

PAL-BX/ACID



Pocket Brix-Acidity Meter

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Easily Measure Brix and Acidity with One Unit

Sweet and Sour – balance is the key

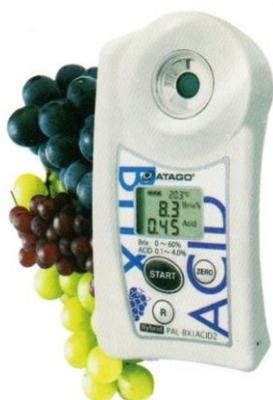
Sweetness of fruit is often used for evaluating quality. But sweetness does not always mean that the fruit is tasty. Delicious fruits have the proper proportion of tartness and sweetness. Sugar/Acid ratio indicates the maturation levels of fruits. Sugar/Acid ratio is displayed by pressing a single button. No need for complicated and troublesome calculations.

$$\text{Sugar/Acid ratio} = \frac{\text{Brix \%}}{\text{Acidity \%}}$$

Multi Fruits PAL-BX/ACID F5

Capable of measuring citrus, grape & wine, tomatoes, strawberries and blueberries.

Brix		0.0 to 60.0%
Acid	Citrus	0.1 to 4.0%
	Grape/wine	0.1 to 4%
	Tomato	0.1 to 3.0%
	Strawberry	0.1 to 3.5%
	Blueberry	0.12 to 1.0%



Citrus
PAL-BX/ACID1
Measurement range

Grape & Wine
PAL-BX/ACID2
Measurement range

Tomato
PAL-BX/ACID3
Measurement range

Strawberry
PAL-BX/ACID4
Measurement range

Apple
PAL-BX/ACID5
Measurement range

Brix	0.0 - 60.0%
Acid	0.1 - 4.0%

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Acid	0.1 - 3.0%

Brix	0.0 - 60.0%
Acid	0.1 - 3.5%

Brix	0.0 - 60.0%
Acid	0.1 - 4.0%

PAL-BX/ACID RANGE



Banana
PAL-BX/ACID6
Measurement range

Blueberry
PAL-BX/ACID7
Measurement range

Kiwi
PAL-BX/ACID8
Measurement range

Pineapple
PAL-BX/ACID9
Measurement range

Cherry
PAL-BX/ACID40
Measurement range

Brix	0.0 - 60.0%								
Acid	0.1 - 0.6%	Acid	0.1 - 4.0%	Acid	0.1 - 3.0%	Acid	0.1 - 3.5%	Acid	0.1 - 1.9%



Vinegar
PAL-BX/ACID181
Measurement range

Beer
PAL-BX/ACID101
Measurement range

Sake
PAL-BX/ACID121
Measurement range

Milk
PAL-BX/ACID91
Measurement range

Yoghurt
PAL-BX/ACID96
Measurement range

Brix	0.0 - 60.0%								
Acid	0.5 - 12.0%	Acid	0.1 - 20.0%	Acid	0.5 - 25%	Acid	0.1 - 0.3%	Acid	0.1 - 3.0%

No reagent required

Unlike the traditional titration method, PAL-BX/ACID requires no costly reagents



Backlit screen

PAL-BX/ACID features a backlit screen allowing for easy read to measurements, even in dark locations



PAL-BX/ACID ACCESSORIES

Master Kit

Unit + attachment x1, plastic pipettes x5 and plastic beakers x2



Unit Only

Unit + attachment x1 and plastic pipettes x5



PAL-BX/ACID MEASUREMENT METHOD

1. Measuring the Brix



Apply at least 0.3mL of sample.



Press START. Brix result will be displayed. Be sure to thoroughly clean and wipe off the sample stage after taking measurements.

2. Preparing the dilution for acid level measurement



Weigh out approx. 1000g of sample. Add distilled water¹ until the total desired weight (dilution ratio)² is reached. Stir well.

3. Measuring the acid level



Apply at least 0.3mL of the diluted sample.



Press START. Acid level results will be displayed.

4. Displaying the Brix-Acid ratio



Press the Brix-Acid Ratio button. Brix-Acid ratio results will be displayed.

¹Use the included plastic pipette for a precise sample dilution

²Dilution ratio will vary depending on the scale

How to switch scales on the Multi-Fruit models



Press and hold the Brix-Acid Ratio button until the scale selection screen is displayed (after 5 seconds).



Use the START and ZERO buttons to select the desired scale.



Press the Brix-Acid Ratio button once more to confirm selection.

Acidity Meter and Brix-Acidity FAQ

Q Should I choose an Acidity Meter or a Brix-Acidity Meter?

A We recommend a Brix-Acidity Meter for users who wish to measure both Brix and acid level.

If Brix measurements are unnecessary, we recommend an Acidity Meter.

If you are unable to find an appropriate model for the level of acid of the fruit or other sample you wish to measure, feel free to contact us.

Q What is the unit display (readout) of the acid level?

A The acid value level is expressed in g/100mL (%).

Q Tell me about sample preparation procedures or any measurement tips I should be aware of?

A Sample preparation procedures and measurement tips will differ, depending on the sample. However please use the following as a reference: when measuring acid level with an ATAGO acidity Meter or Brix-Acidity Meter, it is necessary to dilute the sample. If you have any additional questions or concerns please contact us.

Sample Preparation

Sample Type	Preparation
Tomatoes and Grapes	Crush (unpeeled) and filter through a sieve or coffee filter
Apples and Kiwi	Grate (unpeeled) and filter through a sieve or coffee filter
Oranges and Citrus Fruits	Cut in half, use a citrus squeezer/ juicer to extract the juice and filter through a sieve or coffee filter
Pineapples	Peel, crush (fruit only) and filter through a sieve or coffee filter
Canned Tomatoes	Crush (fruit only) and filter through a sieve or coffee filter
Yoghurt	Dilute then measure
Jams, Jellies and Purees	Filter through a sieve or coffee filter <small>Use unsalted/additive free samples only; additives or substances such as salt will affect the electrical conductivity</small>

Electrical Conductivity Method

ATAGO Acidity Meters measure the acid level in a sample through electrical conductivity. The 'hybrid' instruments, the Brix-Acidity Meters, measure both acid level and sugar level (Brix).

The PAL-BX/ACID meters utilize two measurements principles: refractive index and electrical conductivity. The refractive method is used to measure concentration (Brix) of a sample by observing how much light is reflected. The electrical conductivity method is used to measure the acid level of a sample by observing the glow of electrical current.

❖ Sugar Level (Brix)

The refractive index will vary depending on the concentration of a solution. Based on this general principle, ATAGO PAL-BX/ACID meters can display the Brix value.

❖ Acid Level

The Brix-Acidity Meters utilize the relationship between the concentration of acid vs the flow of electrical current to measure acid level. The acids found in fruit juices and wines are typical organic acids, which have the weakest electrolytes amongst acids. As such dilution (with distilled water) is required for measurement. Each unit is equipped with a unique measurement scale depending on the type of sample. Please select the model best suited for your sample.

Acid Level and Flavour

Sugar Level and Acid Level of Fruit

Phrases often used to promote the sale of fruit include 'sweet' or 'high nutrient content (sugar level)'. It is doubtful that 'sour' or 'high acid levels' would be an effective sales pitch for fruits. Nevertheless, acid, in addition to sugar, is a crucial element in producing the marked increase in flavour you detect when biting into a high quality piece of fruit.

Naturally no one likes fruit that is too sour or that has a high acid ratio. A truly delectable fruit is one which contains proper balance between sweet and sour (rather than fruit that is simply just sweet). In other words, the fruit contains proper sugar ration (Brix-Acid)

Lemons and strawberries have a very similar sugar level (Brix). Even though share a similar Brix, the acid level of lemons is incredibly high. The high level of acid prevents us from detecting the sweetness.

High acid levels lead to difficulties in detecting sweetness. Acid levels that are too low result in bland, weak flavours.



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