NIEUWKOOP

METEN.NL

LEAFLET

RE1005

REFRACTOMETER

0-32% Brix

TO MEASURE = TO KNOW

RE1005
REFRACTOMETER

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Refractometers are instruments that determine the concentration of an aqueous solution (see Brix scale) by measuring the index of refraction (see Refraction principle). By means of just a few drops poured onto the prism, the value of the dissolved solid concentration can be read directly from the refractometer scale. Thanks to their versatility and small size, refractometers can be used in numerous fields and for a broad range of. Major feature of refractometers is the high sensitivity to temperature changes. This is the reason why the refractometer casing features a rubber grip that protects against the heat of the user's hand, so as not to affect measurement results and avoid imprecise readings. The rubber eye guards fitted to the eyepiece protect the instrument from light penetration through the eyepiece itself during measuring.

Brix Scale (%)

The Brix degree measures the concentration percentage of soluble solid content of a sample (aqueous solution), i.e. the sum of all the solids dissolved in the water (sugar, salt, proteins, acids, etc.); the measurement result is their sum in the sample. Basically, the Brix degree is calibrated to the grams of can sugar contained in 100 g of solution. For this reason, when a sugar-based solution is measured, the Brix degree precisely calculates real concentration. In the event of the substance to be examined also containing other components different from sugar, a referent should be a conversion table, so as to correct the obtained values and make sure the result represents the exact sample concentration.

Refraction principle

A practical example of how the refraction index changes from one substance to another can be obtained by dipping a pen in two containers holding different solutions. When a pen is dipped in a container filled with water, the tip appears inclined (fig.2). By dipping the same pen in a container of water and dissolved sugar, the tip of the pen will appear even more inclined. This is the light refraction phenomenon.

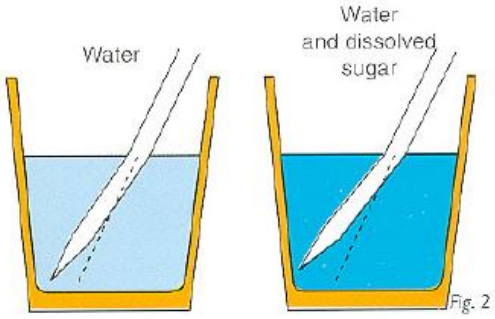

Fig. 2

Standard concentration of known substances

Fruit, Fruit juice:		Fruit juice	12-18%	**Foods:**	
Oranges, pears	6-13%	Strained tomato	7-16 %	Canned fruit	14-28%
Tomato	3-6%	Tomato juice	5-9 %	Milk	12-17%
Apples, melons	12-18%	Aerated drinks	6-15%	**Industry:**	
Strawberries, peaches	6-12%	Nectars	16-23%	Oily emulsions	0-7%
Grape seeds	13-24%	Drinks with lactic acid	16,5-21,5%	Oils for soluble temper	0-20%

Model RE1500:
ATC range : 10°C – 30°C.
Range : 0-32% Brix/ATC (10°C – 30°C)
Precision : 0,2%

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Nieuwkoop BV
Aalsmeerderweg 249 -S
1432 CM AALSMEER

0297 325836
info@nieuwkoopbv.nl
www.meten.nl

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