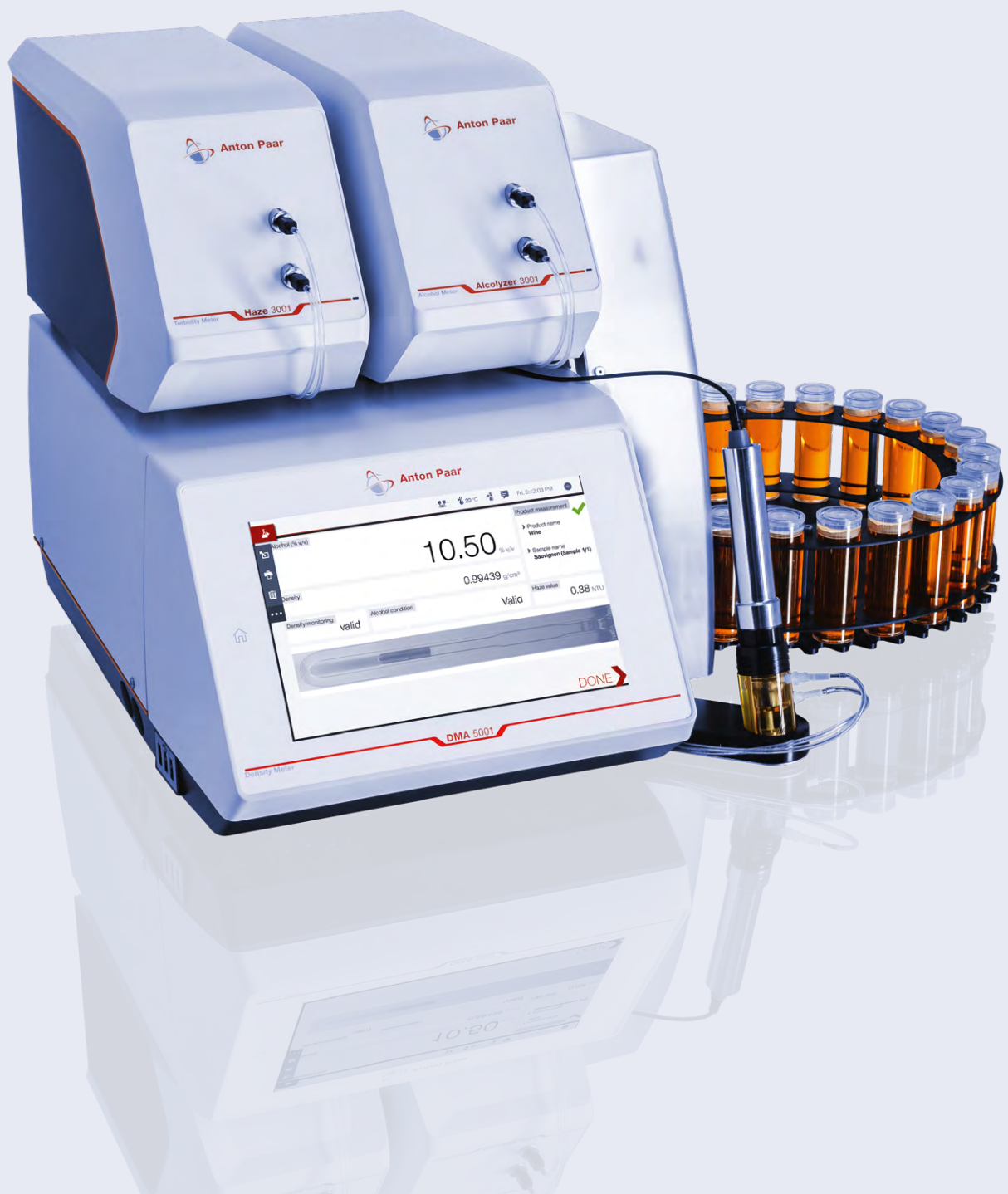


# Solutions for Your **Wonderful Wine**

## Wine Analysis Overview



# Market Leader in Alcoholic Beverage 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. We're always a step ahead of fast-evolving beverage industry trends and applications, providing solutions that position you one step ahead. Whether you're analyzing a red, white, rosé or sparkling wine, we'll help you save time, analyze with ease, and deliver a premium product. With us, you also find solutions for measuring special applications like sake.





1



2



3



4



5

1

**One step ahead of industry trends**

- Rely on expertise from the market leader in analytical solutions for the wine industry
- Increase the accuracy and speed of your measurements for results in down to four minutes
- Analyze alcohol up to 10x faster than with distillation and without the need for neutralization
- Minimize waste, streamline operations, and maintain consistent product quality

WATCH VIDEO



2

**Maximum efficiency, effective QC**

- Measure over 15 quality parameters with one setup within eight minutes
- Automate filling and cleaning of up to 24 samples in a row for nonpressurized systems
- Deliver high-quality products with handheld solutions, measuring systems, automated QC labs, and in-line sensors

WATCH VIDEO



3

**Decades of application experience**

- Know you're working with a partner that has over 40 years of experience in the field
- Draw on our application expertise wherever and whenever you need it
- Rely on the same expertise that QC managers from around the world and across every industry have access to

WATCH VIDEO



4

**Features that make market-leading density meters**

- Leverage usability features like 30+ guided workflows and automatic bubble detection to make your density measurements easier than ever before
- Benefit from an automatic compensation of the U-tube's aging effects and minimized drift over the lifetime of the instrument
- Streamline your data management with AP Connect, our lab execution software

WATCH VIDEO



5

**Expert service, guaranteed**

- Know you benefit from Anton Paar quality when it comes to durability and service
- Get a 3-year warranty with each product
- Access our global service network whenever you need it
- Enjoy support in your local language
- Know you have access to spare parts for at least 10 years after purchase

WATCH VIDEO



# Always Superior Technology



The core of our density meters?

A handmade, glass U-tube. Powered by our patented Pulsed Excitation Method, it perfectly complements our Alcolyzer portfolio for selective alcohol measurement.

It's the ideal partner for your wine analysis.

## Enjoy market-leading accuracy

- Select the instrument you need from a broad portfolio
- Direct and selective alcohol determination without distillation
- Get exceptional alcohol repeatability time and time again down to 0.01 % v/v

## Your demands, our solutions

- Access a broad portfolio: from handheld devices to multiparameter measurement systems
- Perform the analysis you need: from fermentation to finished product and from red, white, and rosé to sparkling wine

## Get a live view of the measuring cell with U-View™

- Check the sample filling process via a high-quality image of the glass cell on the high-resolution screen (1280 x 800 px)
- Verify correct sample filling and measurements with the stored images
- Print results with or without U-View™ pictures or transfer this set of data to your LIMS system

## Perform tasks quickly and easily

- Open your favorite menu dialogs from the 10.4" screen using the quick access area
- Assign different user levels to prevent accidental changes
- Get system or operation alerts and see the current status of an automatic sample changer or measuring module

## Ensure correct sample filling with FillingCheck™

- Enjoy automatic monitoring of the filling quality
- Get real-time error detection and automatic documentation for later verification
- Know you have the market's most reliable bubble detection with our patented Pulsed Excitation Method

# Our Product Portfolio for Wine Analysis

Buy online  
shop.anton-paar.com

Market  
Leader



## DMA 35: Portable density meter

- Conduct quick, reliable quality control during wine production with just 2 mL of sample
- Store up to 30 measuring methods and up to 250 sample IDs
- Store and export 1,000+ results to a printer or PC
- Enjoy fast sample processing with an RFID interface and Bluetooth capability

## Alex 500: Stand-alone alcohol and extract meter

- Monitor up to 40 fermentation processes simultaneously for red, white, rosé and sparkling wines
- Enjoy patented density and NIR technology in one instrument
- Get direct, real-time results
- Rely on semi-automated sampling and a standardized sample handling SOP



## Lyza 5000 Wine: FTIR analyzer

- Obtain results in less than one minute
- Enjoy implemented models for must, must in fermentation, and wine
- Measure 15+ parameters in one go



## Alcolyzer M Wine: Alcohol meter

- Conduct alcohol analysis for 0 % v/v to 20 % v/v
- No sample preparation for non-sparkling wines
- Conduct analysis in less than three minutes – 10x faster than distillation
- Benefit from selective alcohol determination with an accuracy of <0.1 % v/v
- Use modular extensions for turbidity and pH measurement



## DMA 4101, DMA 4501, DMA 5001: The fastest, most-accurate density meters

- Analyze wine and get results with 4-digit accuracy in 20 seconds (up to 6-digit density accuracy available)
- Track and eliminate variations in your production and achieve consistency in every batch
- Enjoy higher throughput with automated filling, measuring, and cleaning options
- Rely on technology that's been in the field for over 40 years

DMA 4501:  
Top Seller



# Portable Quality Control: Anywhere, Anytime

**DMA 35: A portable density meter for the field**

## The DMA 35 is durable. But don't just take our word for it.

- IP54 protection class: Harsh industrial and field applications are no problem
- Additional rubber protection keeps the measuring cell safe
- Replace all glass hydrometers in your workplace and get the expected accuracy
- Replaceable measuring cell for DIY maintenance

## On-site measurements just got easier

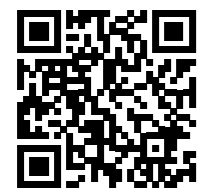
- Benefit from fast, reliable QC during all process steps on-site and in the field
- Gesture control: one-handed measurements
- Glove-friendly
- Quick result export to printer or PC for documentation and analysis
- RFID interface and Bluetooth streamline your operations and save time in the field
- Track daily measurements with its fermentation monitor mode

### DMA 35

Density range	0 g/cm <sup>3</sup> to 3 g/cm <sup>3</sup>
Density accuracy	0.001 g/cm <sup>3</sup>



FIND OUT MORE



[www.anton-paar.com/apb-wine-dma35](http://www.anton-paar.com/apb-wine-dma35)

# Your Entry Ticket to In-House Lab Analysis

**Alex 500: Alcohol and extract meter**

## Visual fermentation monitoring

- Confidently monitor and control your fermentation process
- Track daily measurements with its fermentation monitor mode, which displays a density curve assigned to a tank via sample ID, and swiftly correct any deviations
- Control up to 40 fermentation processes with one device

## Easy calibration and adjustment

- Check your Alex 500 with DI water for the correctness of results
- Perform an adjustment with water if results are off track
- Measure all day after a zero adjustment with deionized water

### Alex 500

Density range	0.95 g/cm <sup>3</sup> to 1.20 g/cm <sup>3</sup>
Density repeatability, s.d.	0.0005 g/cm <sup>3</sup>
Alcohol range (wine)	8 % v/v to 20 % v/v
Alcohol accuracy (wine)	0.2 % v/v



FIND OUT MORE



[www.anton-paar.com/apb-wine-alex500](http://www.anton-paar.com/apb-wine-alex500)

# Determining Alcohol Content Just Got Easier

**Alcolyzer Wine M: Determine your wine's alcohol content**

## One solution for a wide range of wines

- Analyze the alcohol content in wine, sparkling wine, cider, rice wine, alcopops, and fermenting must
- Unlock the secrets of each wine with precise measurements
- Extend the Alcolyzer Wine M with a variety of measuring modules or use as a stand-alone solution

## Quick analysis, instant insight

- Complete your analysis in less than three minutes
- Free up lab capacity with an add-on for simultaneous pH determination
- Pinpoint accuracy for your entire product portfolio, no need for distillation

## An easy system for any winemaker

- Easily use the system with a user-friendly touchscreen
- Say goodbye to product-specific calibrations
- Save space with your brewery with a compact design

## Automation with Xsample sample changers

- Semi-automated filling with Xsample 320
- Automated filling for up to 24 samples in one go with Xsample 520

### Alcolyzer Wine M

<b>Alcohol range</b>	8 % v/v to 20 % v/v
<b>Alcohol repeatability, s.d.</b>	0.01 % v/v



FIND OUT MORE



[www.anton-paar.com/apb-wine-alcolyzer-m](http://www.anton-paar.com/apb-wine-alcolyzer-m)

# The Evolution of Wine Analysis

**Lyza 5000 Wine: The fastest way to analyze 15+ quality parameters of wine**

## 15+ parameters are just one tap away

- Measure key parameters like ethanol, sugars and acid profile
- Analysis of must, must in fermentation, and wine

## Superior performance that lasts a lifetime

- Innovative 12-bounce ATR cell for high-intensity signals and stable results
- Patented Cleaning Performance Index to guarantee a clean instrument
- Guided workflows for water and ethanol reference measurements ensure precise results

## Automation with Xsample Sample Changers

- Connect Xsample 370 for automated filling, referencing, cleaning, and drying
- Increase your throughput with Xsample 520, with up to 48 samples in a row

### Lyza 5000 Wine

<b>Density range</b>	0.98 g/cm <sup>3</sup> to 1.12 g/cm <sup>3</sup>
<b>Repeatability, s.d.</b>	0.0001 g/cm <sup>3</sup>
<b>Ethanol range</b>	0 % v/v to 20 % v/v
<b>Ethanol repeatability, s.d.</b>	0.02 % v/v
<b>Measurement time</b>	<1 min



FIND OUT MORE



[www.anton-paar.com/apb-wine-lyza5000](http://www.anton-paar.com/apb-wine-lyza5000)

# Next-Level Speed, Next-Level Accuracy

DMA 4101, DMA 4501, DMA 5001: Our fastest, most intelligent benchtop density meters

## Always superior:

### A revolutionary user experience

Accurate density measurement of distilled fractions is the internationally recognized reference method for alcohol determination. Use it as a standalone instrument or extend it with a variety of measuring modules.

## Tech with a kick

- 4-digit density accuracy in 20 seconds
- Patented Pulsed Excitation Method ensures market-leading precision, repeatability, and reproducibility
- Storage for 10,000 measurements
- Ultra-fast measurement mode boosts productivity
- Instant pass/fail QC decisions by defining limits for different samples
- Compliance with a range of industry standards
- Up to 6-digit density accuracy
- Automated conversion to % v/v

## Need multiparameter analysis? No problem

- Connect your device to a variety of Anton Paar measuring modules for a measuring system that monitors QC parameters (specific gravity, extract, and calories)
- Measure over 50 key parameters simultaneously
- Increase efficiency, productivity, and safety with automated sample changers or even a fully automated QC laboratory

## Features to help you make the most of your measurements

- FillingCheck™ detects microbubbles within seconds
- U-View™ shows a zoomable image of the measuring cell
- Automatic compensation of temperature effects thanks to ThermoBalance™
- Guided user workflows
- Compatible with AP Connect, our lab execution software

	DMA 4101	DMA 4501	DMA 5001
Density range	0 g/cm <sup>3</sup> to 3 g/cm <sup>3</sup>	0 g/cm <sup>3</sup> to 3 g/cm <sup>3</sup>	0 g/cm <sup>3</sup> to 3 g/cm <sup>3</sup>
Density repeatability, s.d.	0.00001 g/cm <sup>3</sup>	0.000005 g/cm <sup>3</sup>	0.000001 g/cm <sup>3</sup>
Alcohol range (distilled fractions)	0 % v/v to 100 % v/v	0 % v/v to 100 % v/v	0 % v/v to 100 % v/v
Alcohol accuracy (distilled fractions)	0.05 % v/v	0.025 % v/v	<0.01 % v/v



FIND OUT MORE



[www.anton-paar.com/apb-wine-dma](http://www.anton-paar.com/apb-wine-dma)



# Versatile, for Different Applications

## 1 Must analysis

Our technology ensures accurate measurement of must quality parameters. You can define the peak of ripeness, harvest the highest quality grapes, and guarantee final product quality.

## 2 Fermentation control

Optimize fermentation with density, alcohol, and pH measurement for consistent high-quality products, timely action, precise end point determination, and reduced time and resources. Make real-time adjustments and maximize yield.

## 3 Filtration

A high-end density meter expanded by an alcohol and a turbidity meter enables full filtration monitoring. Ensure the complete removal of insoluble matter so you don't have to restart fermentation, and you can guarantee microbiological stability and avoid changes of mouthfeel, aroma, and flavor.

## 4 Stabilization and storage

Attain the pinnacle of excellence in wine through meticulous monitoring of alcohol content and pH before and during storage. This ensures product stability, confirms product specifications, and guarantees that only the products released for bottling meet the highest quality standards. Additionally, accurate measurement of alcohol content allows for proper taxation compliance, eliminating any discrepancies. With a comprehensive understanding of these parameters, you can confidently release your carefully crafted product for bottling, captivating connoisseurs with its unrivaled quality.

## 5 Bottling

Incorporate the full analysis out of single bottles of wine to fulfill all legal requirements and ensure consistency with a minimum of effort. By eliminating sample preparation and operator errors, you can elevate your production process and establish a strong reputation in the industry.



# The Dream Experience

You have a dream: of an intelligent instrument that shows you the measurement way, and if you take a wrong turn, guides you straight back to the right path. A superior instrument that tells you your measurement has bubbles in it, shows you via camera image, and asks you to repeat it. An instrument that's as intuitive as a smart phone.

## Usability design

The software that powers our compact and benchtop density meters, others can only dream of. It's the reason measurements are so quick and intuitive. Together with the revolutionary operating systems, it guarantees maximum usability and a smartphone-like experience with industry-specific profiles, 30+ guided user workflows, and 200+ available conversion tables.

## Smart features

An instrument that smart thinks for you: efficient sample throughput, industry profile customization, fast sample diagnostics with the new, automatic algorithm-driven FillingCheck™, and reliable single measurements. The automated setup for the industry-specific user interface delivers an out-of-the-box, out-of-this-world measuring experience.

## Dream data: AP Connect lab execution software

You have a dream: of a liberating paperless lab that eliminates transcription errors and guarantees data quality. You have a dream: of a lab where the data you need to pass audits is available at a snap, right at your fingertips. Just plug the instrument in to our lab execution software AP Connect for a lab without a single piece of paper. AP Connect links your instruments, communicates measurement information, and ensures compliance. Store 10,000 measurements in a single digital space, with user-defined output reports. The software is available in eight different languages.



FIND OUT MORE



[www.anton-paar.com/apv-overview-usability](http://www.anton-paar.com/apv-overview-usability)

# Combine for a **Superior Measuring System**

The core of our measuring systems?  
Our always-superior density meters.

Choose from the following:

## PRIMARY INSTRUMENTS

DMA 4101

DMA 4501

DMA 5001

FIND OUT MORE



[www.anton-paar.com/apb-wine-modulyzer](http://www.anton-paar.com/apb-wine-modulyzer)



## pH

pH 3101

pH 3201

## TURBIDITY

Haze 3001

## ALCOHOL CONTENT

Alcolyzer 3001

Alcolyzer 3001 Wine

Alcolyzer 3001 Sake

## CO<sub>2</sub>, O<sub>2</sub>

CarboQC ME

Option O<sub>2</sub> Plus for  
CarboQC ME

## FILLING DEVICE

SFD

PFD

PFD Plus

Sample conditioner

## SAMPLE CHANGER

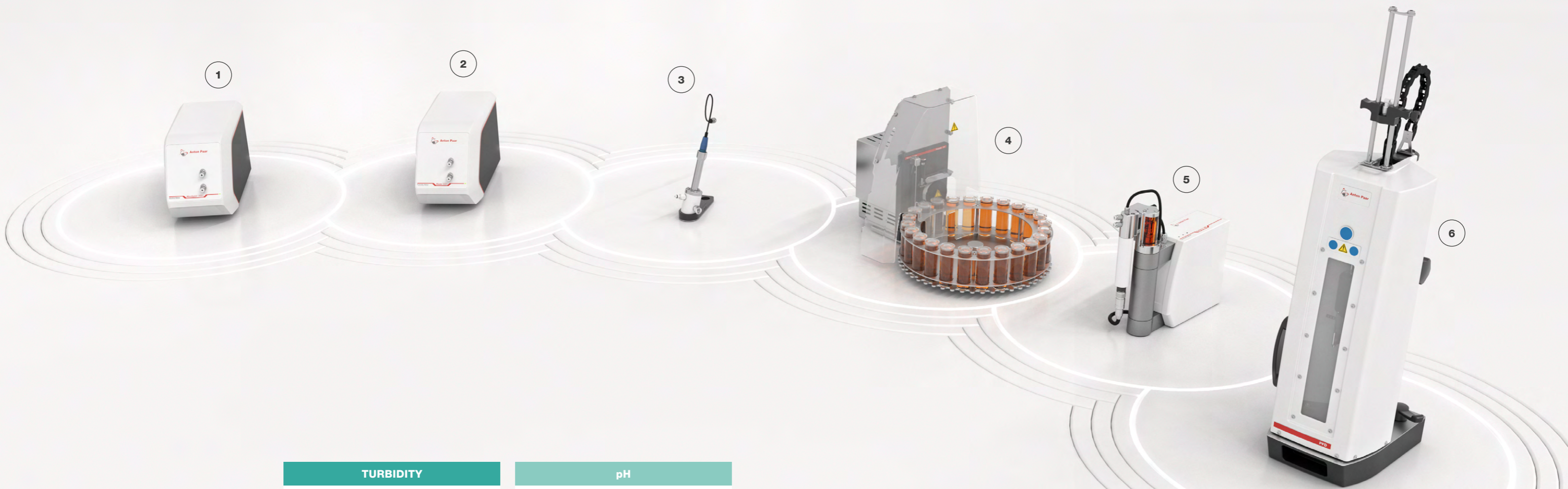
Xsample 320

Xsample 520

AVAILABLE OPTIONS

# Measuring System

## Modular Extensions



### ALCOHOL CONTENT

- 1**
- Selective measurement of alcohol within two minutes
  - Independent sample adjustment with water and a binary ethanol/water solution

Our modular setup combines the Alcoalyzer with density meters and other modules. Choose from different variants tailored for beer, wine, sake, spirits, or an all-in-one combination.

### TURBIDITY

- 2**
- Detects impurities of all particle sizes
  - Compliant to different industry norms, such as EBC, MEBAK, and OIV

Haze 3001 applies the approved ratio method with measurement at three angles (transmission 0°, scattered light at 25°, and 90°) to eliminate particle size influence on the turbidity value. This lets you to detect impurities as well as safeguard visual properties and even chill haze if combined with a cooling unit.

### pH

- 3**
- Simultaneous pH measurement for beverage analysis
  - Automatic pH value correction for the impact of dissolved CO<sub>2</sub>

Determine the pH value alongside other quality parameters with the pH 3101 and 3201 measuring modules. Versatile configurations allow pH measurements under pressures of up to 6 bar in a variety of liquids and provide insight into your samples in a variety of liquids.

### SAMPLE CHANGER

- 4**
- Eliminate handling errors and save time with automation
  - Reduce costs per measurement

Benefit from a range of automation options. From single measurements to high throughput solutions for large quantities of samples per day, we have an automated solution to fit your business.

### CO<sub>2</sub>, O<sub>2</sub>

- 5**
- Detect CO<sub>2</sub> in 55 seconds, CO<sub>2</sub> and O<sub>2</sub> in 90 seconds
  - No influence from other dissolved gases

Obtain a repeatability of 0.005 vol. Rely on automatic filling error detection for the density and CO<sub>2</sub> measuring cell for error-free operation. Add the (optional) high-resolution optochemical oxygen sensor for the simultaneous determination of the O<sub>2</sub> concentration in your beverage.

### FILLING DEVICE

- 6**
- Filling from glass bottles, PET bottles, and cans
  - No loss of CO<sub>2</sub> or O<sub>2</sub> due to pressurized filling

The PFD Filling Device transfers your sample directly from a closed container – either a bottle or a can – into the measuring chamber of a measuring instrument. A sample conditioner enables measurement below 15 °C and reduces the measuring time.

# Recommended Configurations

Design your wine measuring system, one component at a time

DMA 4101
+ Alcolyzer 3001 Wine
+ Xsample 320

- Get immediate insight into the most important parameters without distillation: alcohol and extract content
- Remove operator influence with semi-automatic filling
- Ensure product stability
- Optimize the maturation process
- Confirm your product specifications

DMA 4501
+ Alcolyzer 3001 Wine
+ Haze 3001
+ pH 3101
+ Xsample 520

- Measure up to 24 samples in a row
- Direct and selective alcohol determination
- Fully automatic check/calibration thanks to built-in SOP

DMA 5001
+ Sample conditioner
+ Alcolyzer 3001 Wine
+ Haze 3001
+ pH 3201
+ CarboQC ME with Option O <sub>2</sub> Plus
+ PFD Plus

- Rapidly confirm product specifications, more than 6x faster than with distillation
- Fulfill legal requirements
- Ensure consistently high product quality
- Eliminate sample preparation and operator influence

MANY MORE CONFIGURATIONS



[www.anton-paar.com/apb-wine-modulyzer](http://www.anton-paar.com/apb-wine-modulyzer)



Recommended Configuration	1 ↓	2 ↓	3 ↓
Parameters	Alcohol   Extract	Alcohol   Extract   Turbidity   pH	CO <sub>2</sub>   Dissolved O <sub>2</sub>   Alcohol Extract   Turbidity

MEASURING RANGE			
Alcohol	0 % v/v to 20 % v/v		
Density	0 g/cm <sup>3</sup> to 3 g/cm <sup>3</sup>		
pH value	-	pH 0 to pH 14	
Turbidity	-	0 NTU to 400 NTU	
CO <sub>2</sub> concentration	-	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)	
O <sub>2</sub> concentration	-	0 ppm to 4 ppm	

REPEATABILITY, S.D			
Alcohol	0.01 % v/v		
Density	0.00001 g/cm <sup>3</sup>	0.000005 g/cm <sup>3</sup>	0.000001 g/cm <sup>3</sup>
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	
CO <sub>2</sub> concentration	-	0.005 vol. (0.01 g/L)	
O <sub>2</sub> concentration	-	2 ppb (in the range <200 ppb)	

ADDITIONAL INFORMATION			
Temperature control	Integrated Peltier thermostat		
Minimum amount of sample	35 mL degassed sample per measurement	35 mL degassed sample per measurement	150 mL sample per measurement
Typical measurement time per sample	4 minutes (incl. filling)		
Environmental conditions	(EN 61010) Indoor use only		
Ambient temperature	15 °C to 35 °C (59 °F to 95 °F), non-condensing		

STANDARDS			
OIV	OENO 390/2010		
TTB	-	Density measurement in proofing alcohol for tax purposes	

Trademarks **FillingCheck (006834725), PEM (017985525), U-View (006834791), ThermoBalance (006835094)**

# Reliable. Compliant. Qualified.

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

FIND OUT MORE



[www.anton-paar.com/service](http://www.anton-paar.com/service)



### 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 great people, not from bots.



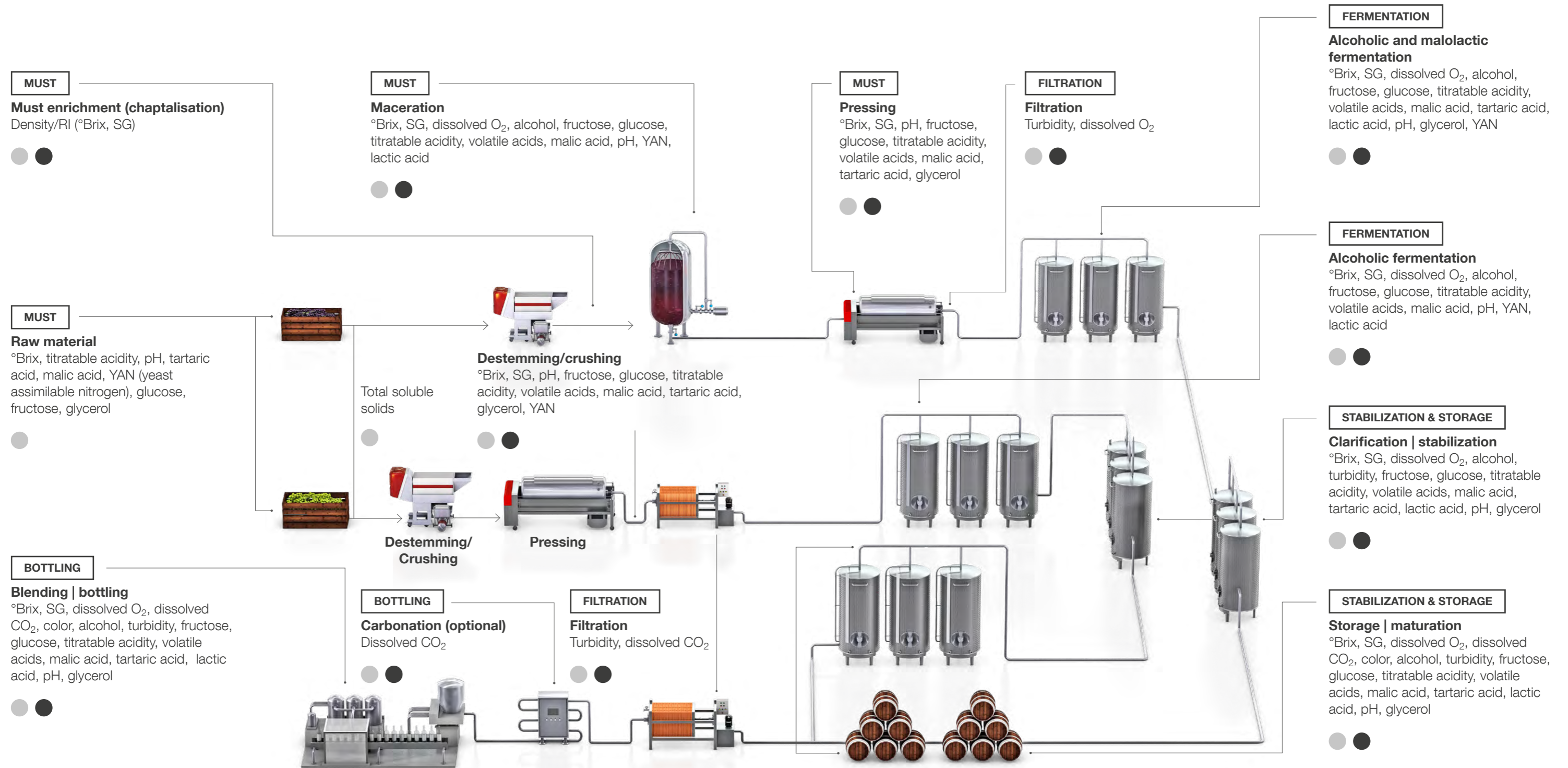
### A global service network

Our large service network for customers spans 86 locations with more than 600 certified service technicians. Wherever you're located, there's always an Anton Paar service technician nearby.

# Complete Your Wine Analysis

We're the world's first full-range supplier for wine analysis. With 25 laboratory and process instruments, you can trace 15+ parameters from any location in the plant. Streamlining your wine's quality has never been so easy.

- Laboratory measurement (incl. portable instruments)
- Process measurement



# Grow Your Business

Our wine 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 sensors for density, sound velocity, CO<sub>2</sub> content, oxygen content, refractive index, and color report results directly from the line.

## 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 network computer, whenever you need. Streamlining your data flow frees up time for analysis and ensures full traceability.

## Maximize efficiency

Our solutions give you the freedom to upgrade your analytical capabilities step by step: higher accuracy, highend turbidity measurement, or with automation.

