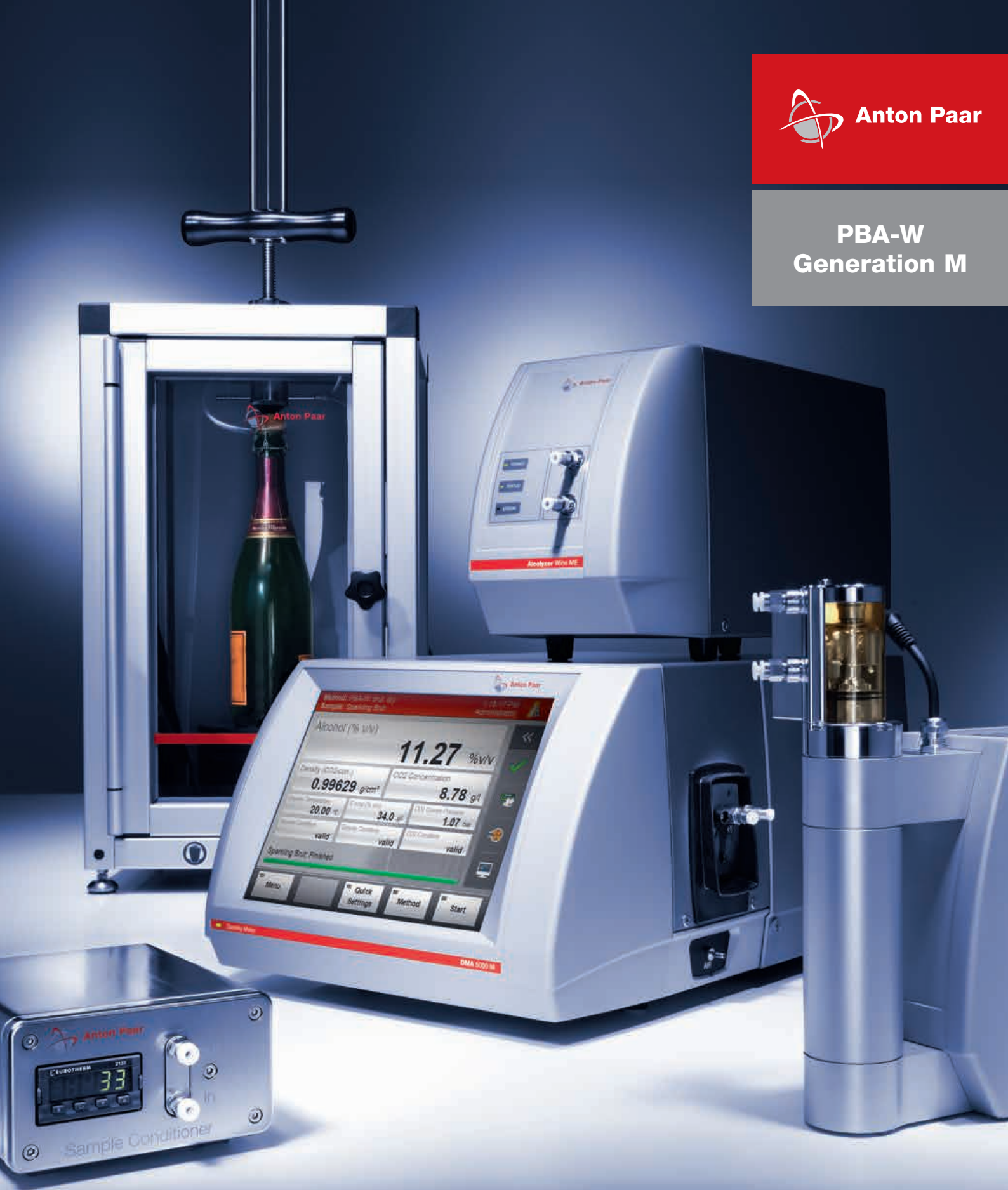
Anton Paar

PBA-W Generation M



Packaged Beverage Analyzer for Wine and Sparkling Wine

The break you deserve

The work is done: Your wine or sparkling wine is bottled. Now, what is the easiest, fastest possible way to determine your wine's alcohol, density, total extract, CO_2 content and other essential quality parameters?

The answer is PBA-W Generation M, your Packaged Beverage Analyzer for Wine. This modular system determines all parameters you need after sampling directly from the package, with minimal sample preparation – essentially at the push of a button. After the automatic filling, all parameters are determined simultaneously. Your results are ready after four minutes only.

Get your results six times faster

In its basic version, PBA-W Generation M provides results four times faster than any conventional measuring system. With all available modules attached, PBA-W Generation M is more than five times faster.
All parameters -alcohol, the CO_2 content, pH, dissolved oxygen and turbidity – are determined at the same time. With the help of these measured quantities, other important parameters like the total extract are calculated. The table below gives you a more detailed comparison.

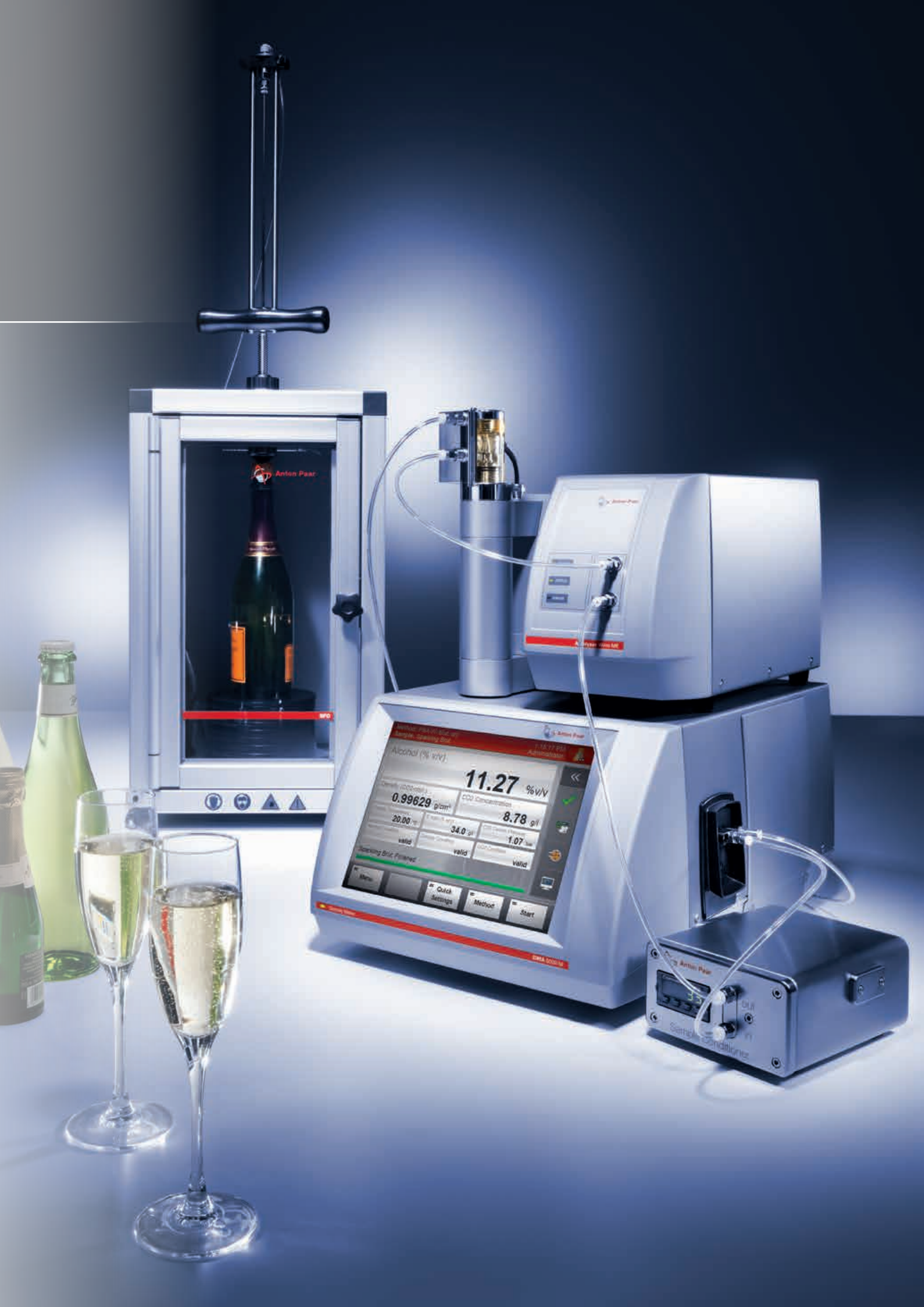
	Conventional systems	PBA-W Generation M
Heating the cold sample	5 minutes	Not required (due to sample conditioner)
Degassing and filtering the sample	5 minutes	Not required
Alcohol and density	4 minutes	4 minutes
CO_2	2 minutes	
O_2 (optional)	2 minutes	With no increase in measurement time
pH (optional)	2 minutes	
Turbidity (optional)	2 minutes	
Total time	**22 minutes**	**4 minutes**

One adjustment for all types of wine

Whether you measure white or red wine, sweet or dry wine – one single adjustment of PBA-W is valid for any wine type you want to measure. PBA-W determines alcohol content selectively, virtually uninfluenced by other common wine constituents. You can measure different wine types immediately after each other; no cleaning between measurements is required. Add this to the system's general ease of use, and you have a solution reliably operated by anyone after a short instruction only. This makes PBA-W ideal for quality checks right after filling.

Another word for peace of mind

PBA-W Generation M is based on a modular concept. You can build on your basic system with further Anton Paar measurement solutions in any way you see fit. Why decide everything now? Upgrade your system at any given time. All modules are connected in Plug-and-Play fashion to form your very own customized solution. And let's not forget the future: Anton Paar is always in close contact with wine producers to develop and further improve measurement solutions for the wine industry. With PBA-W, you are ready for everything – so modularity becomes peace of mind.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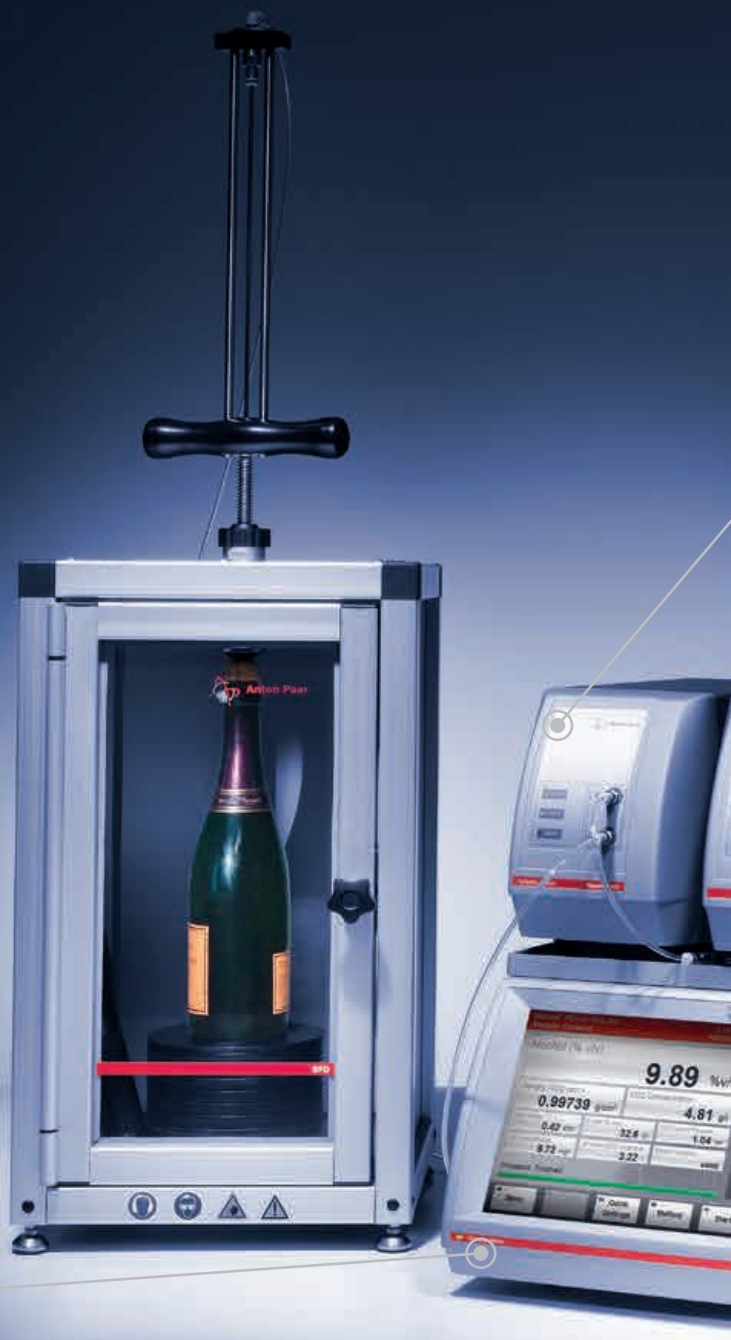
Alcohol (% v/v)
11.27 %v/v
0.99629 g/cm³
CO2 Concentration
8.78 g/l
20.00 °P
34.0 g/l
1.07 bar
valid
valid
valid
Sampling Error Flowrate
Menu
Quick Settings
Method
Start

A powerful combination

From groundbreaking innovation to the latest Generation M, Anton Paar always exercises leadership in measurement technologies. The efficient combination of these technologies secures outstanding results.

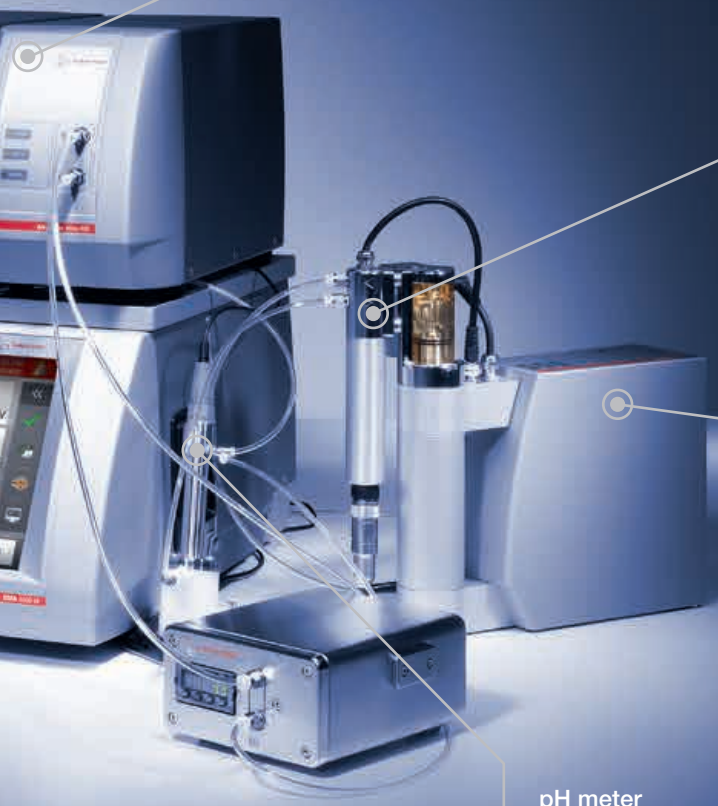


Density meter
DMA 4500 M/ME (either as Master or as Modular Extension) is the ideal quick and easily operated solution for standard wine analysis applications. For more routine tests, DMA 4100 M offers an economic alternative, while high-end analysis needs are met by DMA 5000 M, the most accurate digital density meter in the world. The patented reference oscillator (AT 399051) in these density meters ensures long-term stability and eliminates drifts.

Alcohol meter
Alcolyzer Wine M/ME (either as Master or as Modular Extension) employs a near infrared spectroscopic measuring principle patented by Anton Paar (US 6,690,015, AT 406711) to determine the alcohol content of wine and sparkling wine products within minutes. Adjustment is very simple, requiring distilled water and a distilled water/ethanol mixture only.

Turbidity meter
HazeQC ME employs the well-proven ratio method to calculate the turbidity value from the raw measuring signals at three angles: 0° transmission, 25° and 90° scattered light. A light wavelength of 650 nm is used. HazeQC ME therefore complies with common standards regarding turbidity in beverages.

O_2 meter
A high dissolved oxygen content negatively impacts the taste and shelf life of your wines. Continuous monitoring of the oxygen content during and after production with the Option O_2 measuring module helps ensure your wines' enduring good taste. Directly connected to CarboQC ME, Option O_2 delivers highly accurate results without extending your analysis time.



CO_2 carbonation meter
CarboQC ME precisely determines dissolved CO_2 in beverages. The analysis is based on the patented Multiple Volume Expansion method (AT 409673, GB 2373584, US 6,874,351), which eliminates the influence of other dissolved gases such as oxygen or nitrogen.

pH meter
Combining a pH ME measuring module with a PBA-W Generation M meter enables the simultaneous measurement of the density and pH value, a procedure successfully performed in the wine industry. The pH value is a parameter used to verify the quality, taste and microbiologic stability of wines.

The power of modularity

In its basic version, PBA-W Generation M determines the three most important sparkling wine parameters: alcohol, total extract and CO_2. The expanded version measures up to six parameters including O_2, turbidity and pH. Simply create the system that best meets your needs.

Customers already using a Generation M wine analysis system can easily upgrade it to a PBA-W Generation M for more efficiency and accuracy, eliminating the need for difficult, time-consuming sample preparation. Your PBA-W Generation M can always be adapted to future requirements by upgrading it with available Anton Paar modules.

Basic Configuration

Master

DMA 4100 M/
4500 M/5000 M
density meter

+

Alcolyzer Wine ME
alcohol measuring
module

/

Master

Alcolyzer Wine M
alcohol meter

+

DMA 4500 ME
density measuring
module

PFD
filling device

/

SFD
sparkling wine
filling device

+

Sample
conditioner
Preheating unit

+

CarboQC ME
beverage carbonation
measuring module

Optional Expansion

HazeQC ME
turbidity measuring
module

+

pH ME
pH measuring
module

+

Option O_2
oxygen measuring
module

Technical Data

Measuring range	**Alcohol content**	0 %v/v to 20 %v/v (values are displayed up to 30 % v/v)
	Density	0 g/cm^3 to 3 g/cm^3
	CO_2	0 g/L to 12 g/L (0 vol. to 6 vol.)
	O_2 (optional)	0 ppm to 4 ppm
	pH (optional)	0 pH to 14 pH
	Turbidity (optional)	0 EBC to 100 EBC (values of up to 200 EBC displayed)
Repeatability s.d.	**Alcohol content**	0.01 %v/v
	Density	0.00005 g/cm^3 (DMA 4100 M) 0.00001 g/cm^3 (DMA 4500 M) 0.000001 g/cm^3 (DMA 5000 M)
	CO_2	0.01 g/L (0.005 vol.)
	O_2 (optional)	±2 ppb
	pH (optional)	0.02 pH (in the range from 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 from -5 °C to 40 °C	
Sample volume	120 mL to 150 mL	
Typical measuring duration per sample	3 min to 4 min	
Pressurized gas supply	7.5 ± 0.5 bar (109 ± 7 psi), relative pressure	
Interfaces	4 x USB, Ethernet, VGA, CAN, RS-232	

Easy calibration

PBA-W requires no sophisticated calibration and adjustments. The daily calibration with water takes care of all instruments in one move. Occasionally, a calibration with a water/ethanol solution is necessary.

Low sample volume

As all measuring parameters are provided by one system, the sample amount is as small as it can possible be. In the basic version you only need a sample volume ranging from 120 mL to 150 mL. This leaves enough sample volume for further investigations.

Small footprint

The system's footprint is very small, amounting to about one square meter only. Depending on the parameters you are going to measure, you need a gas supply for pressurized air or nitrogen.

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