

Soft drink
Overview



Solutions for your supreme soft drink

Laboratory analysis, for your supreme soft drink

Anton Paar is proud to have spent decades refining soft drink analysis solutions for every step of your production process. They are intelligent, intuitive and automatic. They maximize sample throughput, with zero compromise on quality.

TESTED BY TIME, THEY'VE EVOLVED WITH THE TIMES. SO SEIZE THIS MOMENT – AND LET US HELP YOU MAKE SUPREME SOFT DRINKS.

Meet the highest quality standards – up to 4 parameters, 6x quicker compared to conventional systems

Cover all analysis tasks – from syrup to finished product – with one single lab system

Optimize lab capacity at no cost – increase throughput by up to 600 %

FIND OUT MORE



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



SYRUP MONITORING

Meet the exact specifications of raw products



BLENDING AND CARBONATION

Continuously monitor your key processes to ensure the ideal product composition



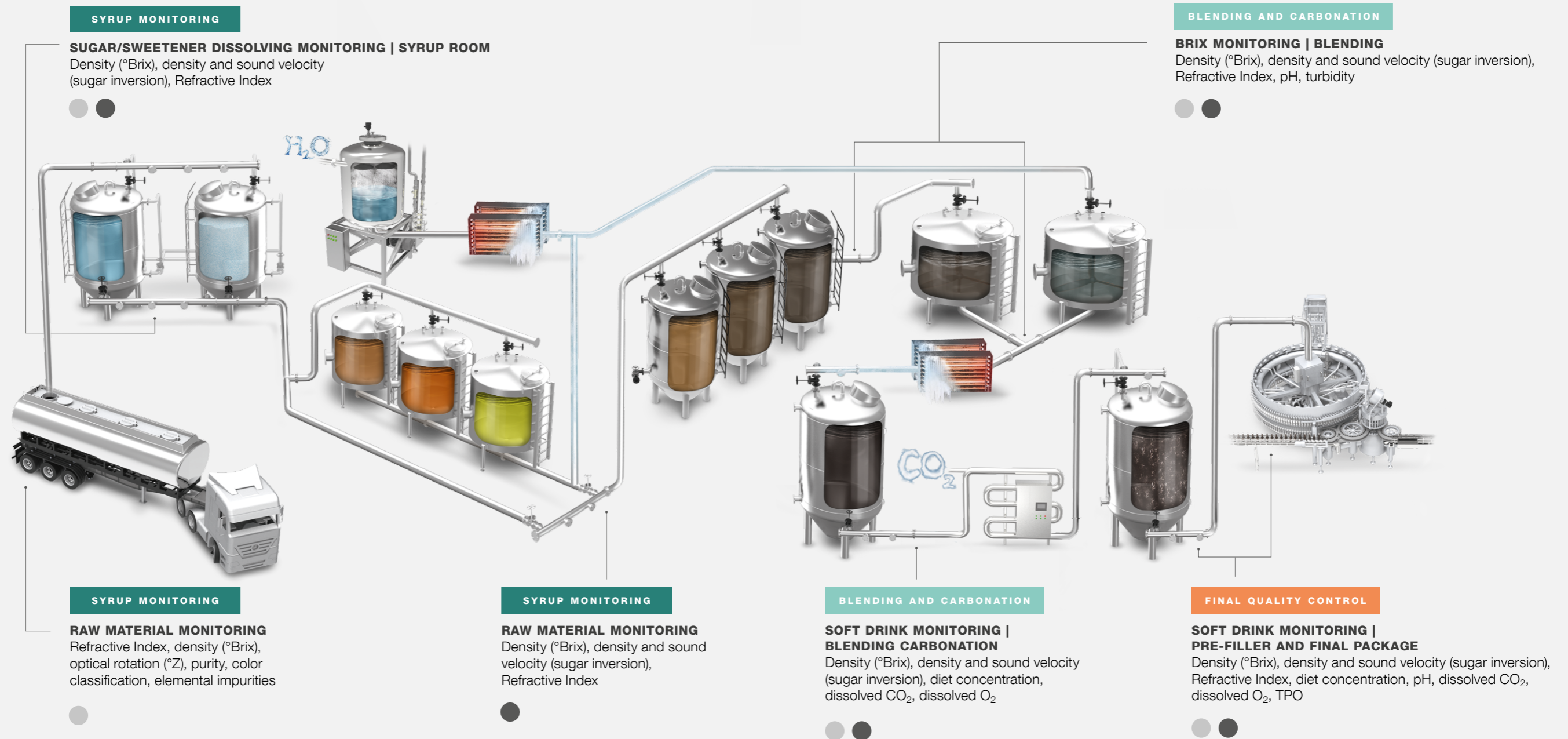
FINAL QUALITY CONTROL

Safeguard your final quality parameters without the need for sample preparation and perform measurements 6x quicker compared to traditional systems

Together, we're one step ahead

The soft drink industry is tough, and it's fast. Squeeze the max out of your production, with our measuring solutions. We're always one step ahead of fast-evolving trends and applications. We want you to be one step ahead too.

- ✓ Cover all product types, such as regular and mid-calorie soft drinks.
- ✓ Be prepared for all package types, such as glass, PET bottles, and cans.
- ✓ Keep track of your entire process – from syrup to finished product.
- ✓ Select your "ideal-fit" configuration from more than 20 combination possibilities.
- ✓ Increase throughput by 600% compared to traditional methods.
- ✓ Benefit from strong automation solutions.



Syrup monitoring at its best

→ °Brix
Density
Specific gravity
pH value

SATISFY YOUR AMBITIOUS GOALS. ALL WE'LL DO IS CONTRIBUTE.

- ✓ Analyze syrup using the world's most accurate density meter (up to 6-digit accuracy)
- ✓ Obtain precise results, for exact dilution ratio setting
- ✓ Track and eliminate variations in your production
- ✓ Achieve consistency in every batch

THE NEXT-LEVEL DENSITY METER

DMA 4101

DMA 4501

DMA 5001



Preconfigured analysis

- Align with the major parameters in soft drink production
- Choose and configure according to your needs

Analysis solutions from Anton Paar come with a wide range of pre-configured output quantities, responding to your exact needs. They cover soft drink-relevant parameters such as sugar concentration and CO₂ concentration, and many more.

FillingCheck™: Error detection and correct sample filling, assured

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

U-View™ and FillingCheck™, automatic real-time bubble detection features, allow supervision of the entire measurement sequence, and subsequent verification of the results.

Intuitive usability for maximum convenience

- Simplicity meets intuitiveness
- Adaptable user interface for maximum operator convenience

Operating analytical equipment has never been easier. The newly designed user interface permits simultaneous configuration and operation of all connected measuring modules through a single user interface, along with freely configurable result outputs.

Blending and carbonation, all in one go

→ °Brix
CO₂ concentration
Density
Specific Gravity

THE MODULAR SOLUTION, FOR MAXIMUM EFFICIENCY

- ✓ Optimize your blending process
- ✓ Ensure ideal carbonation levels
- ✓ Maintain consistently high product quality
- ✓ Take timely action to deliver desired output
- ✓ Release your product for bottling

PBA 5001 SOFTDRINK

DMA 4501

CarboQC ME

pH 3201

PFD



Selective CO₂ measuring method

- Pin-point accuracy
- No influence by other dissolved gases

The patented selective CO₂ measuring method is not influenced by other dissolved gases such as air or nitrogen. Together with the optional high-resolution optochemical oxygen sensor the results achieve the highest accuracy.

The power of modularity

- Intuitive configuration selection
- Extensions as needed

In its basic version, PBA 5001 Softdrink determines the three most important soft drink parameters: °Brix, CO₂ concentration and density. Extend your system with additional measuring modules for analysis of dissolved oxygen and pH, to perfect your analysis.

Your requirements, met

- Suitable for all types of carbonated soft drinks
- Applicable to full portfolio, incl. flavoured waters

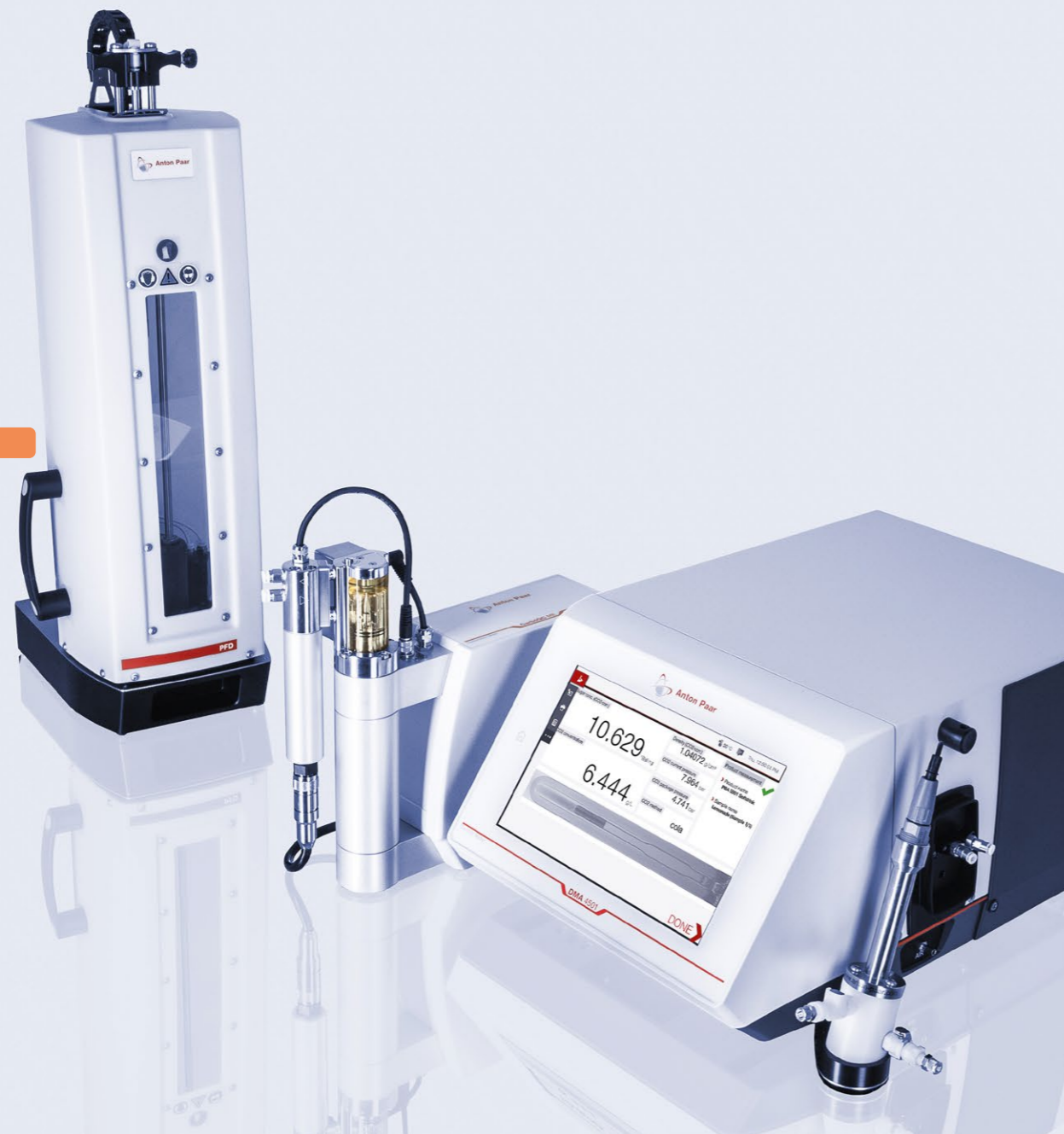
PBA 5001 Softdrink analyzes not just standard soft drinks, but also other beverages such as sparkling and flavoured waters. So it's the ideal solution for your entire product portfolio.

Quality control at its finest

→ °Brix
CO₂ concentration
Density
Specific gravity

THE MODULAR SOLUTION

- ✓ Confirm your product specifications
- ✓ Release your product
- ✓ Eliminate product loss
- ✓ Eliminate sample preparation and operator influence
- ✓ Guarantee customer satisfaction



PBA 5001 SOFTDRINK

DMA 4501

CarboQC ME

pH 3201

PFD

No sample preparation required

- No need for degassing equipment
- Save up to 7 minutes per sample for degassing and filtration

PBA 5001 Softdrink eliminates sample preparation routines – once a staple of daily operation. Direct filling from the package and automatic CO₂ correction completely eliminate time-consuming degassing and other procedures.

More than 6x faster than conventional systems

- Parallel analysis of all parameters in only 3 minutes
- No need for decarbonation of the sample

Automatic pressurized filling directly from the package, and automatic CO₂ correction of results, deliver analysis more than 6x faster than conventional methods. PBA 5001 Softdrink is the perfect way to do away with out-of-specs production.

Zero operator influence

- Direct filling from glass bottles and cans
- Automatic correction for the impact of dissolved CO₂

PBA 5001 Softdrink isn't just super-fast, it's also more reliable for routine analysis. There are zero errors during sample preparation thanks to direct filling from the packaged beverage, and automatic correction of all measured parameters for the impact of dissolved CO₂.

Obtain everything you can from your sample



DENSITY
The DMA density meters

1 DENSITY
DMA 4101, DMA 4501,
DMA 5001

The beating heart of the density meter – the oscillating U-tube handmade from borosilicate glass – is now even more ingenious. Welcome to a powerful, intelligent density meter, driven by the patented Pulsed Excitation Method, ready to take on measuring challenges at the highest levels of accuracy and reliability for years to come.

2 SAMPLE HANDLING UNIT
Xsample 320 / 520

Anton Paar's Xsample series offers you more automation options than you will find anywhere else on the market. The different Xsample filling and rinsing units are combined with a wide variety of Anton Paar instruments to provide the exact automation workflow you need.

3 pH
pH 3101 / pH 3201

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

4 CO₂
Option O₂ for CarboQC ME

The optochemical oxygen sensor in the Option O₂ provides a proven and reliable method of oxygen determination. Option O₂ can also be easily retrofitted in your existing CarboQC ME and PDF/PFD Plus. Measuring the O₂ content of a sample is essential for estimating the shelf life of the finished product.

5 CO₂
CarboQC ME

CarboQC ME precisely and reliably determines the dissolved CO₂ content in beverages. The patented multiple volume expansion method eliminates the influence of other dissolved gases (e.g. N₂ and O₂) on your measuring result.

6 PIERCING AND FILLING DEVICE
PFD / PFD Plus

The PFD and PFD Plus piercing and filling devices allow you to fill your samples directly from cans, glass bottles or PET bottles. If the entire sample volume is needed to get reliable and repeatable measurement results out of long bottlenecks, the PFD Plus filling device is the ideal solution.



“

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

”

All new instruments* include repair for 3 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 3-year warranty.

Service and support directly from the manufacturer

Our comprehensive service provides you with the best individual coverage for your investment so that maximum uptime is ensured.



SAFEGUARDING YOUR INVESTMENT

Regardless of how intensively you use your instrument, we help you keep your device in good shape and safeguard your investment – including a 3-year warranty.



THE SHORTEST 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 real people, not from bots.



CERTIFIED SERVICE ENGINEERS

The seamless and thorough training of our technical experts is the foundation of our excellent service provision. Training and certification are carried out at our own facilities.



OUR SERVICE IS GLOBAL

Our large service network for customers spans 86 locations with a total of 350 certified service engineers. Wherever you are located, there is always an Anton Paar service engineer nearby.

	PBA 5001 Softdrink	DMA 4101	DMA 4501	DMA 5001
MEASURING RANGE				
Density	0 g/cm ³ to 3 g/cm ³			
Temperature	20 °C	0 °C to 100 °C		
Pressure	up to 10 bar (145 psi) absolute pressure			
Concentration sugar actual	0 °Brix to 15 °Brix	0 °Brix to 80 °Brix		
CO ₂ 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) <15 °C (59 °F)"	–	–	–
O ₂ concentration	0 ppm to 4 ppm	–	–	–
pH value	pH 0 to pH 14			
REPEATABILITY S.D.				
Density	0.00001 g/cm ³ (DMA 4101) 0.000005 g/cm ³ (DMA 4501) 0.000001 g/cm ³ (DMA 5001)	0.00001 g/cm ³	0.000005 g/cm ³	0.000001 g/cm ³
Temperature	0.02 °C (0.04 °F) (DMA 4101) 0.01 °C (0.02 °F) (DMA 4501) 0.001 °C (0.002 °F) (DMA 5001)	0.02 °C (0.04 °F)	0.01 °C (0.02 °F)	0.001 °C (0.002 °F)
Concentration sugar actual	0.015 °Brix (DMA 4101) 0.01 °Brix (DMA 4501) <0.01 °Brix (DMA 5001)	0.015 °Brix	0.01 °Brix	<0.01 °Brix
CO ₂ concentration	0.005 vol. (0.01 g/L)	–	–	–
O ₂ concentration	2 ppb (in the range <200 ppb)	–	–	–
pH value	0.02 (in the range pH 3 to pH 7)			
GENERAL INFORMATION				
Power features	U-View™, FillingCheck™, ThermoBalance™, full-range viscosity correction			
Minimum amount of sample per measurement	150 mL	2 mL		
Typical measuring time per sample	4 minutes (incl. filling)			
Typical sample throughput	15 samples per hour			
Display	10.1" TFT WXGA (1280 px x 800 px); PCAP touchscreen			
Controls	touchscreen, optional keyboard, mouse, and bar code reader			
Internal storage	more than 10,000 measuring values with camera images			
Power supply	AC 100 V to 240 V, 50/60 Hz, fluctuation ±10 %, 190 VA			
Communication interfaces	5 x USB, Ethernet, CAN, RS232			
Dimensions (L x W x H)	526 mm x 730 mm x 446 mm (20.7 in x 28.7 in x 17.6 in)	526 mm x 347 mm x 230 mm (20.7 in x 13.7 in x 9 in)		
Weight	approx. 35.7 kg (77 lbs)	22,4 kg (50 lbs)		
Environmental conditions	(EN 61010) Indoor use only			
Ambient temperature	15 °C to 35 °C (59 °F to 95 °F)			
Air humidity	non-condensing			
	20 °C, <90% relative humidity 25 °C, <60% relative humidity 30 °C, <45% relative humidity			

