Anton Paar

Beverage Production Beyond the Edge

Inline Beverage Analyzers

The Next Level of Inline Beverage Analysis

Made from high-quality material, defined by high precision, perfected by decades of experience, and secured by the strictest quality standards, a new generation of inline beverage analyzer is born.

These maintenance-free measuring systems ensure in-spec production, prevent raw material giveaway, and reduce operating costs.

Anton Paar is the leading manufacturer of inline beverage analyzers with custom-made solutions for all beverage applications.

We make instruments you can count on.

- → Ensure product quality via real real-time monitoring of the product composition and detect product-and application-specific anomalies
- → Reduce the amount of laboratory checks thanks to advanced measurement methods
- → Connect to your lab equipment, enabling complete traceability
- → Eliminate time-consuming on-site adjustment
- → Receive a three three-year warranty

What's new?

Advanced diet measurement: Dual sensor technology together with an innovative analysis approach allows for unmatched quality in diet concentration determination.

Measurement check method: Verifies the validity of concentration measurements and product composition to ensure product quality and identify product discrepancies.

Web-based interface: Enjoy the same look and feel from a local touchscreen or remote web browser, thanks to the device-independent user interface.

Powerful process controller: Edge 5000 and Edge 7000 are powerful units with state-of-the-art interfaces and processing power.

FIND OUT MORE

www.anton-paar.com/apb-inline-beverage-analysis

Inline Analysis Solutions

Cobrix Series

Sugared and diet soft drinks, and more

The new Cobrix 5501/5601 and 7501/7601 inline or bypass beverage analyzers provide continuous monitoring of sugared and diet soft drinks, beer, hard seltzer, FABs, wine, juice, tea, and other beverages. Depending on the beverage, they measure Brix, % Diet or TA, CO_2, alcohol content, sugar inversion, original extract, real extract, and temperature.

Cobrix continuously monitors and measures your production values allowing you to react fast, so you waste neither samples nor time. Syrup yield is optimized, manual measurements are minimized, and out-of-spec values are avoided, all at an exceptionally low cost of ownership and a typical payback of less than one year.

With the advanced diet measurement and measurement check method, Cobrix 7501 and 7601 provide a new standard with regards to measurement stability and speed.

A New Diet Standard

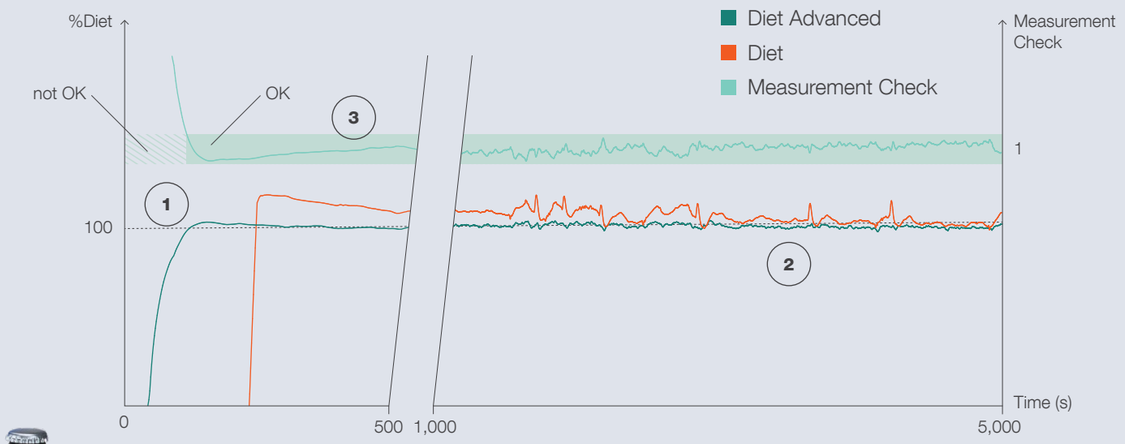
Advanced diet measurement and measurement check method

Advanced diet measurement utilizes two independent measurements with different principles together with an innovative analysis approach. This allows for unmatched quality in diet concentration determination.

For both sugared and diet soft drinks, measurement check not only monitors the concentration of individual components, but verifies the accurate composition. Measurement check identifies discrepancies like sugar carry-over, missing ingredients, residues, absent aroma components, or sensor malfunctions, ensuring high-quality control and consistent final products.

Both methods significantly reduce the need for calibration and laboratory checks. Customers benefit from faster reaction times and consistent product excellence in every batch.

Diet production run – advantages of the Diet Advanced method



1 **Produce 30,000* additional units per day**
Thanks to the dual sensor technology, the start-up time for diet measurements is up to 10 times shorter.

2 **Improved stability**
An improved calculation method means reduced sensitivity to process changes such as temperature variations.

3 **Verified measurement quality**
Measurement check ensures accurate composition and product quality.

* Typical line performance of 80,000 bottles/cans per hour and five product changes per day

Beverage Analysis You Can Count On

Inline analysis of beverages
Anton Paar offers a complete range of solutions for beverage analysis. As well as our inline monitoring solutions, Anton Paar provides tailored inline analyzers. Based on different measurement technologies, they can be used throughout the production process according to your requirements and preferences. Our application specialists assist you in finding the best system or sensor for your process.

- ✓ **Market-leading accuracy and repeatability:** Ensures in-spec production and prevents raw material giveaway
- ✓ **Application-specific values:** Remarkable versatility covers a spectrum of product and market demands, including soft drinks, beer, hard seltzer, and more
- ✓ **Rapid production start:** Accelerate startup times and speed up product changeovers by monitoring critical quality parameters from the beginning of the production run
- ✓ **Fit for your production environment:** If used with Anton Paar housing, it can withstand factory floor cleaning with pressurized water, using minimum installation space

Beer Monitor 5501 and 5601

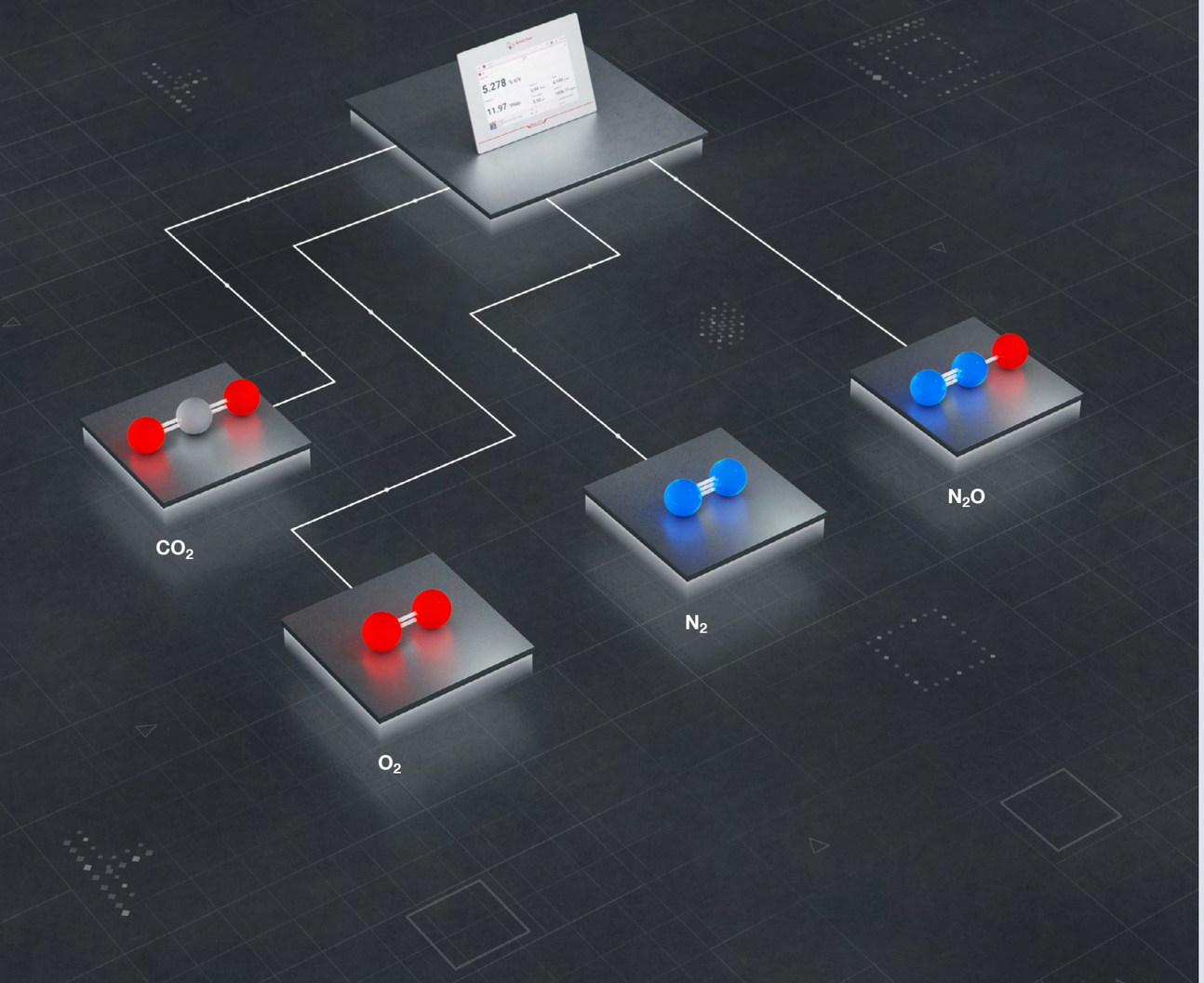
Beer Monitor 5501 and Beer Monitor 5601 facilitate continuous tracking of critical parameters, including alcohol content, apparent and real extract, original extract, and CO_2 levels across a diverse spectrum of beer types. This range encompasses everything from classic lagers to non-alcoholic and low-alcohol beers, double bocks, flavored malt beverages / alcopops, ciders, shandies, gluten-free beers, and more. The Beer Monitor is quickly back to work after CIP/SIP cleaning. You can rely on the inline beer analyzer to keep on working for years. The 5601 model is even maintenance-free.

Wine Monitor 5501 and 5601

Wine Monitor 5501 and Wine Monitor 5601 stand out as precision instruments for the ongoing assessment of alcohol content, extract, density, and CO_2 levels in all types of wines, as well as mixed wine beverages. They are also adept at evaluating the effervescence of both standard and low-calorie champagnes, sparkling wines, proseccos, spumantes, and cavas. Additionally, there is an option to measure color and oxygen levels.

One Supplier for Four Dissolved Gases

CO_2. O_2. N_2. N_2O. We're the only company providing sensors that measure all four of these dissolved gases on one platform, which lets you improve your production process for a range of beverages, including beer, soft drinks, energy drinks, and many more.



Expand Your Inline Capabilities

Carbo:
On-target beverage quality

Dissolved gases play a major role in the drinks we love. From soft drinks to beer, we offer a range of solutions for this application in our dissolved carbon dioxide and dissolved oxygen portfolios.

Oxy:
Dissolved oxygen in real time

With real-time results, the Oxy 4100 transmitter and Oxy 5100 sensor measure dissolved oxygen directly in the production line, independent of the solution medium and other dissolved gases. They're both SIP-ready, and Oxy 5100 is also EHEDG-certified.

L-Col:
Inline color measurement

L-Col 6100 detects the amount of absorbed light and assesses the product color to ensure it complies with standards such as EBC/MEBAK®/ASBC for beer color at 430 nm. Leverage tailored wavelength configurations to compensate for turbidity. With L-Col 6100, follow your entire production process, detect the maturity level of your beverage during storage, control the dosing of additives, and manage your blending process.

Digital Process Control with Davis 5

Davis 5 is Anton Paar's comprehensive data acquisition and visualization software. It can be connected via the Ethernet to any personal computer throughout your organization to analyze the production key performance indicators in real time. As Davis 5 connects your lab analyzing systems directly to Anton Paar's inline beverage analyzers, calibration and adjustments are automated and manual operator interaction is no longer required.

Store and visualize your production data directly from your office desktop
Based on an open client-server architecture, Davis 5 stores production data on your server and enables it to be displayed and accessed simultaneously on multiple PCs throughout your corporate network. Access rights are controlled via the software's integrated user management feature.

Production starts and stops, out-of-range values, trends, statistics, and more, can be viewed, downloaded, and printed at any time. Values can be checked, configurations changed, and production stopped directly from the desktop, whenever necessary.

Protection via product-specific alerts
You can specify production settings, limits, alarms, and alerts for individual products. Whenever measured values fall outside the acceptable range, Davis 5 highlights them by changing the screen's background color, and by sounding an audible alarm, so your production team can make the necessary adjustments. Any number of products can be transferred from one production line to another directly from your office desktop. Your created product database can also be transferred to any other production line to be set up with identical product-specific production parameters.

Calibration and adjustment at the push of a button
Thanks to automated data transfer from the laboratory to the inline beverage analyzers, transcription errors are avoided and the calibration workflow is well-documented.

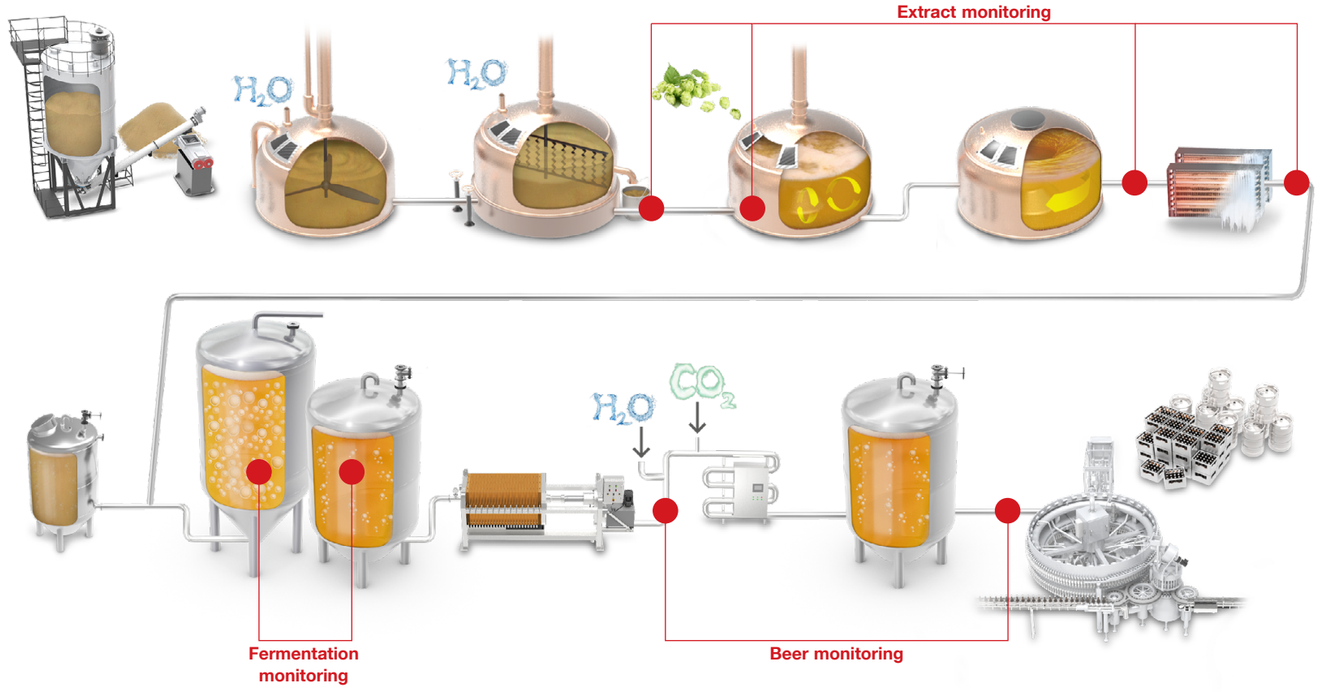
Improve your process capability
Production runs can be monitored and analyzed based on process, statistical, and quality data: e.g. production times and stops, out-of-range values, trends, mean value, standard deviation, line downtimes, bottle and can numbers, history of adjustments, Cp, Cpk, and Quality Index readings to fully optimize your processes. You can view initial values while the system continues collecting and storing data.

Powerful reporting and complete traceability
Davis 5 automates report generation in your preferred format. You can transfer data to a LIMS or send e-reports to a smartphone, tablet, or PC. Statistical reports can be viewed in XML or PDF formats to enable readability as part of your corporate quality management system, or for integration into other statistical process control (SPC) solutions. The reports are accessible after each batch, or at a specific time of the day.

Manufacturing Process Applications

Your goals are to achieve the highest product quality, minimize production and maintenance costs, and react immediately to deviations in the production line. So, continuous control and analysis of your process and product are essential. Inline analyzers give you an accurate picture of your process in real time and allow you to optimize your product quality. Anton Paar's process sensors provide the required transparency at many different measuring points and for critical production steps in the production of beer, soft drinks, wine, and even hard seltzer.

Inline Beverage Analyzers in the Beer Manufacturing Process

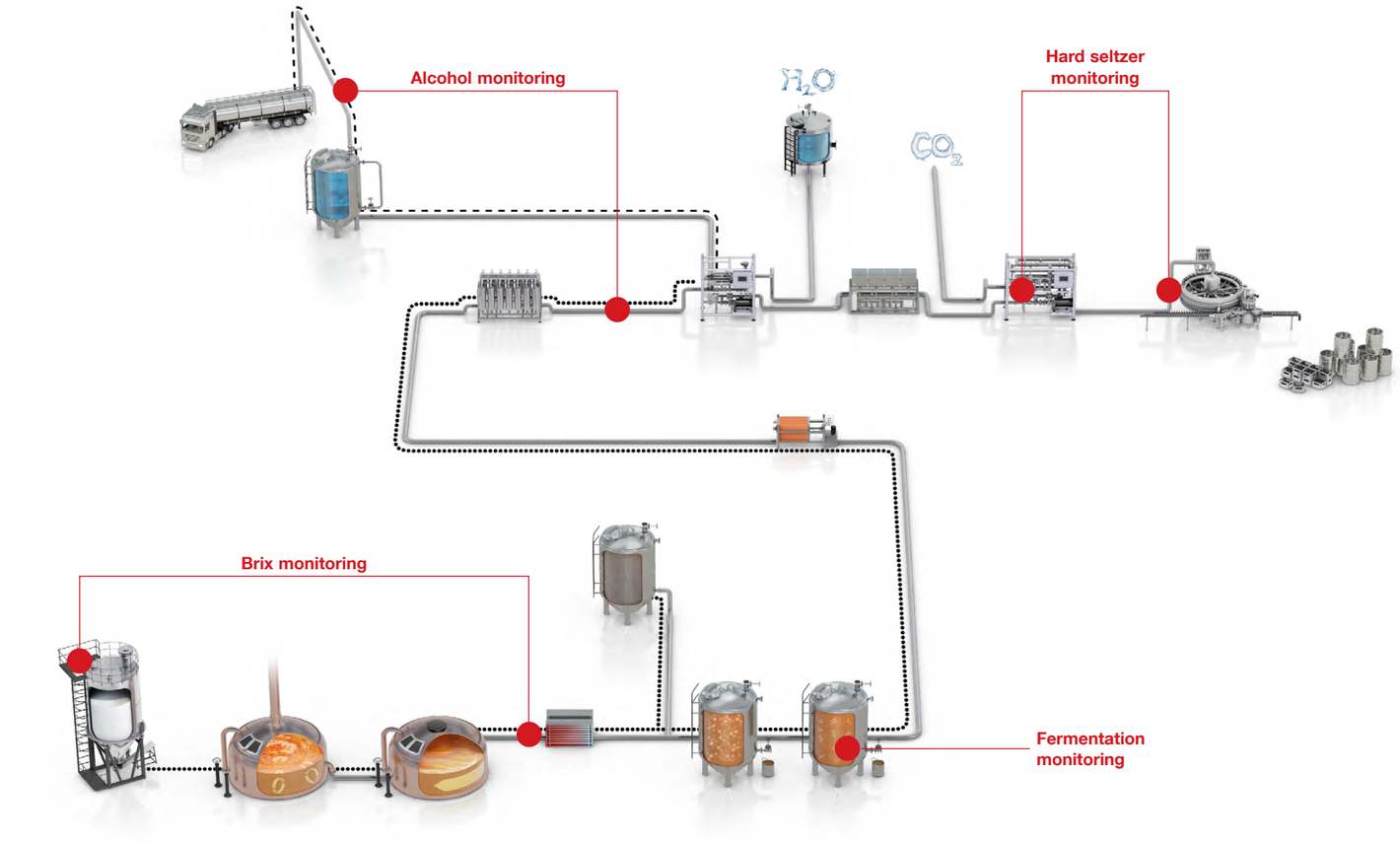


FIND OUT MORE

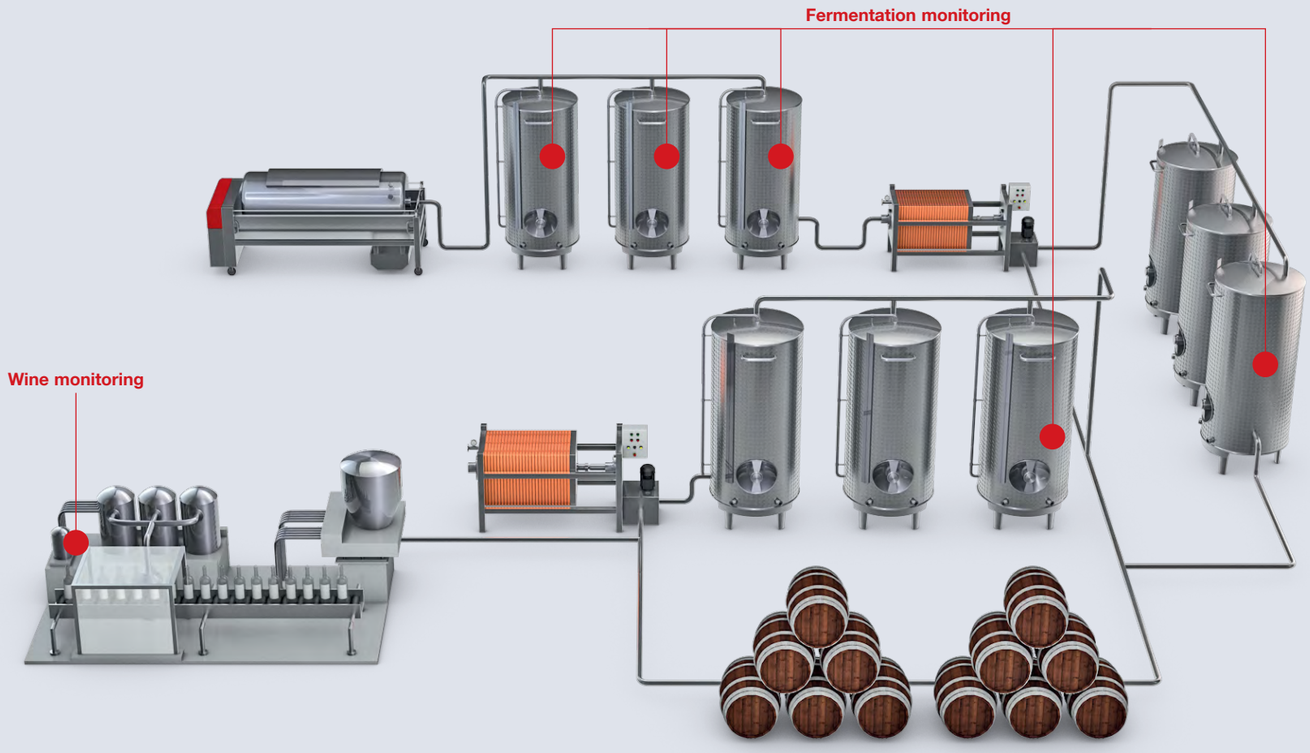
www.anton-paar.com/apb-beverages

Inline Beverage Analyzers in the Soft Drink Manufacturing Process

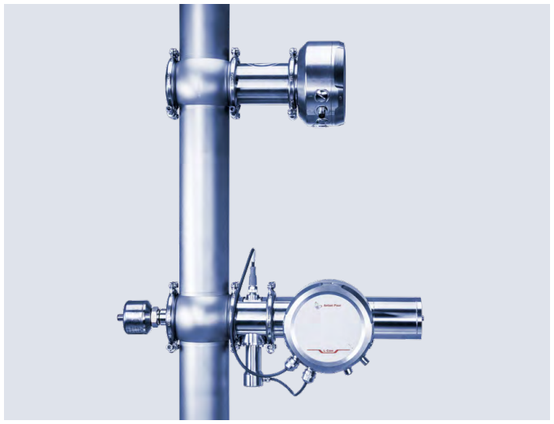
Inline Beverage Analyzers in the Hard Seltzer Manufacturing Process



Inline Beverage Analyzers in the Wine Manufacturing Process



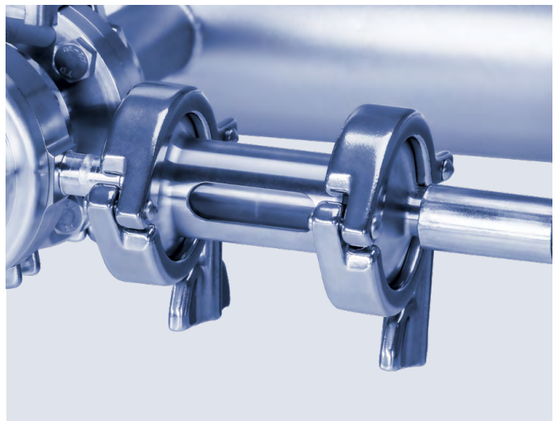
Installation



Inline installation
With VARIVENT® N adapters – simple installation with minimal effort.

Bypass installation
Complete operational flexibility ensuring accurate flow volume for precise and reliable measurements.

Bypass housing
Ensures safety and maximizes your product lifetime



Sight glass
Keep an eye on your beverage analysis

		Cobrix 5501 and Cobrix 5601 ↓	Cobrix 7501 and Cobrix 7601 ↓
Sugar/diet concentration	**Range**	0 °Brix to 50 °Brix 0 °Brix to 15 °Brix for products with sugar inversion | 0 % to 150 % Diet of target	
	Accuracy	Sugared drinks: <0.02 °Brix Diet drinks: <1 %	Sugared drinks: <0.02 °Brix Diet drinks: <0.5 %
	Stability diet (coefficient of variation)	<1 %	<0.5 %
CO_2 concentration	**Range**	0 Volumes to 6 Volumes 0 g/L to 12 g/L	
	Accuracy	0.025 Vol. (0.05 g/L)	
FABs (alcopops)	**Alcohol range**	0 % w/w to 16 % w/w (% weight/weight) 0 % v/v to 20 % v/v (% volume/volume at 20 °C)	
	Alcohol accuracy	0.02 % v/v	
Measuring temperature		0 °C to 30 °C | 0 °C to 25 °C for products with sugar inversion, diet beverages, and FABs	
Diet advanced		×	✓
Measurement check		×	✓

		Beer Monitor 5501 and Beer Monitor 5601 ↓
Real extract	**Range**	0 °Plato to 12 °Plato
Original extract	**Range**	0 °Plato to 35 °Plato
Real/original extract	**Accuracy**	0.02/0.04 °Plato
CO_2 concentration	**Range**	0 Volumes to 6 Volumes 0 g/L to 12 g/L
	Accuracy	0.025 Vol. (0.05 g/L)
Alcohol	**Range**	0 % w/w to 12 % w/w (% weight/weight) 0 % v/v to 15 % v/v (% volume/volume at 20 °C)
	Accuracy	0.02 % v/v
Measuring temperature		-3 °C to +25 °C

		Wine Monitor 5501 and Wine Monitor 5601 ↓
Extract	**Range**	0 % w/w to 10 % w/w Accuracy 0.04 % w/w
CO_2 concentration	**Range**	0 Volumes to 6 Volumes 0 g/L to 12 g/L
	Accuracy	0.025 Vol. (0.05 g/L)
Alcohol	**Range**	0 % w/w to 16 % w/w (% weight/weight) 0 % v/v to 20 % v/v (% volume/volume at 20 °C)
	Accuracy	0.02 % v/v
Measuring temperature		0 °C to 25 °C

	Carbo 5100	Carbo 6100	Carbo 6300
	↓	↓	↓
Measuring range	0 g/L to 20 g/L (0 vol to 10 vol)	0 g/L to 12 g/L (0 vol to 6 vol)	
Accuracy	0.05 g/L (0.025 vol)		
Process temperature	-5 °C to +40 °C	-3 °C to +40 °C	
CIP/SIP temperature and duration	Up to 121 °C for 30 minutes	Up to 95 °C for 4 h	Up to 95 °C for 4 h or up to 130 °C for 30 min
Ambient temperature	0 °C to 50 °C	-20 °C to +50 °C	
Process pressure absolute	10 bar		
Material of the wetted parts	WC, SSiC, Stainless steel 1.4404 (AISI 316L) O-Rings, diaphragms: EPDM 70.10-02 (FDA-approved)	Stainless steel 1.4404 (AISI 316L), PEEK, Sapphire (Al_2O_3 – 99.997%), O-ring: VARIVENT® connection - EPDM 70.10-02 (FDA approved)	
Communication	Pico 3000, Pico 3000 RC, mPDS 5		
Process connections	Tuchenhagen VARIVENT® Type N		
Degree of protection	IP65; IP67		
Certificates	CE	CE, EHEDG (Type EL - Class I)	
Dimensions	173 mm x 224 mm x 219 mm	142 mm x 142 mm x 220 mm	

	L-Col
	↓
Measuring principle	Absorption
Measuring range	0 AU to 3 AU
Measuring units	EBC, SRM, AU, IU (others on request)
Resolution	0.001 AU
Reproducibility	±1 % transmission
Linearity	Better than ±0.5 % transmission
Wavelength absorption	1 to 3 wavelengths of choice: 280, 340, 380, 390, 400, 410, 420, 430, 440, 450, 455, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 760 nm (all with LED)
Supply voltage	DC 24 V – 1 A (supplied via mPDS 5)
Process temperature	0 °C to 110 °C | CIP/SIP up to 121 °C for 120 min
Sample pressure	max. 10 bar
Ambient temperature range	-20 °C to +50 °C
Ambient humidity	0 % RH to 100 % RH
Degree of protection	IP65
Weight	max. 4.3 kg
Material of the wetted parts	Stainless steel 1.4301, fused silica, EPDM
Process connections	Tuchenhagen VARIVENT® Type N

	Oxy 4100 / Oxy 5100			
Sensor cap	**Ultra-trace range***	**Trace range**	**Wide range**	**Ultra-wide range***
	↓	↓	↓	↓
Measuring range (dissolved O_2 in liquids)	- (Gas phase only)	0 ppb to 2,000 ppb	0 ppm to 22.5 ppm	0 ppm to 45 ppm
Measuring range (gas phase O_2 in CO_2)	0 ppmv to 200 ppmv (0 to 0.2 hPa)	0 % O_2 to 4.2 % O_2 (0 to 40 hPa)	0 % O_2 to 21 % O_2 (0 to 500 hPa)	0 % to 21 % O_2 (0 to 1,000 hPa)
Accuracy for liquids (the larger value is valid)	- (Gas phase only)	≤±1 % ppb or ±3 %	≤±0.042 ppm or ±3 %	≤±0.1 ppm or ±5 %
Process temperature	0 °C to 40 °C	-5 °C to +65 °C (Oxy 5100) -5 °C to +40 °C (Oxy 4100)		-5 °C to +40 °C
CIP/SIP temperature and duration	Not suitable for CIP/SIP	Max. 99 °C, max. 130 °C (max. 30 min)		
Ambient temperature	-5 °C to +50 °C			
Process pressure absolute	12 bar, max. 5 bar for measurements in gas phase			
Material of the wetted parts	Stainless steel 1.4404 (AISI 316L)			
Material of the wetted parts sensor cap	Sensor cap: Stainless steel 1.4404 (AISI 316L) Sensor spot coating: Silicone (FDA approved) O-Ring: FKM 75.16-04 (FDA approved)			
Communication	Pico 3000, Pico 3000 RC*, mPDS 5*			
Process connections	Tuchenhagen VARIVENT® Type N			
Degree of protection	IP65; IP67			
Certificates	CE, EHEDG* (Type EL - Class I)			
Dimensions	162 x 162 x 215 mm			

*Not available for Oxy 4100

Reliable.
Compliant.
Qualified.

FIND OUT MORE

www.anton-paar.com/service

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

Maximum uptime

Warranty program

Short response times

A global service network

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