact on both sides. Beer passes across the plates as a thin liquid film, immediately receiving full CO₂ saturation even at the lowest possible flow rate. The foam head remains stable over long time periods; when the head does recede, CO₂ saturation continues to hold at a high level.

The immediate saturation and improved bonding provided by pinpoint carbonation reduce foaming during the transfer of beer from Ruh to storage and greatly reduce the beer's air content. Residual CO₂ is used for carbonation from Ruh stage to 2.75 volumes - or, depending on flow requirements, up to 3.0 volumes - in one pass-through.



The heart of the Wittemann Pinpoint Carbonator consist of microporous injector plates

Designed for highest CO₂ saturation

The carbonator is designed for highest CO₂ saturation, and intimate gas-to-liquid bonding with micro-pore, stainless steel injector plates dispersing very fine, 5 – 9 micron size bubbles. Some of the other advantages are:

- Simple in-line installation, in either vertical or horizontal line runs.
- Stainless steel construction
- Fully suited for CIP cleaning (solution in-line) or cleaning by use of a ball brush when unit removed from line and replaced with a spool piece.
- Easy access to internal components (porous discs and check valves).
- Lowest pressure drop of any in-line or similar carbonating device.

Cut your CO₂ production costs by 30-40%

Union Engineering also has other production optimizing solutions, whereof the ReVap makes it possible to reduce your CO₂ production costs significantly.

ReVap is an evaporation system designed to literally vaporize CO₂ evaporation costs and reduce glycol refrigeration expenses in the process.

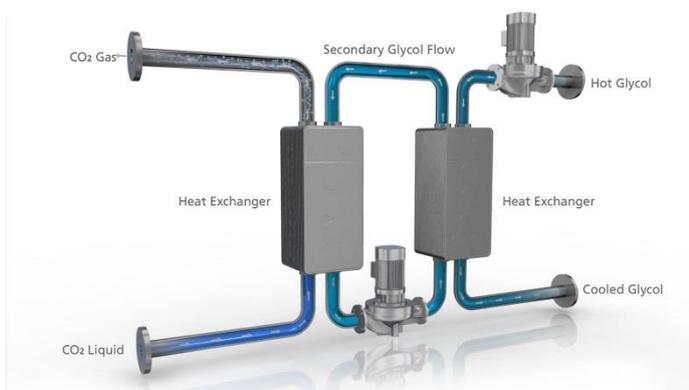
Evaporating excess CO₂ has long been an unavoidable expense in breweries (and many other CO₂ consuming industries), as has the cost of refrigerating glycol. However, by combining these two discrete processes for the first time, ReVap reduces the energy costs associated with both.

Essentially an innovative heat exchange system, ReVap uses the cooling capacity of stored liquid CO₂ to chill glycol.

The transfer of heat between glycol and liquid CO₂ subsequently raises the temperature of CO₂ to its evaporation point, and the compound is expelled as a gas.

Since this simple concept relies solely on the efficient reuse of existing resources, its estimated ReVap offers a saving equivalent to about 43% of a brewery's total annual CO₂ production costs. And a unit typically pays for itself within 18 months.

As a self-contained system, ReVap is installed quickly (within 48 hours) without the need to halt production and its straightforward design makes it virtually maintenance free. If you're looking to shrink energy bills – along with your impact on the environment – ReVap can help.



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About Union Engineering

Union Engineering is world-leading in CO₂ technology, designing and manufacturing CO₂ plants for the beverage industry as well as for industrial gases companies.

Headquartered in Denmark, Union Engineering has 260 employees with subsidiaries in Brazil, China, Singapore, Netherlands and the USA as well as agents around the world. Union Engineering delivers CO₂ plants all over the world – which is also shown by our extensive reference list which include most of the world leading beverage and industrial companies.

Learn more on www.union.dk

World Leader in **CO₂** Technology