Anton Paar

Beer Analysis
Overview

Pressurized and non-pressurized analyzing systems

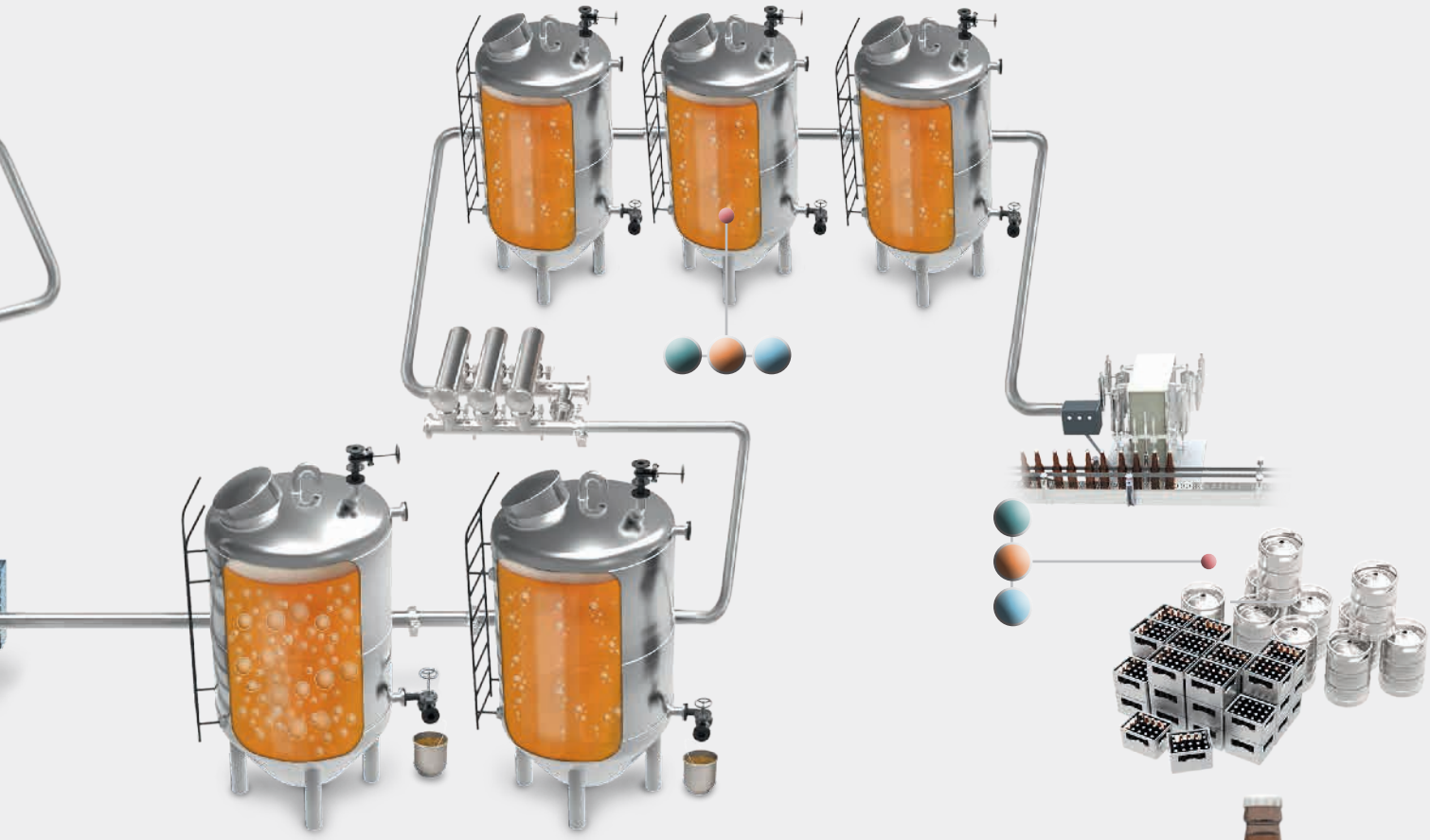
Wherever You Are: Solutions for Optimized Beer Analysis

Minimum effort – maximum benefit

The heart of Alcolyzer Beer ME is its patented, selective alcohol measurement: A narrow, highly alcohol-specific range of the NIR spectrum is evaluated with a specially developed, highly stable high-resolution spectrometer and suitable algorithms. In this particular spectral range the influence of other beer ingredients is so small that Alcolyzer Beer ME obtains extremely accurate alcohol results.

Alcolyzer Beer Analyzing System	Alcolyzer Beer Analyzing System PBA-B Generation M
Xsample 22 or Xsample 122 filling devices pH ME | To determine pH	pH ME | To determine pH HazeQC ME | To determine turbidity Option Color 430nm ME | To determine color

Whichever choice you make, Anton Paar systems simplify your daily work and save you time and money.



PBA-B Generation M

Option O_2 for CarboQC ME | To determine O_2 content
HazeQC ME | To determine turbidity
Option Color 430 nm ME | To determine color
pH ME | To determine pH

Wherever You Are: Solutions for Optimized Beer Analysis

Alcolyzer Beer Analyzing System

Anton Paar's modular and versatile solutions for all of your production steps provide exactly what you need to accomplish your daily tasks in the most efficient way. You can rely on cutting-edge technology assembled in a smart, user-friendly system, measuring all relevant QC parameters in one single measuring cycle.

One sample – all parameters

Alcolyzer Analyzing Systems determine the alcohol content and further important QC parameters such as original extract, real extract, degree of fermentation and optionally also color, viscosity, pH and turbidity - all in one measuring cycle, all from one single sample.

The power of modularity

In its basic version, the Alcolyzer Beer Analyzing System determines the three most important beer parameters: alcohol, original extract and real extract. Extend your system with additional measuring modules for color, turbidity or pH and let it fulfill your needs.

FillingCheck™

Your density meter automatically detects filling errors such as bubbles in the sample in real time, alerts you and documents the incident. You can be sure of correct sample filling, whatever the conditions.

Upgrade to the next level – PBA-B Generation M

Configure your system according to your needs, with no instrument missing and no instrument redundant. Extend your system with a beverage carbonation meter and a piercing and filling device and benefit from direct analysis from the package without prior sample preparation.

No sample preparation required

Conventional analysis methods require degassing of the sample before measurement as dissolved CO_2 easily falsifies the measurement results. The PBA-B Generation M system fills the sample directly from the package into the measuring cell. With the pressure-driven filling and the automatic CO_2 correction no valuable time is wasted on sample preparation.

Beer Analysis Throughout Production

Alcolyzer Beer Analyzing System

- Monitor your entire process - from wort analysis to finished product
- Manage high sample throughput easily with the help of the built-in sample changer
- Benefit from selective alcohol measurement without the influence of other sample ingredients
- Allow the built-in standard operating procedure to maintain the instrument‘s performance automatically

Sample filling unit: Xsample 22

The simply installed, versatile Xsample 22 sample filling unit saves space and is easily used with all DMA Generation M, Lovis M/ME and Alcolyzer M instruments. At the press of a button Xsample 22 automatically fills the sample into the measuring cells.

Sample changer: Xsample 122

Samples are filled from a 24-position magazine with a peristaltic pump. Xsample 122 takes on routine work and allows you to get on with other tasks while your samples are processed. There are five sample loading modes for bubble-free filling.

Choose your sampling unit according to the number of samples you want to measure. You can use the sample list to assign a separate method to each sample, if required. Interrupt the pre-configured sequence to insert a priority sample whenever you want. Measure large numbers of samples automatically and carry out other work while the instrument works for you.

pH ME / pH ME beverage measuring modules

Combining a pH ME measuring module with your system of choice enables the simultaneous measurement of the pH value along with other beer-specific parameters. The pH ME beverage module is designed for beverages and similar samples without pressure. Use the pH ME module for samples measured under pressure.

	DMA Generation M	Alcolyzer Beer ME	Option Color ME	Xsample 22	Xsample 122	pH ME	pH ME Beverage	HazeQC ME	CarboQC ME	Option O_2
Alcolyzer Beer Analyzing System	●	●	●	●	●	○	●	●	○	○
PBA-B Generation M	●	●	●	○	○	●	○	●	●	●

Final Analysis of Bottled Alcoholic Beverages

PBA-B Generation M

- Save time: parallel analysis of alcohol, extract, CO_2 and more from a single sample
- Modular measuring system concept: start with the essential parameters and upgrade later
- No sample preparation required: pressurized filling directly from the container
- State-of-the-art control of all installed measuring modules using one 10.4” touchscreen
- One QC solution for all packages such as cans, glass bottles and PET bottles

HazeQC ME

HazeQC ME is a module for Anton Paar laboratory measuring instruments used to measure the turbidity of all kinds of liquids, especially beer and beer mixtures.

HazeQC‘s measuring cell is temperature controlled with a solid state peltier thermostat ensuring a reliable reading exactly at the set temperature - an essential factor for analysis.

O_2 content & TPO determination: Option O_2 for CarboQC ME

The optochemical oxygen sensor in the Option O_2 provides a proven and reliable way of oxygen determination. Option O_2 can also be easily retrofitted in your existing CarboQC ME.

Measuring the O_2 content of a sample is essential for estimating the shelf-life of the finished product.

Option Color for Alcolyzer Beer ME

The Option Color ME is an extension to your Alcolyzer ME which enables the simultaneous measurement of beer color at 430 nm.

The results provided by the Option Color ME comply with standards such as the MEBAK or the EBC.

The Packaged Beverage Analyzer for Beer

Six times quicker

Conventional analysis methods require sample degassing before measurements, as dissolved CO_2 may falsify the measured density and other parameters. As the PBA-B Generation M system fills the sample into the measuring cells directly from the package, no sample preparation – no preheating, no degassing, no filtering – is required. PBA-B Generation M performs all measurements (alcohol, extract, CO_2 and optionally O_2, color, pH and turbidity) in one cycle, with one single sample. It automatically corrects the influence of the dissolved CO_2 on the measured sample density and determines CO_2-corrected beer parameters.

With PBA-B Generation M, samples are analyzed six times more quickly than with conventional methods: All results are ready after four minutes only. This saves you valuable time and avoids loss of product due to errors in the production process.

	Conventional systems	PBA-B Generation M
Heating the cold sample	5 minutes	Not required (when using the sample conditioner option)
Degassing and filtering the sample	5 minutes	Not required
Alcohol and density	4 minutes	4 minutes
CO_2	2 minutes	
O_2 (optional)	2 minutes	With no increase in measurement time
pH (optional)	2 minutes	
Turbidity (optional)	2 minutes	
Color (optional)	2 minutes	
Total time	**24 minutes**	**4 minutes**

More reliable

PBA Generation M systems are not only much faster, but also more reliable than previous routine analyses. Possible errors during sample preparation are completely avoided. PBA Generation M systems are easy to use and guarantee excellent measuring results, since no sample preparation is required.

Your PBA benefits at a glance

- Save time: parallel analysis of all beer parameters from a single package
- Modular measuring system concept: start with essential parameters and upgrade later
- No sample preparation required: pressurized filling directly from the container
- State-of-the-art control of all installed measuring modules using one 10.4” touchscreen
- One QC solution for all packages such as cans, glass bottles and PET bottles

Specifications

Systems

Measuring range	Alcohol content	0 %v/v to 12 %v/v
	Original extract	0 °Plato to 30 °Plato
	Extract content	0 %w/w to 20 %w/w
	Density	0 g/cm³ to 3 g/cm³
	Color (optional)	0 EBC to 120 EBC
	pH (optional)	0 pH to 14 pH
	Turbidity (optional)	0 EBC to 100 EBC (values up 200 EBC are displayed)
Repeatability s.d.	Alcohol content	0.01 %v/v
	Original extract	0.03 °Plato
	Extract content	0.01 %w/w
	Density	0.00001 g/cm³ (DMA 4500 M) 0.000001 g/cm³ (DMA 5000 M)
	Color (optional)	0.1 EBC
	pH (optional)	0.02 pH (in the range 3 pH to 7 pH)
	Turbidity (optional)	0.02 EBC
Temperature control	Integrated Peltier thermostat	
Temperature control, turbidity	0.01 °C Repeatability s.d. in the range -5 °C to 40 °C	
Sample volume	120 mL to 150 mL	
Typical measuring time per sample	3 min to 4 min	
Pressurized gas supply	6 bar ± 0.5 bar (87 psi ± 7 psi), relative	
Interfaces	4 x USB, Ethernet, VGA, CAN, RS-232	

Additional Specifications - PBA-B Generation M		
Measuring range	CO_2	0 g/L to 12 g/L (0 vol. to 6 vol.)
	O_2 (optional)	0 ppm to 4 ppm
Repeatability s.d.	CO_2	0.01 g/L (0.005 vol.)
	O_2 (optional)	±2 ppb

General

Touchscreen	10.4" TFT PCAP touchscreen 640 x 480 px
Memory	1000 measuring values with/without camera pictures
Interfaces	4 x USB (2.0 full speed); 2 x S-Bus; 1 x Ethernet (100 Mbit); 1x CAN Bus; 1 x RS-232; 1 x VGA
RS-232 printer settings	Interface: RS-232 C; Baud rate: 9600; Parity: none; Stop bit: 1; Data bits: 8
Voltage	AC 100 to 240 V, 50/60 Hz
Environmental conditions (EN 61010)	Indoor use only
Ambient temperature	15 °C - 35 °C (59 °F - 95 °F)
Air humidity	10 % - 90 % relative humidity, non-condensing
Pollution degree	2
Overvoltage category	II

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