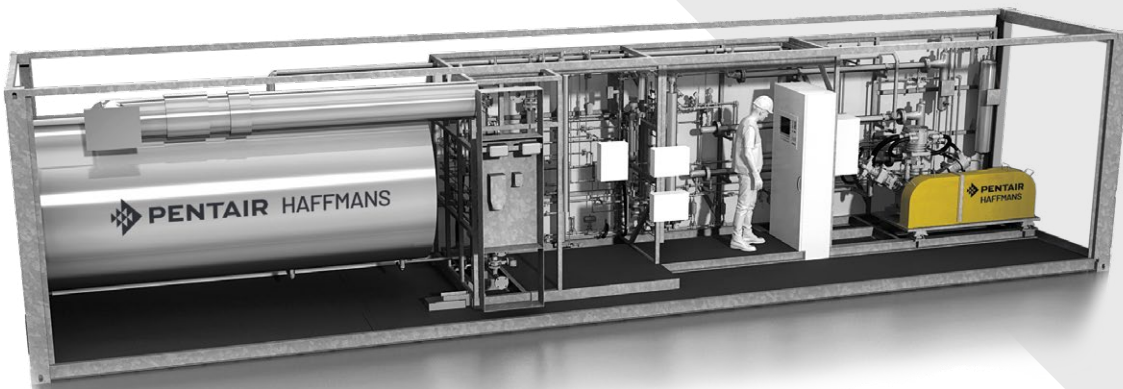


# HAFFMANS CO<sub>2</sub>MPACTBREW



## BE CO<sub>2</sub> SELF-SUFFICIENT

CO<sub>2</sub>mpactBrew is a CO<sub>2</sub> recovery plant especially designed for smaller, craft-sized breweries to ensure a continuous and self-sufficient supply of beverage-grade quality CO<sub>2</sub>.

The purity of the liquid CO<sub>2</sub> end product exceeds general quality standards for food/beverage/ingredient purposes including the latest edition of the ISBT standard.

*Safety first!* Since our system utilizes the brewer's glycol to liquefy the CO<sub>2</sub> the operation is free of Freon or Ammonia!

Our plug-and-play CO<sub>2</sub>mpactBrew comes pre-packaged with all parts wired, piped, and pre-mounted on a 40 ft skid. Installation is super fast and relocation – if needed at a later stage – super easy.

*Not enough space inside?* No problem at all: As an option, we can enclose (y)our CO<sub>2</sub>mpactBrew in a well-ventilated 40 ft container for outside mounting. Expanding rapidly? CO<sub>2</sub>mpactBrew keeps pace with your growing sales volumes: same footprint from day one!

Recovering your own CO<sub>2</sub> lowers your site's CO<sub>2</sub> footprint and reduces your VOC emissions to the atmosphere. Both contribute to a more sustainable operation.

Our dedication to your CO<sub>2</sub> self-sufficiency continues after the commissioning. Through comprehensive lifecycle management, our technical support and service team ensures that your CO<sub>2</sub>mpactBrew operates optimally.

## BENEFITS

- **CO<sub>2</sub> self-sufficiency**
- **High quality liquid CO<sub>2</sub> ≥ 99.998 % v/v, O<sub>2</sub> ≤ 5ppm v/v**
- **High recovery efficiency even at low CO<sub>2</sub> inlet purity ≥ 95% v/v**
- **Robust design for reliable 24/7 operation, uptime ≥ 95%**
- **Low footprint (40 ft skid)**
- **Pre-packaged plug-and-play solution**
- **Refrigerant-free**
- **Easy same footprint capacity upgrade**

## OPTIONS

- Ventilated 40 ft high cube container
- Foam separator
- Liquid CO<sub>2</sub> storage tank
- Ambient air heated CO<sub>2</sub> vaporizer
- Cylinder filling unit
- Road tanker pump
- Quality control equipment
- Installation and commissioning services
- Original spare parts
- After sales services

# CO<sub>2</sub>MPACTBREW

## PROCESS DESCRIPTION

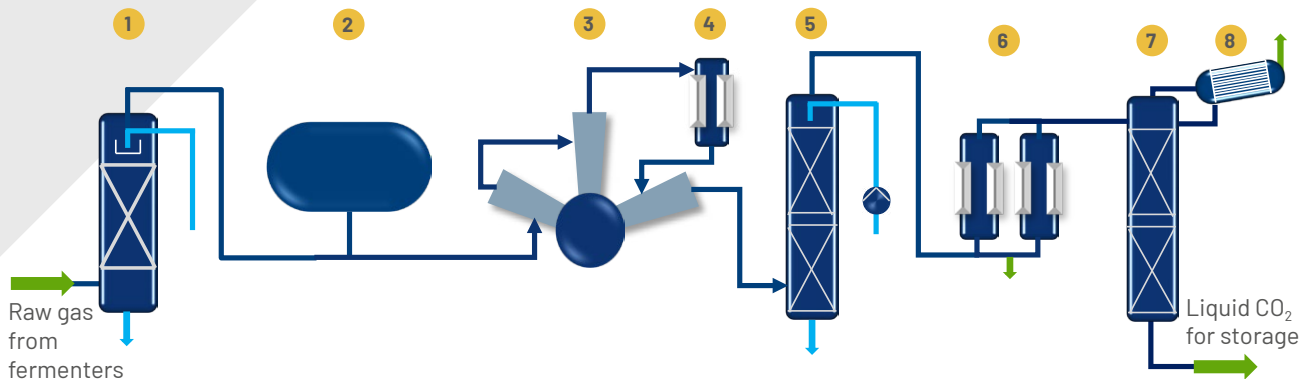
Raw foam-free fermentation gas is fed to the CO<sub>2</sub>mpactBrew system where water-soluble contaminants such as ethanol are scrubbed in the low-pressure gas washer prior to it being buffered in the balloon. A dry-running 3-stage CO<sub>2</sub> compressor unit increases the gas pressure to 48barg (696 psig) removing condensate in the process. H<sub>2</sub>S is filtered after the 2<sup>nd</sup> stage. The remainder of the impurities and water are then removed in the high-pressure gas washer, respectively on-line drier. Regeneration of the off-line drier is automatically utilizing heating elements and dry CO<sub>2</sub> purge gas. CO<sub>2</sub> liquefaction takes place in the glycol cooled condenser, and O<sub>2</sub> removed in the stripper. The flash gas is led back to 2<sup>nd</sup> stage of the CO<sub>2</sub> compressor, whilst the purified liquid CO<sub>2</sub> end product is fed at 15 barg (218 psig) to the onsite storage tank.

## WHY HAFFMANS?

We could bore you with the mere facts of being a market leader in CO<sub>2</sub> recovery with an installed base of 1000+ plants in the brewing and beverage industry. But the answer is very simple: pure dedication! We are your Total CO<sub>2</sub> Management Partner. CO<sub>2</sub> is running through our business veins. Our R&D department is constantly researching new technologies to improve CO<sub>2</sub> quality, recovery rates, and efficiency. After all, seeing a superscript 2 in CO<sub>2</sub> gives us a heart attack. We don't want you to be dependent of CO<sub>2</sub> suppliers if you can easily recover your own CO<sub>2</sub> and be more independent and sustainable. And foremost: we are there for you when your system is up and running: global service hubs and dedicated technical support – we troubleshoot whenever you need us to keep your plant up and running! *That's why Haffmans!*

## SCOPE OF SUPPLY

- 1 Low-pressure gas washer
- 2 Gas balloon
- 3 3-stage CO<sub>2</sub> compressor unit
- 4 H<sub>2</sub>S filter
- 5 High-pressure gas washer with feed pump
- 6 Drier
- 7 Stripper-reboiler
- 8 Glycol cooled CO<sub>2</sub> condenser
- > All parts incl. MCC panel pre-packaged on 40 ft skid



CO <sub>2</sub> mpactBrew	BREWERY CAPACITY	CO <sub>2</sub> CAPACITY LIQUID IN TANK	REFRIGERANT FOR CO <sub>2</sub> LIQUEFACTION	FOOTPRINT	WATER CONSUMPTION	GLYCOL CONSUMPTION	POWER CONSUMPTION
<b>Metric</b>	50 - 350 khl/yr	50 / 90 / 160 kg/h	None. Glycol cooled CO <sub>2</sub> condenser	1 x 40 ft pre-packaged skid	2.0 / 1.8 / 1.4 l/kg liquid CO <sub>2</sub> in tank	17 / 29 / 48 kW	15 / 21.5 / 30 kW
<b>Imperial</b>	45 - 300 kbb/yr	110 / 200 / 350 lbs/h			0.24 / 0.21 / 0.17 gal/lbs	4.8 / 8.2 / 16.6 TOR	20 / 29 / 40 hp

Estimated values are for budgetary purposes only, based on:  
Inlet CO<sub>2</sub> >99.7%v/v, 15 °C (59 °F) @ 150-250 mm (6-10") WC, foam free gas @ max capacity | Site ambient < 30 °C (86 °F), altitude < 100 m (328 ft), water < 20 °C (68 °F), glycol < -5 °C (23 °F)

## LEARN MORE

Interested in an inquiry or more information:

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