

RX-α Series

After applying a sample and pressing the START key, the RX-α series gives a digital readout of Refractive Index, Brix, or concentration in just a few seconds.

Application

- 1 Measure Refractive Index (nD) for flavors, organic solvents, oils, liquid medicines, etc.**
- 2 Measure Brix of soft drinks, fruit juices, liquid sugars, seasonings, and more!**
- 3 Measuring concentration of metalworking fluid, water-soluble cleaning solution, water-soluble liquid, and more!**

Refractive Index (nD)	Brix	User Scale
Medical liquids Liquid rubber Methylene chloride Chemical agents Plasticizer Chinese herbal medicine Diesel oil Cosmetics Gel solutions Crude oil Industrial chemicals Synthetic resin High polymers Fragrance Citrus oil Heavy oil	Plastic liquid solution Vegetable fat and oil Cooking oil Concentrated solutions Spice essential oil Oil refinery production Electronic oil Animal oil and fat Polyether fluid Polymer fluids Sodium Silicate Organic sulfur compound Organic solvent (Toluene) etc.	Corn syrup Liquid sugar Liquid egg Concentrated fruit Fruit puree Canned syrup Glucose Ketchup English tea Coffee, Cocoa Condensed milk Jam Soy sauce Vinegar Starch
Soft drinks Sauce (Various) Tea drinks Seasoning liquid Seasoning soy sauce Soybean milk Waste liquid of sugar Tomato juice Milk drinks Honey Fermentation liquor Pickle (liquid) Starch syrup Sweet syrup Gelatin etc.	DMF IPA PVA Amino acid Ammonia Ethanol Ethylene glycol Propylene glycol Starch liquid Water-soluble cleaning solution Coolant solution Calcium chloride Sodium chloride solution Saltwater Surfactants Hydrogen peroxide solution Sodium hydroxide	Soluble cutting oil Citric acid, acetic acid Glycerin Lubricating oil Juice from tobacco leaves Sodium carbonate Antifreeze agents Urine Broth Injection solution Spinning liquid Rust preventive Formalin Fire extinguishing solution Metalworking fluid Cupric sulfate etc.

RX-α series Special features for each model



HIGH PERFORMANCE The best digital refractometer! It measures samples with very high accuracy, over a wide range.

WIDE RANGE Measures Refractive Index over a wide range, from 1.3250 to 1.7000, with a measuring temperature range up to 70°C. This is ideal for samples with a high Refractive Index, oils and fats with a high melting point, and other similar samples.

STANDARD Refractive Index measurements are highly accurate to ± 0.00004, and Brix to ± 0.03%. Great for measuring Brix of foods, beverages and sugar solutions.

FLAT STAGE RX-5000α with a virtually flat sample stage, for easy sample clean-up! Designed to measure beverage samples and sugar solutions.

Model Use	RX-9000α (Cat.No.3263)	RX-7000α (Cat.No.3262)	RX-5000α (Cat.No.3261)	RX-5000α-Bev (Cat.No.3271)
Measurement items	Refractive Index (nD), Brix (Automatic Temperature Compensation), 30 User Scales		Refractive Index (nD), Brix (Automatic Temperature Compensation), 60 User scales	
Measurement range	Refractive Index (nD) 1.32500 to 1.70000 Brix 0.00 to 100.00%	Refractive Index (nD) 1.3250 to 1.7000 Brix 0.0 to 100.0%	Refractive Index (nD) 1.32700 to 1.58000 Brix 0.00 to 100.00%	Refractive Index (nD) 1.32700 to 1.58000 Brix 0.00 to 100.00%
Minimum indication	Refractive Index (nD) 0.00001 or 0.0001 Brix 0.1% or 0.1% (by selection) Temperature 0.01°C	Refractive Index (nD) 0.0001 or 0.00001 Brix 0.1% or 0.1% (by selection) Temperature 0.01°C	Refractive Index (nD) 0.00001 Brix 0.01% Temperature 0.01°C	Refractive Index (nD) 0.00001 Brix 0.01% Temperature 0.01°C
Measurement accuracy	Refractive Index (nD) ±0.00004 *±0.00002 (nD 1.32299 to 1.42009 at measurement temperature 10.00 to 30.00°C) Refractive Index (nD) ±0.00010 (For ranges other than the above) Brix ±0.03% (80) *±0.01% (80) (Brix 0.00 to 50.00% at measurement temperature 10.00 to 30.00°C) Brix ±0.05% (80) *±0.01% (80) (Brix 50.01 to 100.00% at measurement temperature 10.00 to 30.00°C) Brix ±0.10% (80) *±0.02% (80) (For temperatures outside the above ranges) Temperature ±0.05°C	Refractive Index (nD) ±0.0001 *±0.00005 (80) *±0.1% (80) *±0.05% (80) Temperature ±0.05°C	Refractive Index (nD) ±0.00004 *±0.00002 (80) *±0.03% (80) *±0.01% (80) Temperature ±0.05°C	Refractive Index (nD) ±0.00004 *±0.00002 (80) *±0.03% (80) *±0.01% (80) Temperature ±0.05°C
Measurement modes	MODE-1: This is the standard and most common mode of measurement. The sample's temperature is adjusted to the set target temperature and then the measurement is taken. MODE-2: This mode is used to measure the sample quickly and when accuracy is not as critical. After the START key is pressed, the unit measures the Refractive Index and temperature at short intervals and displays the estimated value at the target temperature. MODE-3: This mode is the quickest way to measure and is best suited when the properties of the sample are changing constantly. In this mode, the unit starts measuring immediately after the START key is pressed. A time delay can also be programmed to postpone the measurement after pressing START.			
Automatic Temperature Compensation range for Brix	5.00 to 70.00°C (the lower limit is the room temperature minus 10°C)		5.00 to 60.00°C (the lower limit is the room temperature minus 10°C)	
Dimensions and weight	37 × 26 × 14cm, 6.9kg (main unit only)		37 × 26 × 14cm, 6.4kg (main unit only)	

*Repeatability (80) On measurement of Sucrose solution by MODE-1

RX-α Series Common Use

Measuring system	Optical-refraction critical-angle detection system
Light source	LED
Materials	Prism : Artificial Sapphire Sample stage : SUS316
Power supply	AC100V to 240V
Power consumption	50/60Hz, 480VA
Sample volume	Greater than 0.1ml
Environmental operating conditions	Temperature: 5 to 40°C, Humidity: Max.90%RH, Altitude (above sea level): Max. 5,000m

Optional	Digital printer DP-RX (Thermal dot) (Cat.No.3121)
	Digital printer DP-RD (Dot impact) (Cat.No.3122)
	Volatile sample adapter (RE-56152) for RX-9000 α and RX-7000 α
	Volatile sample adapter (RE-56151) for RX-5000 α
	Flow Cell Attachment (RE-56155) for RX-9000 α and RX-7000 α
	Flow Cell Attachment (RE-56156) for RX-5000 α
Fan filter replacement (RE-58001)	

RX-α Series Features

Each model has customized user-friendly features

- Easy Measuring** : The RX-α offers three unique modes for measuring samples.
- Easy Handling** : Automatically calculates a user scale when three points of measurement data are entered.
- Easy Verification** : Memory function allows the user to look up the past 30 measurement values with the touch of a button!
- Easy Viewing** : By setting upper and lower standard values, a graphic upper and lower limit bar can be displayed with the value. Easily see if your measurement is within your desired range.
- Easy double checking** : The RX-α Series has a manual calibration function that compensates for the difference between standard liquids, or other units.

- Connectable to Digital Printer** : Necessary information such as sample number, date, time and measured value can be printed for GLP/GMP purposes.
- Connectable to PC** : Connect via RS-232C to Microsoft Windows through HyperTerminal.
- Excellent Accuracy** : Refractive Index (nD) : Five decimal places, Brix : Two decimal places.
- Clear Display** : Easy-to-read backlit LCD. (320 × 240 dpi)
- Cover Plate** : Blocks outside light to ensure accuracy.
- Funnel Type Flow Cell** : Improve efficiency by no longer cleaning the sample stage after each measurement! (Optional)
- Volatile Sample Adapter** : Useful for measuring samples that have a high vaporization rate. (Optional)
- Sample Stage** : Made of SUS316 for improved durability.
- Temperature Control** : Internal Peltier thermo-module provides efficient and effective temperature control.
- Metal Housing** : Precise optical system is well-protected by the die-cast body.
- User-Friendly** : Only 2 keys are needed for normal operation!
- Password Function** : 4-level system fits the growing demand for internal and external security. (RX-5000 α)
- Once the sample reaches the targeted temperature, the measurement value is displayed along with the current temperature of the sample.**

Optional

Digital Printer DP-RX (Cat.No.3121) Printing method : Thermal dot Power supply : AC adapter (AC100V) Power consumption : 13VA Dimension and weight : 17 × 16 × 7cm, 580g (main unit only)	Digital Printer DP-RD (Cat.No.3122) Printing method : Dot impact Power supply : AC adapter (AC100V) Power consumption : 7VA Dimension and weight : 11 × 18 × 9cm, 470g (main unit only)	Fan filter replacement (RE-58001) Fan filter replacement (12 sheets)	Sucrose solutions (For checking Brix) RE-111001 Sucrose solution 10% (±0.01%) RE-113001 Sucrose solution 30% (±0.01%) RE-115002 Sucrose solution 50% (±0.02%)
--	--	--	--