

PENTAIR'S QUALITY PRODUCTS

A FOUNDATION FOR CRAFT BREWING'S FUTURE



Integrating Pentair's innovative quality control equipment, valve technology, membranes for water utilities, CO₂ systems, and diatomaceous earth-free Beer Membrane Filtration (BMF) with all functions of a brewery, creates a highly efficient and advanced operation.

Pentair's wide range of solutions for breweries of all sizes are backed by dedicated professionals with extensive brewing knowledge. Whether you are taking the first step toward more advanced technology or planning major expansion, we have the quality products to serve you today and in the future.

WATER DEAERATION SYSTEMS

As your brewery grows so does the importance for minimized beer loss and an O_2 -free environment.

- Stripping systems hot and cold executions
- Membrane systems
- Fine tune your final production specifications on gravity and CO₂

CARBO BLENDING SYSTEMS

- Blending systems
- Carbonation systems

PROCESS CONTROL TECHNOLOGY

Take control of your brewing process and improve productivity, reduce product losses and increase plant flexibility.

- Pentair Südmo's mix proof, single seat, butterfly and other high-quality stainless steel valves
- IntelliTop® 2.0 state-of-the-art decentralized control

BEER MEMBRANE FILTRATION

The system's flexibility gives breweries an easy option to neutralize the quality fluctuations of the raw materials.

- Improvement of taste stability
- Lower iron and O2 levels
- More process flexibility
- Improved start / stop procedure
- Reduction of solids discharge

WATER

Pentair can help you with a sustainable water strategy:

- Process water polishing
- Wastewater treatment with Membrane BioReactor (MBR) technology
- Water recycle or re-use expert
- Extensive brewing knowledge

IN-LINE CO, & O, MEASUREMENT

A quality beer can be defined as one that consistently meets specifications. To ensure this in each step of the production process, starting with the raw materials, through production to the analysis of beer samples, control is crucial. With Pentair's quality control solutions you will raise your brewery's overall performance.

In-line O, Gehaltemeter, type OGM

Install the OGM in the production process where the determination of the dissolved oxygen (DO) content is critical to the product's quality. The in-line $\rm O_2$ Gehaltemeter combines high accuracy with excellent measurement stability.

In-line CO, Meter, type AuCoMet-i

The In-line CO_2 Meter, type AuCoMet-i, sets standards in terms of quality, handling and ease of maintenance. It enables a fast and accurate determination of the CO_2 content based on the internationally standardized method of Henry's Law. In addition, the AuCoMet-i can easily be extended with an O_2 sensor. Pentair Haffmans' optical O_2 measurement technology provides better response times than traditional O_2 measurement instruments, and does not require frequent calibration. With the AuCoMet-i both, CO_2 and O_2 measurements, can be done independently.

SAMPLING

ISD Special

The user-friendly Inpack 2000 Sampling Device, type ISD, is a robust instrument for sampling beer and beverages from bottles and cans without air intake. The ISD is particularly suitable for the creation of beer foam in combination with the Inpack 2000 Flasher Head and for the determination of the DO content when used in combination with a DO meter, such as the c-DGM.

AT-LINE/LAB CO, & O, MEASUREMENT

Inpack TPO/CO, Meter, type c-TPO

The innovative Inpack $\mathsf{TPO/CO}_2$ Meter offers a novel method for measuring Total Package Oxygen (TPO) based on a differentiated measurement of Head Space Oxygen (HSO) and DO from a single package. This enables pin-pointing the source of the O_2 in the package so that proper actions can be taken to optimize the filling process.

The multiple routine determinations of TPO and ${\rm CO}_2$ are fully automated. Up to 100 different product types/packages can be programmed and easily selected. The instrument is suited for the most common sizes of bottles and cans.

CO₂/O₂ Gehaltemeter, type c-DGM

Get flexibility and value from the c-DGM with one device for CO_2 and O_2 measurement - up to 10 product types. In addition, you'll benefit from lower maintenance and cleaning costs, because service is needed for just one device. Assure that your beer tastes great right after packaging or in a couple months when that lone bottle is found in the back of someone's frig.

O, Gehaltemeter, type o-DGM

The o-DGM is the ideal solution to audit D0 levels and troubleshoot where the $\rm O_2$ pick-up is occurring in the process. The portable $\rm O_2$ Gehaltemeter uses advanced optical technology, which results in reproducible results, less operator involvement and the reduction of product losses.

Intelligent CO, Gehaltemeter, type i-DGM

Beer is your craft and we want to help you focus your attention on the whole brewing process. The Intelligent CO_2 Gehaltemeter provides fast, accurate and reproducible CO_2 measurement. Get across the board savings with a lower investment cost - one instrument for different product types, reduced beer loss, less labor, and low maintenance.

Analog CO₂ Gehaltemeter, type GMT

Congratulations - your production level has been growing every year. Now is the time for more sophisticated CO_2 measuring. The value-added Analog CO_2 Gehaltemeter gives you perfect product control with reproducible and operator independent results.



OGM

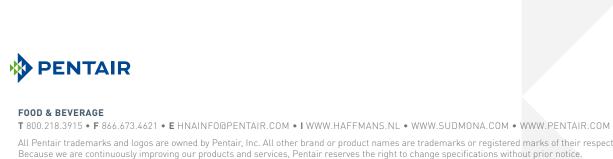




c-DGM and ISD



c-TP0



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