Solutions for Quality Control in the Craft Brewery



Craft Beer Analysis Overview









(1)

Craft Stand-Out Beer

Use Anton Paar analysis systems to measure bright lagers, deep black stouts, strong bock beers, light beers, and beer mixtures in seconds. Truly understand your production process. Put your creative quality seal on everything you make. We've packaged technology that's been trusted by the world's biggest beer industry players for over 40 years into craft-brewing solutions that anticipate your brewery's every need.

ENSURE CONSISTENT QUALITY FROM BATCH TO BATCH

GUARANTEE YOUR CUSTOMERS A MAGNIFICENT TASTE

ALWAYS KEEP THE PROMISE OF YOUR LABEL



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(4)

Analyze quality directly from the final package to optimize your filling process

Portable Extract Meter **DMA 35**

WORT ANALYSIS

FERMENTATION CONTROL

Measure the original extract of wort and adjust it at the brewing kettle so your brew has the right final alcoholic strength. An extract check at this early stage is your cornerstone for consistent quality and taste as well as correct labeling. It's the starting point for daily fermentation control.

DMA 35, our digital hydrometer, saves hours by analyzing samples directly at the sampling location within a few seconds. Forget manual notes: DMA 35 records data digitally.

Parameters:

- → Density/specific gravity
- → Extract (wort)
- → Apparent extract (fermenting wort)

FIND OUT MORE



www.anton-paar.com/ apb-dma35-cr

MEASURING RANGE

Density		
ACCURACY		
Density		
Extract		

REPEATABILITY S.D.

Density Extract

GENERAL INFORMATION

Sample volume	
Interfaces	Bluet
Protection class	
Sample preparation	Non
Patents granted	Ą

Trademarks

Replace all your hydrometers

- \rightarrow Cover the whole measuring range
- \rightarrow Perform extract readings within seconds

With just a sip from your brewing kettle or fermentation tank, DMA 35 delivers a temperature-compensated reading. Results take only a few seconds, so you can conveniently adjust your original extract before knocking out. Results are recorded and shown as density, specific gravity, or °Plato.

Control fermentation

- → Obtain visual proof your fermentation is on track
- of deviation

DMA 35 draws an on-screen fermentation graph for all of your brews, identified via a unique ID. Closely monitor any decrease in apparent extract to immediately detect inconsistencies and step in if needed. Transfer results to a computer via Bluetooth®.

DMA 35

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0 g/cm³ to 3 g/cm³

0.001 g/cm³

0.25 °Plato

0.0005 g/cm³

0.12 °Plato

2 mL

tooth®, RFID (included by default; no extra charge)

IP54 (dust- and splash-proof)

ne for wort; carbonated samples require degassing

AT516421 B1, EP3015847 B1, CN 105571982 B

DMA (013414867)

→ React immediately in case

Ready for the brewery environment

- → Leak-proof: protection class IP54
- \rightarrow Delivery in transportation case

Equipped with additional rubber protection, the portable extract meter withstands knocks and spills. Operation is easy for both left- and right-handed users, with or without gloves.

Alcohol and Extract Meter **Alex 500**

WORT ANALYSIS

FERMENTATION CONTROL

FILTRATION AND STORAGE BOTTLING

Want to try out a new recipe right away? No need for an external lab. Measure right away without product-specific calibrations. Especially if you perform bottle fermentation or add ingredients like fruit juice after fermentation, alcohol content calculated from the extract loss during brewing is just an estimated value. Note your key analysis parameters in your brewing logbook and reproduce the same unique taste over and over again.

With Alex 500, our easy-to-handle, entry-level alcohol and extract meter, control fermentation and measure alcohol content and original extract during final production via a patented measuring principle.

Parameters:

- → Alcohol
- → Real/original/apparent extract
- → Density/specific gravity
- → Calories, degree of fermentation, degrees lost

MEASURING RANGE

Alcohol Density

ACCURACY / REPEATABILITY S.D.

Alcohol

Density

GENERAL INFORMATION

Minimum amount of sample per measurement	Δ
Typical measuring time per sample	
Sample filling	
Sample preparation	None for wort; ca

Patents granted



Monitor production anytime, any day

- → No need for productspecific calibrations
- \rightarrow Easy calibration and adjustment with deionized water

Measure any new beer

creation right away

If results are off, perform a zero adjustment with deionized water. This way, the instrument is ready-to-use anytime: your entry ticket to independent inhouse lab analysis.

→ Visual on-screen

fermentation monitoring \rightarrow Quick alcohol and extract

Measure all samples throughout production with one instrument. Alex 500 displays a fermentation curve for each brew, so you can react to deviations as soon as they occur. Final checks, from the blending stage to the bottled product, ensure what's on the label is in the bottle.

FIND OUT MORE



www.anton-paar.com/ apb-alex-500

Alex 500

0.5 %v/v to 15 %v/v

0.95 g/cm3 to 1.2 g/cm3

0.2 %v/v / 0.1 %v/v

0.001 g/cm3 / 0.0005 g/cm3

approx. 40 mL degassed sample per measurement

Approx. 4 min per measurement

Integrated peristaltic pump

arbonated samples require degassing; turbid beer to be mixed with Kieselgur and filtered through paper filter

US 8106361 B2, AT 504 436 B8

- checks in final production

Rely on accurate, traceable results

- \rightarrow No manual calculations necessary
- \rightarrow Automatic sample preparation alert

Alex 500 lets you know if your sample needs additional treatment, ensuring results are always accurate. Temperature influence is compensated and results are displayed in the unit you need. Easily export records via Bluetooth® and use them to compare production performance batch-to-batch.

Portable CO₂/O₂ Meters **CarboQC At-Line and CboxQC** At-Line

FERMENTATION CONTROL

FILTRATION AND STORAGE

Monitor the potential uptake of O₂ at specific production steps. Prevent the formation of off-flavors, retain magnificent taste, and guarantee the longestpossible shelf-life. Avoid under- or over-carbonated beers with flat or sharp tastes and ensure consistent CO₂ levels from batch to batch.

CarboQC At-line and CboxQC At-line selectively determine dissolved CO₂ in your beer sample, taken directly from the line. CboxQC At-line provides accurate results for dissolved O₂ simultaneously.

Parameters:

- \rightarrow CO₂ concentration
- \rightarrow O₂ concentration





www.anton-paar.com/ apb-cboxqc



CarboQC At-line

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MEASURING RANGE	
CO ₂	0 g/L to 12 g/L (0 vol to 6 vol) at 30 °C (86 °F)
O ₂	- 0 ppm to 4 ppm
Temperature	-3 °C to +40 °C (27 °F to 104 °F), acc. ±0.2 °C
Pressure	0 bar to 10 bar absolute (0 psi to 145 psi), acc. 0.01 bar
REPEATABILITY S.D.	
CO ₂	0.04 g/L (0.02 vol)
O ₂	- ±2 ppb (<200 ppb)
MEASURING UNITS	
CO ₂	CO ₂ g/L, vol, mg/L, kg/cm ² , MPa, %w/w
O ₂	- ppm, ppb, mg/L, μg/L, % Air-sat., % O ₂ -sat.
GENERAL INFORMATION	

Measuring time	55 seconds	90 seconds
Sample preparation		None
Built-in support	$CO_2 \mid O_2$ data logger, three	shold value functionality, system check
Portable use	Up to 10	hours continuous use
Protection class		IP67
Sample filling	Direct analysis Direct analysis from finished packages ir	at a production line or tank n combination with a PFD Piercing and Filling Device

Trademarks

Measure the true amount of CO₂

- \rightarrow Ensure individual beer styles end up at exactly the right CO₂ levels
- → Optimize the taste of your beer

Selectively measure CO₂ concentration throughout the production process. Set the exact CO₂ levels for different beer styles and make sure the beer tastes great for your customers. Set expected target margins and monitor whether production is on track.

Measure CO₂ and O₂ directly at the line

- \rightarrow Receive an automatic alert in case of a filling error
- \rightarrow Count on real-time detection of bubbles

FillingCheck[™] is an automatic, real-time bubble detection feature that allows supervision of the entire measurement sequence and subsequent verification of the results.

CboxQC At-line

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90 seconds	
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FillingCheck (006834725; UK00906834725)

Continuous control

- \rightarrow Take continuous readings from the line
- \rightarrow Use digital data recording to optimize processes

Activate the data logger function of CboxQC At-line to receive continuous measuring results taken at a specific measuring spot. A memory capacity for 500 readings lets you specifically trace factors that improve your production process.

Alcohol Analyzing System **Beer Analyzing System 1001**

WORT ANALYSIS

FILTRATION AND STORAGE BOTTLING

This all-rounder system monitors key parameters – which vary between production steps - in a single measuring run. Fine-tune extract and pH levels for perfect fermentation conditions. Know that your original extract and alcohol level declaration will always conform with legal requirements.

The Beer Analyzing System 1001 channels renowned Alcolyzer technology into a system dedicated to craft brewing.

Parameters:

- → Alcohol
- → Real/original/apparent extract
- → Density/specific gravity
- \rightarrow pH value (optional)
- → Beer color (optional)
- \rightarrow Turbidity (optional)
- → Calories, degree of fermentation, degrees lost





MEASURING RANGE

Alcohol	
Original extract	
Density	
pH value (optional)	
Color (optional)	

REPEATABILITY S.D.

Alcohol
Original extract
Density
pH value (optional)
Color (optional)

GENERAL INFORMATION

Minimum amount of sample per measurement

Typical measuring time per sample	
Sample preparation	Nor
Sample filling	Integrate

Safeguard your alcohol declaration

- → Fulfill legal requirements
- \rightarrow Analyze alcohol and extract in accordance with reference methods

Selectively determine alcohol content with our market-leading Alcolyzer. Determine alcohol and extract content without the need for distillation. The technology is recommended in beer-specific regulations like EBC, ASBC, and MEBAK.

Measure all key parameters in-house

- → Optimize your brewing
- → Improve production stability

The Beer Analyzing System 1001 is designed for use at every step of your beer production process. Gain a deep understanding of your process, minimize batch variations, and guarantee consistently high product quality.

www.anton-paar.com/ apb-alcolyzer

Beer Analyzing System 1001

0 %v/v to 12 %v/v

0 °Plato to 30 °Plato

0 g/cm³ to 3 g/cm³

pH 0 to pH 14

0 EBC to 120 EBC

0.05 %v/v

0.1 °Plato

0.00001 g/cm³ (DMA 4101)

0.02 (in the range pH 3 to pH 7)

0.1 EBC

30 mL degassed sample per measurement

4 minutes (incl. filling)

ne for wort; carbonated samples require degassing

d peristaltic pump (optional: automatic sample changer)

process and eliminate errors

Measure each beer type right away

- \rightarrow Accurate results independent of beer type
- → No product-specific calibration necessary

Measure every type of beer right away without worrying if it's represented in a calibration model. Alcolyzer determines the alcohol content selectively and directly, without the need for a product-specific statistical model.

Packaged Beverage Analyzer PBA 1001 Beer

FILTRATION AND STORAGE

BOTTLING

Time to verify the quality of your product directly from the final package. Ensure proper filler performance, production consistency, conformity with legal requirements, and consumer satisfaction.

PBA 1001 Beer analyzes directly from the final package without the need for sample preparation.

Parameters:

- → Alcohol content
- → Real/original/apparent extract
- → Density/specific gravity
- \rightarrow pH value (optional)
- → Beer color (optional)
- \rightarrow Turbidity (optional)
- \rightarrow CO₂ concentration
- \rightarrow O₂ concentration (optional)
- → Calories, degree of fermentation, degrees lost





www.anton-paar.com/ apb-pba-5001



MEASURING BANGE

Alcohol
Original extract
Density
CO ₂ concentration
O ₂ concentration (optional)
pH value (optional)
Color (optional)
REPEATABILITY S.D.
Alcohol
Original extract
Density
CO ₂ concentration
O ₂ concentration (optional)
pH value (optional)

Color (optional)

GENERAL INFORMATION

- Minimum amount of sample per measurement
- Typical measuring time per sample
- Sample preparation
- Sample filling

Instantly detect filler performance issues

Final product confidence

- \rightarrow Fulfill legal requirements
- → Ensure batch-to-batch consistency

Crown your production control with confidence in the final product. Rely on batch-to-batch consistency already at the storage tank and confirm after bottling, so you conform with legal requirements.

→ Obtain results directly from

three minutes → React immediately to out-

Detect performance issues at the filler in three minutes with analysis of all key parameters in one go, directly from the final package, without any sample preparation. Save product and reduce losses.

PBA 1001 Beer

0 %v/v to 12 %v/v

0 °Plato to 30 °Plato

0 g/cm³ to 3 g/cm³

0 vol to 6 vol (0 g/L to 12 g/L) at 30 °C (86 °F) 0 vol to 10 vol (0 g/L to 20 g/L) <15 °C (59 °F)

0 ppm to 4 ppm

pH 0 to pH 14

0 EBC to 120 EBC

0.05 %v/v

0.1 °Plato

0.00001 g/cm³ (DMA 4101)

0.005 vol (0.01 g/L)

2 ppb (in the range <200 ppb)

0.02 (in the range pH 3 to pH 7)

0.1 EBC

150 mL degassed sample per measurement

4 minutes (incl. filling)

None

Direct analysis from the final package

the final package in only

of-spec filling

Safeguard taste with ideal CO₂ levels

- \rightarrow Selective CO₂ determination from the final package
- \rightarrow Sample taken directly from bottles or cans

PBA 1001 Beer doesn't just offer the best-in-class price/ performance ratio, it's also the only craft-beer analyzing system on the market that determines the amount of dissolved CO₂ without influence from other dissolved gases.

Growing Your **Business**

Our beer analysis solutions are designed to grow with your needs. Whether you're integrating data management, upscaling your analytical solutions, or implementing inline analysis in your production, we've got you covered.

Measure inline

The inline sensor Beer Monitor reports results directly from the line. Connected via the Davis 5 software, it's automatically calibrated and adjusted, taking lab measurements as a reference. network computer, whenever you The blending, carbonation, and dosing system Flex-Blend 3000 optimizes recipe management for minimum product loss and changeover time.

Go paperless

Centralize your lab data and store all your measurements in a single digital space. With our lab execution software, AP Connect, your data is accessible from any need. Streamlining your data flow frees up time for analysis and ensures full traceability.

Upgrade step by step

Our solutions give you the freedom to upgrade your analytical capabilities step by step, for example, to a higher accuracy level, high-end turbidity measurement, full automation, or TPO analysis.

Craft2Craft package: Your entry ticket to quality control

Packed into a convenient transportation suitcase, our advantageously priced Craft2Craft package includes a choice of the following instruments:

- → DMA 35 extract meter
- → CarboQC At-line CO₂ meter
- \rightarrow CboxQC At-line CO₂ and O₂ meter
- \rightarrow OxyQC O₂ meter
- → Alex 500 alcohol and extract meter

It's your entire lab in a single bundle.

BUY NOW



www.anton-paar.com/ apb-craft2craft-beer

We're confident in the high quality of our instruments. That's why we provide a full warranty for three years.

All new instruments* include repair for three years. You avoid unforeseen costs and can always rely on your instrument. Alongside the warranty, we offer a wide range of additional services and maintenance options.

*Due to the technology they use, some instruments require maintenance according to a maintenance schedule. Complying with the maintenance schedule is a prerequisite for the three-year warranty.



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TPO 5000

AP Connect Lab Execution Softwar PBA 5001 Beer

Anton Paar

Flex-Blend 3000





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