Application examples

Refractive Index

Refractive Index is a common quality standard measure for pharmaceutical or chemical products. Measurements need to be taken at a constant temperature, commonly 20°C, 25°C, and 40°C. The RX-i series are equipped with the internal Peltier Thermo-Module, and measurement starts once the target temperature is reached.


Fragrance and Food Additives


Pharmaceutical Products


Cosmetics


Petroleum and Organic Solutions


Oils and Fats


Detergents

Brix

Brix is measured for quality control purposes in the food and beverage industries.


Beverages and Fruit Juice


Jams, Honey, Liquid Sugar, Syrups


Condiments, Sauces, Soups

Concentrations

The concentrations of industrial solutions are often monitored. Examples include water-based cutting oils and cleaning solutions, hydrogen peroxide, coolants, and alcohol solutions. Although the Brix scale is commonly used, user scales can also be programmed to display converted sample values.


Chemical Solutions


Cutting Oil and Quenching Oil


Antifreeze and Coolants

4 measurement mode options

MODE-1 For maximum accuracy
Displays the measurement value once the sample reaches the target temperature.

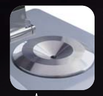
MODE-S For emulsion samples
Displays the measurement value once a certain level of sample stability is achieved.

MODE-2 For fast results
Measures refractive index and temperature at fixed intervals and displays the estimated measurement value at the target temperature.

MODE-3 For no temperature control
Provides an option to turn the thermo-module off. Without temperature control, the measurement value is displayed in 4 seconds after the START key is pressed.

Compatibility with harsh chemicals

The wetted parts can be customized with materials that are resistant to corrosive chemicals, such as acids, bases, and solvents.



Sample stage
- Special coatings (PEEK, PTFE, etc.)
- Custom materials (Corrosion-resistant metal alloys)

Body case
- Special coatings (PEEK, PTFE, etc.)

Cover plate
- Custom materials (PVC resin, fluorine resin, etc.)

Example


PTFE


PEEK

Accessories

☐ MAGIC™

Used for measuring volatile substances.
Choose either metal or resin.

[RE-56180] MAGIC™ (metal)
[RE-56185] MAGIC™ (resin)

☐ Funnel-type Flow Cell

Save time with the flow cell! No need to clean the prism between measurements.

[RE-56172] RX-5000i, RX-5000i-Plus
[RE-56173] RX-7000i, RX-9000i

☐ Digital Printer DP-63

For printing on thermal paper.

Cat.No. 3118 DP-63
Printing method : Thermal dot
Power supply : AC adapter (AC 100V to 240V)
Power consumption : 13VA
Dimensions & weight : 17×16×7cm, 580g (Main unit only)

☐ Digital Printer DP-AD

For printing on regular paper.

Cat.No. 3123 DP-AD
Printing method : Dot impact
Power supply : AC adapter (AC 100V to 240V)
Power consumption : 7VA
Dimensions & weight : 11×18×9cm, 470g (Main unit only)

☐ Sucrose Solution (calibration certificate optional)

Regular inspection of the RX-i unit is highly recommended. Use one of the following solutions to confirm the calibration.

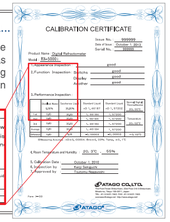
[RE-111001] 10% sucrose solution (±0.01%)
[RE-112001] 20% sucrose solution (±0.01%)
[RE-113001] 30% sucrose solution (±0.01%)
[RE-114002] 40% sucrose solution (±0.02%)
[RE-115002] 50% sucrose solution (±0.02%)
Shelf life is 10 days.

Custom concentrations are available upon request.
Accuracy and prices will vary by concentration.
Contact ATAGO for more details.

For the utmost in customer satisfaction...

ATAGO offers calibration service in conformance with ISO quality management systems as well as HACCP, GMP and other standards. The following three documents will be issued. (Calibration service is performed at an additional cost.)

- Calibration Certificate
- Traceability Certificate
- Traceability Diagram


CALIBRATION CERTIFICATE

Common features

Measurement system : Optical-refraction critical-angle detection system
Light source : LED
Materials : Sample stage - SUS 316 Prism - Artificial sapphire
Display : 7.5 inch color LCD (touch screen)
Power supply : AC100V to 240V, 50/60Hz
Power consumption : 90VA
Ambient Temperature : 5 to 40°C
Output terminals : Printer - RS-232C, Computer - USB
Temperature control range : 5.00 to 75.00°C (No lower than 10°C below the ambient temperature and no higher than 55°C above the ambient temperature)
Dimensions : 37×26×14cm
Weight (Main unit only) : 6.6kg [RX-5000i,RX-5000i-Plus], 7.0kg [RX-7000i, RX-9000i]

Model	Measurement items and ranges	Resolution	Measurement accuracy *repeatability
RX-5000 i-Plus [Cat. No. 3275]	Refractive Index (nD) : 1.32422 to 1.58000 Brix : 0.000 to 100.000% (Automatic Temperature Compensation) User scale : 100	nD : 0.00001 Brix : 0.005% (The third decimal place is 0 or 5.) Temp : 0.01°C	nD : ±0.00002 *±0.00001 Brix : ±0.010% *±0.010% ※1 Temp : ±0.05°C
RX-5000 i [Cat. No. 3276]	Refractive Index (nD) : 1.32422 to 1.58000 Brix : 0.00 to 100.00% (Automatic Temperature Compensation) User scale : 100	nD : 0.00001 Brix : 0.01% Temp : 0.01°C	nD : ±0.00004 *±0.00002 Brix : ±0.03% *±0.01% ※1 Temp : ±0.05°C
RX-7000 i [Cat. No. 3279]	Refractive Index (nD) : 1.32422 to 1.70000 Brix : 0.00 to 100.00% (Automatic Temperature Compensation) User scale : 100	nD : 0.00001 (0.0001)※2 Brix : 0.01% (0.1%)※2 Temp : 0.01°C	nD : ±0.0001 *±0.00005 Brix ±0.1% *±0.02% ※1 Temp : ±0.05°C
RX-9000 i [Cat. No. 3278]	Refractive Index (nD) : 1.32422 to 1.70000 Brix : 0.00 to 100.00% (Automatic Temperature Compensation) User scale : 100	nD : 0.00001 Brix : 0.01% Temp : 0.01°C	nD : ±0.00004 *±0.00002 ※3 Brix : ±0.03% *±0.01% ※4 Brix : ±0.05% *±0.01% ※5 Temp : ±0.05°C

※1 : When measuring a standard sucrose solution of up to 50% Brix or standard refractive index solution in MODE-1 at 20°C.
※2 : Factory default setting.
※3 : nD 1.33299 to 1.42009, 10 to 30°C. For other ranges, (nD) ±0.00010 *±0.00005
※4 : Brix 0.00 to 50.00%, 10 to 30°C
※5 : Brix 50.01 to 95.00%, 10 to 30°C. For other ranges, Brix ±0.10% *±0.02%

All ATAGO refractometers are designed and manufactured in Japan.

ATAGO CO.,LTD.

ISO9001 H.Q. & Factory

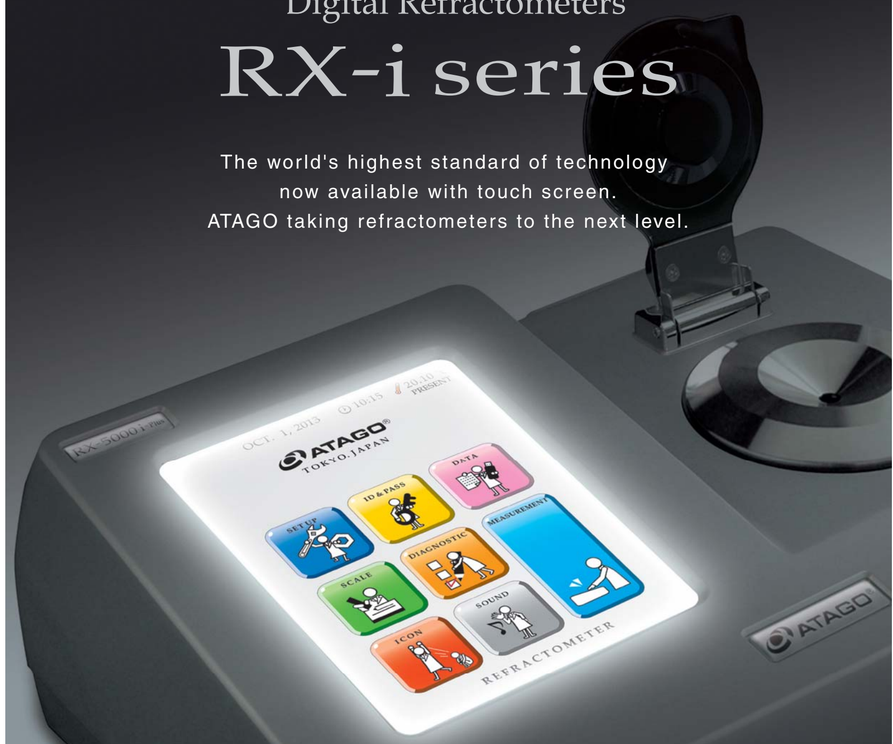
HACCP GMP GLP
ATAGO products comply with HACCP,GMP, and GLP system standards.

* Specifications and appearance are subject to change without notice.

Digital Refractometers

RX-i series

The world's highest standard of technology now available with touch screen.
ATAGO taking refractometers to the next level.



RX-5000 i RX-5000 i-Plus
RX-7000 i RX-9000 i

ATAGO®

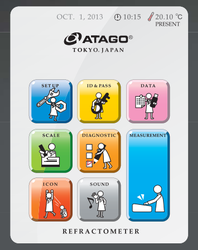
Touch it.

Experience the ease of touch-screen technology.

Our world-class precision instrument continues to advance.

- FDA 21 CFR Part 11 Software Included in Standard Delivery NEW
- Connectivity to Computer, Printer, USB Flash Drive
- Connectivity to SAC-i Automatic Polarimeter/Saccharimeter
- 2 years standard warranty (3 years with product registration)

This product comes standard with a 2 year limited warranty against manufacturer's defects from the date of the original purchase. This warranty does not cover or apply to the touchscreen. The warranty period can be extended to 3 years if the product is registered with ATAGO.

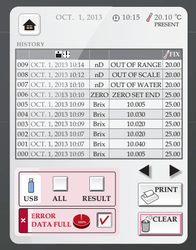


Home Screen

The illustrated home screen makes it easy to identify the operation of your choice.

Measurements

All basic operations - selecting scales and modes, taking and recalling measurements, and zero-setting - are at the tip of your finger.

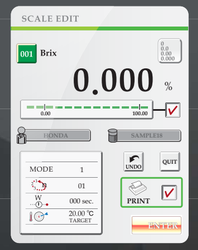


Measurement History

Recall the last 500 measurements. Exporting data to a USB drive or a printer is only one touch away. The RX-i series is also equipped with a RS-232C port for direct computer connection.

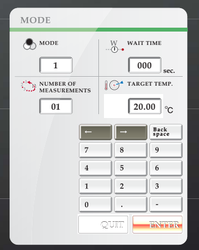
High Security

4 levels of access control and 5 unique user passwords provide data security. The settings are user-configurable.



Editing User Scales

There is no need to re-set the scale, mode, and temperature of programmed user scales each time. With the RX-i series, entering, editing, and copying user scales is a breeze. Up to 100 scales can be programmed.



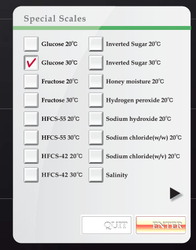
4 Measurement Modes

Select the measurement style that is most suited for the sample. Using the ten key pad, choose the measurement mode, enter the wait time, number of continuous measurements, and target temperature.

numerical key pad

User Scales

In addition to the refractive index (nD) and Brix scales, concentration scales for specific samples can be configured easily. Simply program corresponding refractive index values and concentration data points.



Special Scales

The RX-i series comes pre-programmed with 22 of the most commonly used concentration scales.

Self Assessment

The instrument can detect irregularities with the intensity of light or waveforms. Perform this assessment regularly to ensure accurate measurements.

Manual Calibration

When measurement values differ among multiple units, manual calibration can be performed within the accuracy range to provide consistent readings across all units.

Settings Menu

Navigation through the settings menu requires no effort. The icons provide quick and easy visual identification of operation.

Theme Options

Choose from 6 different theme options for the home screen. Customize it to your taste or change it daily to fit your mood.