Anton Paar

Solutions for Your Excellent Beer

Beer Analysis Overview

The Market Leader in Beer Analysis

Over the 50 years we've spent as market leader in offering analytical solutions for the beverage industry, we've developed a range of technical innovations that increase the accuracy and speed of your measurements.

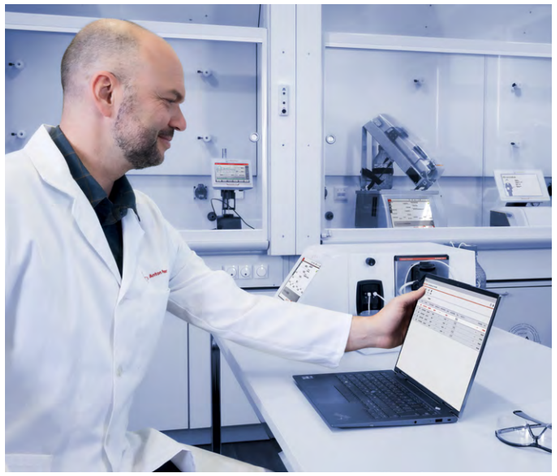
50+ years of application experience
Partner with a team backed by over 50 years of industry experience. Access expert application support anytime, anywhere. Trust the same proven expertise relied on by researchers and QC managers worldwide across diverse industries.

50 quality parameters in 8 minutes
Measure all relevant parameters using a single setup. Automate filling and cleaning for up to 24 non-pressurized samples in a row to save time and effort. Ensure top product quality with handheld devices, advanced measuring systems, automated QC labs, and in-line sensors.

Outrun distillation – 10x faster
Count on the expertise of the market leader in beverage analysis. Boost measurement accuracy and speed while analyzing alcohol up to 10x faster than distillation. Reduce waste, improve efficiency, and ensure consistent quality for continuous improvement.

Compliance with 16+ industry standards
Our measurement systems fully comply with more than 16 industry standards set by MEBAK, TTB, GB, EBC, BCOJ, ASBC, and AOAC. This ensures reliable, consistent results that meet global regulatory and quality requirements. You can trust our systems to support compliance across diverse markets and applications.

85+ service stations and a 3-year warranty
Our instruments are famously durable, but if support is required, a global service network expert responds within 24 hours – speaking the local language. Every time a new instrument generation is launched, spare parts for predecessor instruments are guaranteed for at least 10 years.



Lab execution system: AP Connect
AP Connect enables paperless, professional data management with access from any computer on your network. It eliminates transfer errors, centralizes data from all instruments, and streamlines workflows through one interface. Save time and support compliance with efficient data flow and optional validation documentation.

Always Superior Technology

Our U-Pulse technology, based on the trusted Pulsed Excitation Method, is combined with patented NIR spectroscopy to deliver unmatched performance and set new benchmarks in beverage analysis.

0.01 % v/v alcohol repeatability
U-Pulse technology backed by FillingCheck™ and U-View™, combined with 0.01 % v/v alcohol repeatability, enables the most accurate calculation of extract and caloric value.

Tailored setup: 21 instruments and modules
Access a broad portfolio – from handheld devices to multiparameter systems – for every stage of analysis. Perform measurements covering wort to final product with ease. Analyze all beer types, from light pilsners to dark stouts, with precision.

Inuitive user interface with 12 guided wizards
Easily access your favorite menu dialogs via the 10.4" screen and quick access area. Assign user levels to prevent unintended changes. Stay informed with system alerts and real-time status of sample changers or measuring modules.

Density accuracy: 0.000005 g/cm³
We manufacture the borosilicate glass measuring sensors exclusively in-house. Only by fully controlling the fabrication of these extraordinary sensors, and therefore every single facet of the ingenious core DMA technology behind them, can we ensure we deliver to you the most accurate density meter on the market.

Trusted, patented NIR technology
Selective NIR absorption at 1,200 nm offers fast, precise analysis across all alcoholic beverages. Its accuracy and versatility make it a market-leading technology in beverage quality control. Customers can choose Alcolyzer modules for the analysis of up to 12 beverage classes from 0 % v/v to 65 % v/v.

Powering Potential

Market Leader

DMA 35
Portable density meter

- Density accuracy: 0.001 g/mL
- The widest viscosity range on the market
- Fast, reliable fermentation monitoring from -10 °Plato to +85 °Plato
- Sample filling at temperatures up to 100 °C (hot wort); no active temperature control required
- Quick results with just 2 mL sample volume
- Storage and export of 1,000+ results to a printer or PC
- Lightweight: Only 0.66 kg (1.46 lb)

Alex 301, Alex 501
Alcohol and extract meter

- Accuracy:
  Alex 301: 0.25 % v/v for beer, wine, sake, spirits <100 g/L; 0.45 % v/v for non-turbid spirits with >100 g/L extract and up to 47 % v/v
  Alex 501: 0.2 % v/v for beer, wine, sake, spirits <100 g/L; 0.4 % v/v for non-turbid spirits with >100 g/L extract and up to 47 % v/v
- Measurement of alcohol and extract from 0.5 % v/v to 47 % v/v
- Sample preparation kit for cloudy beers and wines included
- One-button operation with results in under three minutes
- Fermentation curve monitoring for up to 40 batches

Alcolyzer 5001, Alcolyzer 7001
Alcohol meter

- Repeatability:
  Alcolyzer 5001: 0.03 % v/v
  Alcolyzer 7001: 0.01 % v/v
- Compliance with AOAC, BCOJ, and OIV standards; seamless data transfer
- Analysis of 12 sample types with 0 % v/v to 65 % v/v alcohol content using one device
- Precise results in just two minutes without distillation
- 0.01 % v/v alcohol repeatability via patented NIR technology
- Upgrade with a sample changer and color option at 430 nm for up to 24 samples in one go (7001 only)

CboxQC
Portable dissolved CO_2 and O_2 meter

- Sampling from all common finished packages, process lines, tanks, kegs, and casks
- Use in tough environments: Protection class IP67 and rubber housing
- Combined CO_2 and O_2 measurement results in just 90 s
- FillingCheck™: Automatic detection of filling errors
- Battery life up to 11 hours (portable recharging capability)
- Compact, lightweight, portable design

TPO 5000
Total package oxygen meter

- Measurement of total package oxygen directly out of cans, glass bottles, and PET bottles
- TPO results in as little as four minutes
- Automatic self-cleaning function and minimum maintenance
- Integration with Anton Paar CarboQC CO_2 meter or CboxQC combined CO_2 and O_2 meter
- Operable in harsh process environments
- The only combined solution measuring total package oxygen and more than 50 beer-industry-specific parameters from a single package

Top Seller

DMA 4002, DMA 5002, DMA 6002
Modular benchtop density meter

- Accuracy:
  DMA 4002: 0.00005 g/cm³
  DMA 5002: 0.00001 g/cm³
  DMA 6002: 0.000005 g/cm³
- U-Pulse, U-Dry, U-View™
- One-touch measurement
- Status light and syringe illumination
- Modular extensions available
- Full automation via Xsample series
- Results with four-digit accuracy in 20 seconds

Applications

Wort analysis
Fermentation monitoring
Apparent extract measurement

Fermentation monitoring
Alcohol analysis
Extract analysis

Fermentation analysis
Analysis of unfinished product
Product release control

Applications

Dissolved oxygen and CO_2 analysis during process and for finished products

Dissolved oxygen, headspace oxygen, and headspace volume analysis
Final package analysis
Filler control

Wort analysis
Fermentation analysis
Controlling device for measurement systems

Measurement System

Find out more

Choose from the following options and primary instruments:

- → DMA 4002
- → DMA 5002
- → DMA 6002
- → DMA 6002 Sound Velocity

pH	Turbidity	Alcohol content	CO_2, O_2	Filling device	Total package oxygen
pH 1102	Haze 3001	Alcolyzer 1001 Beer	CarboQC 1001	PFD	TPO 5000
pH 1201	Viscosity	Alcolyzer 3001 Beer	CarboQC ME	PFD Plus	Sample changer
pH 3101	Lovis 2001	Alcolyzer 3001	Option O_2 Plus for CarboQC ME / 1001	Sample Conditioner	Xsample 320
pH 3201					Xsample 520

Available options

Modular Extension

pH

- pH is determined alongside other quality parameters
- pH 1101, pH 1201, pH 3101, and pH 3201 modules support pressurized and non-pressurized analysis solutions
- Measurements are performed either directly from the package or from degassed samples

Turbidity

- Haze 3001 uses the approved ratio method with measurement at three angles (transmission 0°, scattered light at 25°, and 90°)
- Eliminates particle size influence on the turbidity value
- Enables detection of impurities
- Safeguards visual properties
- Detects chill haze when combined with a water supply for heat exchange

Viscosity

- The Lovis 2001 determines dynamic, kinematic, relative, and intrinsic viscosity of liquids
- Capillaries are available in different configurations
- Suitable for determining viscosity and predicting lautering time of wort

Alcohol content and color

- The Alcolyzer enables selective alcohol measurement for accurate results
- Suitable for beverages such as beer, wine, and spirits
- No product-specific calibrations are required
- Optional color detection enables fast color measurement of beer

CO_2, O_2

- The multiple-volume expansion method eliminates the influence of other dissolved gases such as N_2 and O_2
- Option O_2 Plus is compatible with both new and existing CarboQC ME measuring modules
- Retrofitting of Option O_2 Plus is easily supported

Filling device

- The PFD Filling Device transfers samples directly from a closed container, such as a bottle or a can, into the measuring chamber of a measuring instrument
- Sealed and pressure-driven filling ensures CO_2 is not lost during transfer
- Compatible with a sample conditioner for reliable alcohol measurement at temperatures below 15 °C
- Measuring time is reduced through optimized sample preparation

Total package oxygen

- The TPO 5000 performs analysis in under four minutes
- Operation is possible as a stand-alone device, in combination with a CO_2 meter, or embedded in a packaged beverage measurement system

Sample changer

- Xsample series offers the widest range of automation on the market
- Enables automatic filling and fully automatic processing
- Samples are automatically measured

Recommended Configurations: Non-Pressurized

Multiparameter measurement system: Design your Beer Measurement System, one module at a time.

Find out more

DMA 4002

Alcolyzer 1001 Beer

pH 1101

Xsample 320

Quality control for craft breweries and small batch productions

- The Alcolyzer Analyzing System: Dedicated to craft brewing
- Measurement of key parameters in-house
- Every type of beer: No product-specific calibration
- Selective determination of alcohol; compliance with distillation (reference)
- Leading technology recommended by EBC, ASBC, MEBAK, and BCoJ

DMA 5002

Alcolyzer 3001 Beer

pH 3101

Xsample 520

Quality control for large and industrial breweries

- Entire production process monitoring from wort to finished beer
- Suitable for all types of beer, cider, hard seltzer, and kombucha
- Product quality authorization for bottling
- Market-leading technology using selective alcohol determination

DMA 6002

Alcolyzer 3001 Beer with Option Color

Haze 3001

pH 3101

Xsample 520

The high-end solution for perfect fermentation, storage, and final product control

- Entire production process monitoring from wort to finished beer
- Safeguarding of visual properties
- For all types of beer, cider, hard seltzer, and kombucha
- Four measuring modules, 30+ industry-specific parameters
- Fully automatic check/calibration via built-in SOP

Recommended Configurations: Pressurized

Find out more

Multiparameter measurement system: Packaged Beer Measurement System

World's best beer analyzing system

DMA 4002
Alcolyzer 1001
pH 1201
CarboQC 1001
PFD

Package control for craft breweries

- Craft beer quality verification
- Selective alcohol determination via unique Alcolyzer technology
- Every type of beer: No product-specific calibration
- Selective CO_2 analysis

DMA 5002
Sample Conditioner
Alcolyzer 3001 Beer with Option Color
Haze 3001
pH 3201
CarboQC ME with Option O_2 Plus
PFD Plus

Package control for large breweries

- Safeguarding of product specifications in only three minutes
- Fulfillment of legal requirements
- Safeguarding of visual properties and dissolved oxygen levels
- Elimination of sample preparation and operator influences

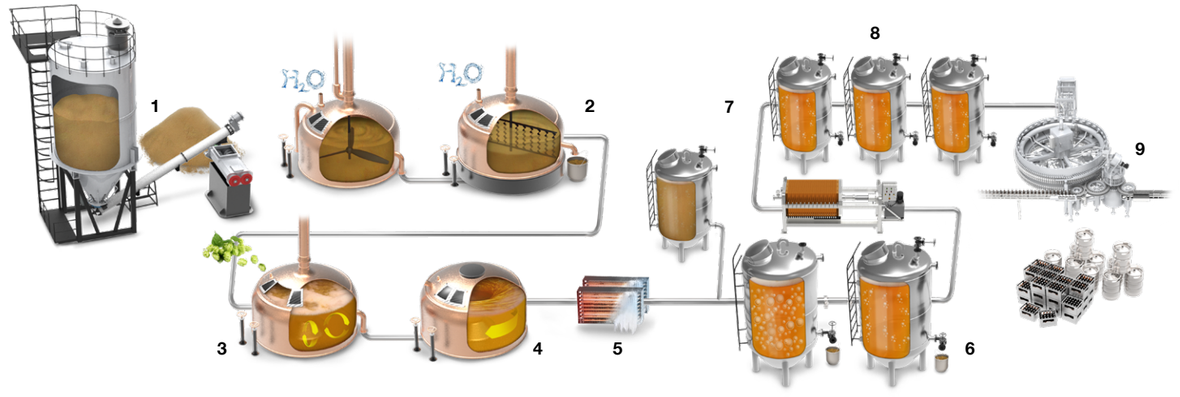
DMA 5002
Sample Conditioner
Alcolyzer 3001 Beer with Option Color
Haze 3001
pH 3201
CarboQC ME
TPO 5000

The most comprehensive analysis from a single package

- Safeguarding of filler performance
- Measurement of 50+ quality parameters from a single package
- All data at the push of a button in a single data set
- Fully automated cleaning and leak test

Complete Your Beer Analysis

We're the world's first full-range supplier for beer analysis. With a variety of laboratory and process instruments, you can trace 50+ parameters from any location in the plant. Streamlining your beer-quality checks has never been so easy. Connected via the Davis 5 software, process sensors are calibrated and adjusted at the push of a button, taking lab measurements as a reference.



	Wort analysis					Fermentation control		Storage	Bottling
	Raw material monitoring	Wort monitoring | Lauter tun and mash filter	Wort monitoring | Kettle	Wort monitoring | Whirlpool	Wort monitoring | Wort Cooler	Aeration/fermentation monitoring | Fermentation tank	Beer monitoring | Filtration	Beer monitoring | Storage (BBT)	Beer monitoring | Pre-filler and final package
	1	2	3	4	5	6	7	8	9
Density (extract)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Density (°Plato)		✓	✓	✓	✓				✓
Density (SG)		✓	✓	✓	✓				✓
pH	✓			✓		✓	✓	✓	✓
Viscosity	✓						✓	✓	
Elemental impurities	✓								✓
Sound velocity (extract)	✓	✓	✓	✓	✓				
Turbidity				✓			✓	✓	✓
Color				✓			✓	✓	✓
Refractive index (extract)						✓			
Alcohol						✓	✓	✓	✓
Dissolved O_2						✓	✓	✓	✓
Dissolved CO_2							✓	✓	✓
TPO									✓
Laboratory measurement	✓	✓		✓		✓	✓	✓	✓
Process measurement		✓	✓	✓	✓	✓	✓		✓

Prepare for the Future

Inspired by 50+ years of experience, Anton Paar's analysis solutions anticipate future needs – so that businesses can grow.

Edge 7000

- A powerful process controller with state-of-the-art interfaces and CPUs, offering seamless monitoring across devices
- Cutting-edge performance with a 10.1" projective, multitouch display
- Long-term security and flexibility with a Linux-based operating system
- Platform-independent, web-based management and user interface

ALAB 5000

- Fully automated, 24/7 operation: No downtime and maximum productivity
- Real-time, at-line measurement results for important QC parameters
- No manual sample preparation
- Designed to perform in rough production environments
- Available in analytic or torque variants

Reliable. Compliant. Qualified.

Find out more

Our well-trained and certified technicians are ready to keep your instrument running smoothly.

Maximum uptime
Regardless of how intensively you use your instrument, we help you keep your device in perfect shape and safeguard your investment. For at least 10 years after the discontinuation of a device, we'll provide you with any service and spare part that you might need.

Warranty program
We're confident in the high quality of our instruments. That's why we provide a full 3-year warranty. Just make sure to follow the relevant maintenance schedule. You can also extend your instrument's warranty beyond its expiration date.

Short response times
We know that sometimes it's urgent. That's why we provide a response to your inquiry within 24 hours. We give you straightforward help from experienced people, not from bots.

Global service network
Our large service network for customers spans 85+ locations with more than 600 certified service technicians. Wherever you're located, there's always an Anton Paar service technician nearby.

Beer Measurement Systems

	Quality control for craft breweries and small batch productions	**Quality control for large and industrial breweries**	**The modular solution, for perfect fermentation and storage**
Parameters	Alcohol | Extract | pH	Alcohol | Extract | pH	Alcohol | Extract | pH | Turbidity | Color
Measuring range			
Alcohol	0 % v/v to 12 % v/v		
Density	0 g/cm³ to 3 g/cm³		
Color	-	-	0 EBC to 120 EBC (0 ASBC to 60.96 SRM (ASBC))
pH value	pH 0 to pH 14		
Turbidity	-	-	0 EBC to 100 EBC (0 ASBC to 6900 SRM (ASBC))
Repeatability s.d.			
Alcohol	0.05 % v/v	0.01 % v/v	
Density	0.00001 g/cm³	0.000003 g/cm³	0.000001 g/cm³
Color	-	-	0.1 EBC (0.05 SRM (ASBC))
pH value	0.02 in the range pH 3 to pH 7		
Turbidity	-	-	0.3 % of the measured value + 0.02 EBC / 1.4 ASBC according to formazine reference suspension
General information			
Power features	U-Tube, U-View™, U-Dry, U-Pulse		
Minimum amount of sample per measurement	35 mL		
Typical measurement time per sample	4 min (incl. filling)		
Sample throuhgput	15 to 20 samples per hour		
Dimensions (L x W x H)	482 mm x 390 mm x 446 mm (19.0 in x 15.4 in x 17.6 in)	482 mm x 730 mm x 446 mm (19.0 in x 28.9 in x 17.6 in)	
Power supply	AC 100 V to 240 V, 50/60 Hz, fluctuation ±10 %, 190 VA		
Ambient temperature	15 °C to 32 °C (59 °F to 89.6 °F)		
Air humidity	Non-condensing 20 °C: <90 % relative humidity 25 °C: <60 % relative humidity 30 °C: <45 % relative humidity		
Standards			
MEBAK	Chapter 2.9.6.3 (B-590.10.181) Chapter 2.12.2 (B-420.01.272)		Chapter 2.9.6.3 (B-590.10.181) Chapter 2.12.2 (B-420.01.272) Chapter 2.14.1.2 (B-420.01.271)
TTB	-	Density measurement in proofing alcohol for tax purposes	
GB	T 4928-2008		
EBC	Chapter 8.2.2 Chapter 9.2.6 Chapter 9.43.2		Chapter 8.2.2 Chapter 9.2.6 Chapter 9.43.2 Chapter 8.5 Chapter 8.6
BCOJ	8.3.6 Alcolyzer for alcohol contents 8.4.3 Alcolyzer for real extract Analytical method for beer		
ASBC	Beer-4G: Near-infrared and original extract content (2004)		
AOAC	-	-	Method 956.02 (430 nm)

Packaged Beer Measurement Systems

	Package control for craft breweries	**Package control for large breweries**	**The most comprehensive analysis from a single package**
Parameters	Alcohol | Extract | pH | CO_2	Alcohol | Extract | pH | CO_2 | DO	Alcohol | Extract | pH | Turbidity | CO_2 | DO | HSO | HSV
Measuring range			
Alcohol	0 % v/v to 12 % v/v		
Density	0 g/cm³ to 3 g/cm³		
Color	-	0 EBC to 120 EBC (0 ASBC to 60.96 ASBC)	
pH value	pH 0 to pH 14		
Turbidity	-	0 EBC to 100 EBC (0 ASBC to 6900 ASBC)	
Repeatability s.d.			
Alcohol	0.05 % v/v	0.01 % v/v	
Density	0.00001 g/cm³	0.000003 g/cm³	
Color	-	0.1 EBC (0.05 ASBC)	
pH value	0.02 in the range pH 3 to pH 7		
Turbidity	-	0.3 % of the measured value +0.02 EBC / 1.4 ASBC according to formazine reference suspension	
General information			
Power features	U-Tube, U-View™, U-Pulse		
Minimum amount of sample per measurement	150 mL		260 mL
Typical measurement time per sample	3 min (incl. filling)		8 min to 10 min (incl. filling)
Sample throuhgput	15 samples per hour		7 samples per hour
Dimensions (L x W x H)	482 mm x 730 mm x 446 mm (19.0 in x 28.9 in x 17.6 in)		515 mm x 1,200 mm x 1,120 mm (20.3 in x 47.3 in x 44.1 in)
Power supply	AC 100 V to 240 V, 50/60 Hz, fluctuation ±10 %, 190 VA		
Ambient temperature	15 °C to 32 °C (59 °F to 89.6 °F)		
Air humidity	Non-condensing 20 °C: <90% relative humidity 25 °C: <60% relative humidity 30 °C: <45% relative humidity		
Standards			
MEBAK	Chapter 2.9.6.3 (B-590.10.181) Chapter 2.12.2 (B-420.01.272)	Chapter 2.9.6.3 (B-590.10.181) Chapter 2.12.2 (B-420.01.272) Chapter 2.14.1.2 (B-420.01.271)	
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