

# Compact refractometers





THE NEW REFRACTOMETER SERIES

**ABBEMAT 3X00**

HIGH-TECH IN A NUTSHELL

# ABBEMAT

## 3X00

**Abbemat refractometers combine efficiency and decades of experience in refractive index measurement – and will make your everyday working life much more convenient.**

In your daily laboratory routine, you handle many tasks and responsibilities. Complicated worksteps or equipment that clutters valuable workspace are not welcome. That is why Abbemat 3000, 3100, and 3200 refractometers are your solution. Whether you work in the beverage, food, chemicals, or fragrances industry, they give you exactly the functions you need without taking up much of your space or time – or your money.

How? Because of our experience. Anton Paar's range of Abbemat refractometers embodies over 40 years of technical expertise. Careful engineering evolved into high-precision technologies that deliver reliable results.

However, we believe that quality exceeds the race for digits. What counts is what you need: convenient operation as well as fast and precise results. That's why the Abbemat 3000, 3100, and 3200 refractometers combine the best of both worlds – high-level technology and easy handling.

**Your benefit: premium technology, wrapped up in an intuitive design at an attractive price.**





# Core features

## Go compact

Abbemat 3000, 3100, and 3200 only need as much bench space as a sheet of printer paper.

## Optimal sample well design

The sample well is smooth and easy to clean. The shape of the measuring area ensures minimum evaporation of sample and prevents samples with low surface tension from flowing apart.

## Be right on spot

3 instruments – two instruments with and one without temperature control – cover all eventualities needed for measurement. To ensure accurate results, the built-in temperature control of Abbemat 3200 and 3100 adjusts the temperature at an unmatched accuracy within seconds, while Abbemat 3000 performs an automatic temperature correction.

## See clearly

The 5.7" intuitive touchscreen supports fast navigation and provides a precise overview of your measuring results and methods.





## Enjoy efficiency

Fast measurements, no maintenance, and an attractive price help you stay within your time and money budget.

## Be safe

Get reliable results with an accuracy of  $\pm 0.0001$  nD at the push of a button.

## Stay connected

Export, save, and print your results via four external ports for further reference.

## Low sample volume

Only a few drops of sample are required for economic sample usage.

## Durability for a long life

Apart from the fan, there are no moving parts in Abbemat refractometers and therefore there is no wear. Sample well and measuring prism withstand even aggressive chemicals. The measuring prism is almost as hard as a diamond and therefore virtually indestructible.

## Large number of methods

The Abbemat models are equipped with the most common methods in refractometry. Further methods can easily be installed.

# Applications

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Enhance your quality control with the best-in-class technology.



## Food

- sauces, dressings
- soups
- milk, butter
- jams, jellies, honey
- ketchup, mayonnaise
- purees



## Sugar

- sugar cane juices
- white sugar solutions
- Brix and dry substance measurement



## Beverage

- sugar, sugar syrups
- soft drinks, fruit juice
- coffee extract
- grape juice, must



## Flavor & Fragrances

- essential oils
- perfumes, eau de toilettes, flavors



## Chemicals

- sulfuric acid, sodium hydroxide
- resins, glues, polymers, solutions, soaps
- fuel icing inhibitors
- cosmetics
- body fluids
- oils, lubricants

# Specifications

Measuring ranges	Abbemat 3000	Abbemat 3100	Abbemat 3200
<b>Refractive index</b>			
Range nD	1.30 to 1.66	1.30 to 1.66	1.30 to 1.72
Resolution nD	±0.0001	±0.0001	±0.0001
Accuracy nD <sup>1)</sup>	±0.0001	±0.0001	±0.0001
<b>Brix</b>			
Range	0 % to 100 %	0 % to 100 %	0 % to 100 %
Resolution	0.01 %	0.01 %	0.01 %
Accuracy <sup>1)</sup>	0.05 %	0.05 %	0.05 %
<b>Temperature</b>			
Range	Temperature correction	20 °C and 25 °C	15 °C to 60 °C
Temperature probe accuracy <sup>1)</sup>	±0.05 °C	±0.05 °C	±0.05 °C
<b>Additional information</b>			
Wetted parts	sapphire, FFKM, stainless steel		
Light source	LED light source		
Wavelength	589 nm		
Minimum sample volume	approx. 0.2 mL		
Measuring time	approx. 5 seconds per sample (after temp. equilibration)		
Default methods	refractive index, Brix, glucose, fructose, invert sugar, sucrose		
Additional methods	more than 100 methods available on request (e.g. syrup, honey, alcohol, urine, serum, acids, bases)		
Data interface	RS-232, 2 USB, 1 USB serial, ethernet printer, ethernet LIMS (Abbemat 3200)		
User interface	5.7 inch touchscreen		
Dimensions (W x H x D)	228 mm x 94 mm x 300 mm		
Weight	4.4 kg	4.6 kg	4.6 kg

<sup>1)</sup> valid at refractometric standard conditions (T = 20 °C,  $\lambda$  = 589 nm, ambient temperature = 23 °C)

