



HAFFMANS BREWING SOLUTIONS

HAFFMANS' QUALITY CONTROL SOLUTIONS FOR BREWING EXCELLENCE

CHECKING QUALITY SINCE 1947

Pentair Haffmans develops, supplies and supports quality control equipment that is backed by professionals with extensive process knowledge. Whether you are upgrading to more advanced technology or planning a major expansion, we have the quality products to serve you today and in the future. Our product portfolio includes instruments for measuring carbon dioxide (CO₂), oxygen (O₂), air, alcohol/extract, haze and foam as well as for monitoring processes such as pasteurization and bottle washing.

LABORATORY

Inpack 2000 CO₂ - Manual

Manually determines the dissolved CO₂ content in carbonated beverages in bottles or cans.

- Inpack 2000 CO₂ Calculator, **type ICC**
- Inpack 2000 CO₂ Meter Digital, **type ICD**
- Inpack 2000 Air Meter, **type IAM**



Turbidity Meter, type Vos Rota

Measures the turbidity of beer and beverages according to the MEBAK standard. Two executions are available: 90/25 or 90.



Nibem Foam Stability Tester, type TPH
Measures collapsing rate of foam.

Nibem Cling Meter, type CLM
Measures the ability of foam to adhere.

Nibem-TPH

PORTABLE/AT-LINE

Digital Gehaltemeter, c-DGM, i-DGM, o-DGM

Versatile tool for checking dissolved CO₂ and O₂ content throughout the process. Comes in different executions:

- CO₂ only, **type i-DGM**
- O₂ only, **type o-DGM**
- CO₂ & O₂, **type c-DGM**



c-DGM

IN-LINE PROCESS EQUIPMENT

O₂ & CO₂ MEASUREMENT

In-line O₂ Gehaltemeter, type OGM

Determines the DO content based on optical O₂ measurement of liquid or gas.



OGM



AuCoMet-i

In-line CO₂ Gehaltemeter, type AuCoMet-i

Monitors the dissolved CO₂ based on Henry's Law. Modular design makes it easy to extend with an O₂ sensor.

TURBIDITY MEASUREMENT

In-line Turbidity Meter, type OptHaze-i

Determines the turbidity of beer and beverages according to the MEBAK standard.



OptHaze-i

ALCOHOL, EXTRACT & PLATO

In-line Alcohol/Extract, type RefraSonic-i

Based on the measurement of the refractive index, the sound velocity and the product temperature, the original gravity/extract, alcohol concentration, and real extract content (Brix/Plato) is calculated.



RefraSonic-i

WORT/SLURRY AERATION

CPM Gazijector

The Gazijector is an aeration and gas dosing device that combines the functions of gas filtration, a check valve, an air atomizer, and an inline mixing element in one unit for use in brewing and other fermentation processes.



Gazijector

PROCESS MONITORING

PASTEURIZATION

Redpost PU Monitor, type RPU

Monitors the pasteurization process of beer and beverages in cans or bottles as it travels through the pasteurizer tunnel. PU's are automatically calculated and displayed. Available in three models.



RPU-353

BOTTLE & KEG WASHING

Bottle Monitor, type BTM

Based on the time, temperature and conductivity of the cleaning medium the Bottle Monitor evaluates the washing process in each compartment of the bottle washer.



BTM

Keg Monitor, type KEG

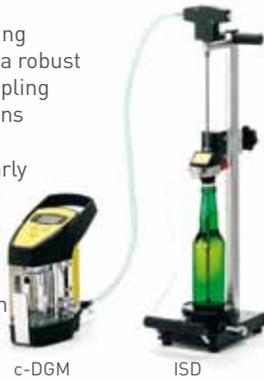
Evaluates the washing process of the keg washer, based on temperatures and pressure of the keg and cleaning medium.



KEG

ISD Special

The user-friendly Inpack 2000 Sampling Device, type ISD, is a robust instrument for sampling from bottles and cans without air intake. The ISD is particularly suitable for determining the DO and CO₂ content when used in combination with the c-DGM.



c-DGM

ISD

CO₂-Selector

The CO₂-selector offers non-invasive, selective CO₂ package measurement. Using laser-based technology means no contact with measured medium and no wasted product. Results are temperature compensated and delivered in 5-10 seconds. No moving parts results in minimal maintenance. The system can be used with both glass and PET bottles. The results are not impacted by other gases in the headspace such as O₂, nitrogen and hydrogen.



CO₂ Selector

TPO/c-TPO

Automatically determines the total O₂ content by measuring the DO and the headspace O₂ content of the packaged product in a single measurement. Additionally, the CO₂ content can be measured.

- O₂ only, **type TPO**
- O₂ & CO₂, **type c-TPO**



c-TPO/TPO

Carbo-Controller, type CCR

A fully automated plug & play unit with standard CO₂ dosing unit, static mixers and CO₂ or CO₂/O₂ measuring device allows for accurate CO₂ injection, 'bubble free' CO₂ dissolving and total process control.



CCR

Carbo-Blender, type CBR

Optimization of beer production in quantity and quality through controlled CO₂ dosing with CO₂, CO₂/O₂ or O₂ measurement, involving the dilution of high gravity beer with deaerated water.



CBR

Membrane Deaeration System, type MDS

A compact skid-mounted system utilizing membrane technology for the deaeration of process water with modular set-up. O₂ < 0.01 ppm.



MDS

CO₂ Recovery Plants

Recover CO₂ from fermentation, both at inlet and outlet levels. Pentair Haffmans offers a range of options from cost-effective conventional CO₂ Recovery Plants to state-of-the-art plants incorporating the latest technologies. In addition, we can update existing plants with these technologies.



Ethanol Scrubber

Reclaims ethanol gas normally vented to atmosphere during fermentation and enables water and potential energy savings.



Heat Recovery Systems

- **LiquiVap**
Combines both liquefaction and vaporization into one efficient process so that total energy consumption can be reduced by up to 60 percent.
- **HRS**
Enables breweries to recover energy by evaporating CO₂ with hot return glycol, NH₃, ice or cooling water.



After Sales Support

To help you achieve maximum plant efficiency, our professionals provide 24/7 phone and e-mail technical support. Through Life Cycle Management, Pentair ensures that the installation continues to meet your expectations at the lowest costs. We offer custom-made plans ranging from maintenance contracts to comprehensive service level agreements.

About Pentair Haffmans

Pentair Haffmans develops and supplies quality control equipment and CO₂ systems for the brewing, soft drink, wine, bioethanol, and biogas industries.

Pentair Haffmans is a multinational company, with a strong focus on innovation and customer satisfaction, and a presence in more than 150 countries worldwide. All of our technologies are designed with the same principles in mind: protect the environment and reduce operating expenses at the same time.



FOOD & BEVERAGE

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