

# RePo series ~A Short Introduction~

Refractometer × Polarimeter



## In general, what are the merits of the RePo?

- 1 The world's first and only 2 in 1 hybrid device: combining a refractometer and polarimeter.
  - 2 The compact and portable size makes it useful for taking measurements at manufacturing sites, as well as in laboratories.
  - 3 As a polarimeter, it does not require an observation tube or any sample preparation before measurement (apart from dilution when required).
  - 4 Needs a very small amount of sample compared to other polarimeters.
  - 5 Can be washed under running water which saves the time and trouble of cleaning.
  - 6 The MAGIC™ adapter helps to avoid measurement troubles with volatile samples.
  - 7 Recommended for companies that do not have the budget to send samples to 3rd party labs or to purchase an expensive polarimeter.
- The affordable price of the RePo series makes it an ideal choice.



# Honey

## Honey Moisture

Honey moisture is one important indicator of honey quality.

It can help determine the best time to harvest the honey.

## Angle of Rotation

Angle of Rotation is an essential indicator that can be used to determine the source of the honey.

It can help identify whether the honey's quality is consistent.

## Proportion of Fructose to Glucose

The ratio of fructose to glucose in honey can help determine the rate of crystallization.

It can help identify whether the honey's fructose to glucose ratio is consistent.



RePo-1



RePo-4





# Fragrance and Flavor Manufacturers

**The RePo series can be used for checking raw materials and for quick checks of final products.**

Refractive index and Angle of Rotation can both be used for verification of conformity to industry standards. These readings are also essential for checking the authenticity of raw materials and avoiding adulterated or low-quality materials.

\* MAGIC™ sample adapter is recommended for volatile samples



RePo-1



RePo-5



MAGIC™



# Sugar Industries and Sugar Cane Farms

The price per ton of sugar cane or sugar beets is determined not only by weight, but also by brix and purity. The portability of the Repo series makes it an effective device for on-site verification.

Sugar factories need to check various parameters such as brix, angle of rotation, international sugar scale, and purity. All of these parameters can be checked with the same compact RePo for fast measurement.

\* Purity scale is displayed only by RePo-1 model.



RePo-1



RePo-2



RePo-3





# Pharmaceutical Industries

The RePo series can be used to check the quality of raw materials such as ascorbic acid, calcium pantothenate, cephalixin monohydrate, lactic acid, penicillin V potassium, riboflavin and many more.

It can also be used for checking inverted sugar and the amount of fructose/glucose in inverted sugar.

The RePo series is also ideal for R&D purposes.



RePo-1



RePo-2



RePo-3



RePo-5



## Beverage Industries

The RePo series can be used to analyze inverted sugar syrups. It can help determine how much sucrose was converted during the production process.



## Food Additive Manufacturers

The RePo series can be used to check the quality of raw materials for producing flavors, fragrances, and essential oils.



## Livestock and Poultry Feed Manufacturers

The RePo series can be used to determine the starch content in feed products and to ensure the amount is in accordance with the International Standard ISO 10520.

# Specifications



**Sugar  
total analysis model  
RePo-1**



**HFCS  
analysis model  
RePo-2**



**Inverted Sugar  
analysis model  
RePo-3**



**Honey  
analysis model  
RePo-4**



**Chemical  
with nD result model  
RePo-5**

Cat. No	5010	5012	5013	5014	5015
Main features	Featuring 6 scales including Brix, Angle of Rotation, International Sugar Scale, Purity, Specific Rotation, and Concentration, this unit is not only for analyzing sugar but can also be used for analyzing any single component of a sample.	HFCS (High Fructose Corn Syrup) contains 3 types of sugar: Sucrose, Fructose and Glucose. This unit will give you not only the total % of sugar (Brix%), but also % of Fructose only. It has 3 scales: Brix, Angle of Rotation and Fructose concentration (%).	Invert sugar is a mixture of fructose and glucose, obtained by splittings sucrose into these 2 components. This unit will display the ratio (%) of how much sucrose was converted to invert sugar. It can also be used for final product testing. This unit has 3 scales: Brix, Angle of Rotation and Invert Sugar Ratio (%).	A total solution for Honey analysis! This unit will show you 4 results : Fructose % of honey, honey moisture (%), Brix (%), and angle of rotation.	This unit will display 3 measurement results: Refractive index (nD), Brix% and Angle of Rotation. In addition to the chemical industry, it is also suitable for any industry that needs nD results such as fragrances, flavors, or industrial samples, etc.
Measurement Readings	Angle of Rotation, Brix (%) (ATC), Temperature (°C, °F), User (International Sugar Scales (ATC)/ Purity (ATC)/ Specific Rotation/ Concentration)	Angle of Rotation, Brix (%) (ATC), Temperature (°C), User (Fructose %)	Angle of Rotation, Brix (%), Invert Ratio % at Invert sugar, Temperature (°C)	Angle of Rotation, Brix (%), Fructose (%), Honey Moisture %, Temperature (°C)	Angle of Rotation, Brix (%), Refractive Index, Temperature (°C)
Measurement Range	AR: -5.00 to +5.00°* Brix (%) : 0.0 to 85.0% ISS: -130 to +130°Z Temperature: 15 to 40°C	AR: -5.00 to +5.00°* Brix (%) : 0.0 to 85.0% Fructose %: 0.0 to 99.9% Temperature: 15 to 40°C	AR: -5.00 to +5.00°* Brix (%) : 0.0 to 85.0% Invert Ratio %: 0.0 to 99.9% Temperature: 15 to 40°C	AR: -5.00 to +5.00°* Brix (%) : 0.0 to 85.0% Fructose %: 0.0 to 99.9% Honey Moisture %: 13.0 to 30.0% Temperature: 15 to 40°C	AR: -5.00 to +5.00°* Brix (%) : 0.0 to 85.0% Refractive Index: 1.3300 to 1.5080 Temperature: 15 to 40°C
Resolution	AR: 0.01° Brix (%) : 0.1% ISS: 0.1°Z Temperature: 0.1°C	AR: 0.01° Brix (%) : 0.1% Fructose (%) : 0.1% Temperature: 0.1°C	AR: 0.01° Brix (%) : 0.1% Invert Ratio (%) : 0.1% Temperature: 0.1°C	AR: 0.01° Brix (%) : 0.1% Fructose (%) : 0.1% Honey Moisture (%) : 0.1% Temperature: 0.1°C	AR: 0.01° Brix (%) : 0.1% Refractive Index: 0.0001 Temperature: 0.1°C
Measurement Accuracy	AR: ±0.1°(at 20°C) Brix (%) : ±0.2% ISS: ±3.0°Z (at 20°C) Temperature: ±1°C	AR: ±0.1°(at 20°C) Brix (%) : ±0.2% Temperature: ±1°C	AR: ±0.1°(at 20°C) Brix (%) : ±0.2% Temperature: ±1°C	AR: ±0.1°(at 20°C) Brix (%) : ±0.2% Honey Moisture (%) : ±0.2% Temperature: ±1°C	AR: ±0.1°(at 20°C) Brix (%) : ±0.2% Refractive Index: ±0.0003 (at 20°C) Temperature: ±1°C
Automatic Temperature Compensation	Brix (%) : 15 to 40°C Purity: 18 to 40°C ISS: 10 to 40°C	Brix (%) : 15 to 40°C			

## Common Specifications

Measurement time	12 seconds
Ambient Temperature	15 to 40°C
Storage Temperature	0 to 65°C
Sample Volume	3ml
Measurement wavelength	589nm
Light source	LED
Power Supply	Size AAA Alkaline battery x 4
International Protection Class	IP 67
Dimensions and Weight	101 x 160 x 38mm, 325g (main unit only)



※ Ranges measured by the device 20mm light path  
These are convertible to below ranges:  
-25.00 to +25.00 with a 100mm observation tube  
-50.00 to +50.00 with a 200mm observation tube



# Customer Feedback

- 1 For better quality control and cost effective planning, customers prefer using the RePo at different company branches, while doing the final verification with an automatic benchtop polarimeter.
- 2 Customers prefer the compact size of the device. It occupies 1/20 of the space required by a benchtop refractometer and polarimeter.
- 3 Customers like the easy operation and usability of the device. Fast measurements at busy factories is guaranteed, as an observation tube is unnecessary.  
This also avoids time wasted cleaning the tube after each measurement.



**HACCP GMP GLP**

ATAGO products comply with HACCP, GMP, and GLP system standards.

All ATAGO refractometers are designed and manufactured in Japan.

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\* Specifications and appearance are subject to change without notice.

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