

# CO<sub>2</sub> Recovery Plants



## CO<sub>2</sub> Recovery Plants

### General product information

In the production of quality beer, breweries rely on many raw materials including water, malt, hops, yeast, and the fifth most important - carbon dioxide (CO<sub>2</sub>). CO<sub>2</sub> has a large influence on not only the beer's quality, but also customer acceptance of the product. CO<sub>2</sub> treatment, control and dosing are of fundamental importance and should be seen as a total concept of which CO<sub>2</sub> Recovery plays a key role. As a specialist in CO<sub>2</sub> Recovery, Norit Haffmans is your total CO<sub>2</sub> Management Partner.

Norit Haffmans offers solutions for every situation. This covers individual components such as CO<sub>2</sub> storage vessels, CO<sub>2</sub> cylinder filling and CO<sub>2</sub> evaporators with reducing set, up to complete CO<sub>2</sub> Recovery Plants from 20 kg/h up to 10.000 kg/h.

We offer a delivery program with a range of options from cost-effective conventional CO<sub>2</sub> Recovery plants to state-of-the-art plants incorporating the latest technologies. In addition, we can update existing plants with these technologies. Worldwide, custom-made solutions will be installed and commissioned by a team of experienced and well-trained service engineers.

To meet the growing demand for CO<sub>2</sub>, Norit Haffmans' R&D Department continuously develops new technologies to improve CO<sub>2</sub> quality, recovery rates and efficiency. Our LO and HLP plants can produce CO<sub>2</sub> with a purity better than 99.998% and with less than 5 ppm oxygen (O<sub>2</sub>) v/v content. The HLP plant collects raw gas from an inlet of just 95% v/v and will be economically recovered while still maintaining a guaranteed outlet purity of 99.998% v/v. With the HLP plant design, breweries can now recover CO<sub>2</sub> gas from fermentation earlier and still provide food-grade CO<sub>2</sub> to meet the demand for beer production, with a surplus of food grade CO<sub>2</sub> that can be used to produce carbonated soft drinks. The main advantage is that fermentation CO<sub>2</sub> produced from beer or other fermentation processes itself guarantees that the recovered CO<sub>2</sub> has fundamentally no food-foreign substances and is food-grade.



## CO<sub>2</sub> Recovery

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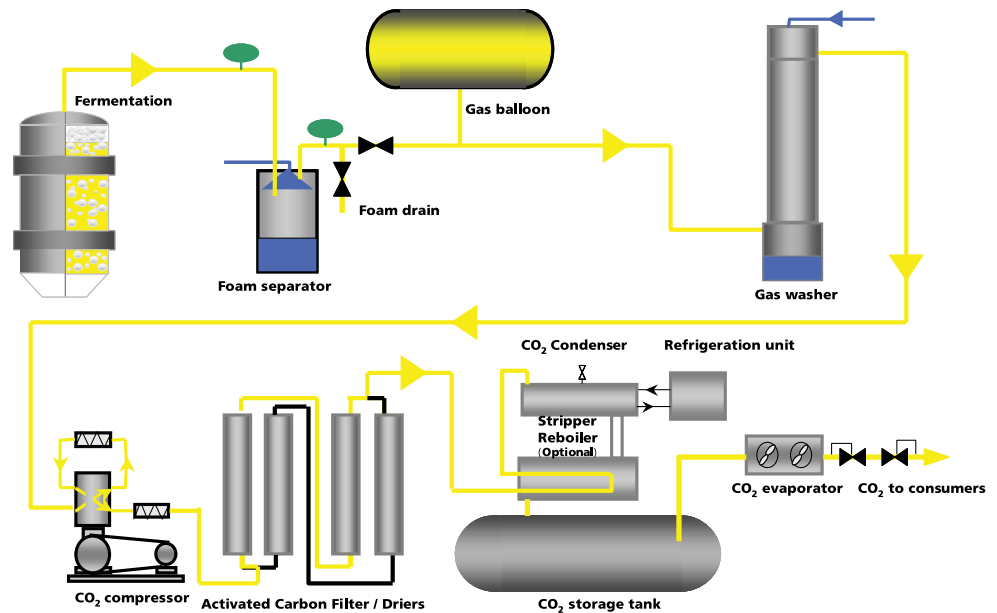
## Total CO<sub>2</sub> Management

- CO<sub>2</sub> Recovery Plants
- Expansion and renovation of existing plants
- CO<sub>2</sub> Recovery Plants Accessories
- CO<sub>2</sub> Quality Control
- CO<sub>2</sub> Analysis Service (CAS)
- After-sales Service
- Training / Maintenance Contracts
- Spare Parts
- CO<sub>2</sub> Audits, Quick scans

## Technical Data

|                 | CO <sub>2</sub> Inlet  | CO <sub>2</sub> Outlet            |
|-----------------|------------------------|-----------------------------------|
|                 | CO <sub>2</sub> % vol. | CO <sub>2</sub> % vol.            |
| Conventional    | > 99.7                 | > 99.97                           |
| LO (Low Oxygen) | > 99                   | > 99.998 / O <sub>2</sub> < 5 ppm |
| HLP             | > 95                   | > 99.998 / O <sub>2</sub> < 5 ppm |

## Recovery Process



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Please visit our website to obtain information about your local support.

Haffmans BV reserves the right to make changes in the technical specifications at any time.

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