

# Infitek

## REFRACTOMETERS

Automatic Refractometer  
ABBE Refractometer  
Portable Refractometer



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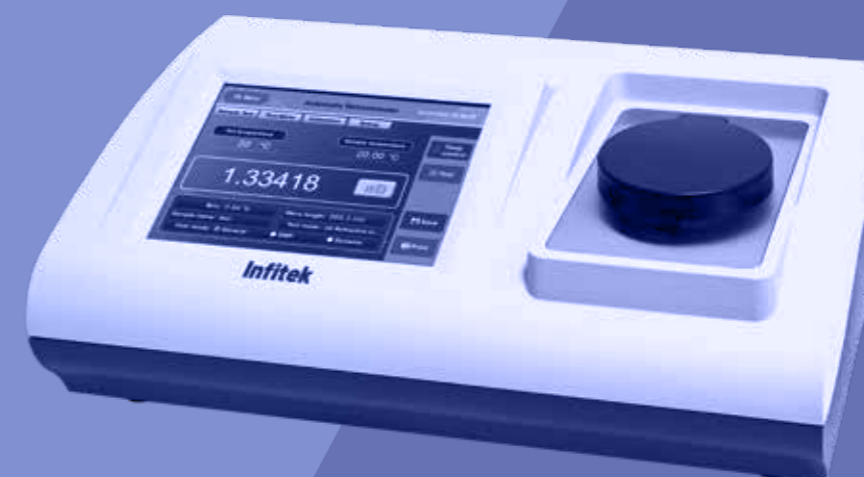
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VERSION.26

# Fully Automatic Refractometer, RFT-A7 Series

RFT-A756 RFT-A733 RFT-A731



RFT-A756

## Description

Refractive index and mean dispersion are key optical constants that characterize a material. Precisely measuring the refractive index not only helps identify substance purity and analyze optical performance but also accurately assesses its dispersion properties. Based on this principle, the fully automatic refractometer can accurately measure the refractive index of liquids at different temperatures. With its wide range of applications, it directly correlates with multiple critical parameters, such as the mass fraction of sucrose solutions, the solid content in soft drinks, and the water content in honey, providing reliable data support for quality control and process analysis.

## Features

### High-Resolution Detection, Accurate and Efficient

Equipped with a high-resolution CCD detection system, it enables fast automatic measurements with excellent repeatability. The built-in temperature compensation function effectively minimizes human error, ensuring authentic and reliable data.

### Minimal Sample Volume, Non-Destructive Recovery

Only 0.5 mL of sample is required for measurement. With a small liquid contact area, the measurement process is non-destructive, and the sample can be recovered and reused, helping to control experimental costs.



### Extensive Data Management, Easy System Integration

Built-in large capacity database, data can be saved, transmitted, printed, and traced. Measurement results can be exported as PDF reports or directly saved to a U disk, with an optional external printer also available.

RFT-A756 supports user hierarchy management, equipped with serial communication and open interfaces, seamless data connection with user systems such as LIMS is easily achieved, promoting digital laboratory management.

### Stable and Durable Core Components

The measuring prism is corrosion-resistant, scratch-resistant, and easy to clean and maintain, ensuring a long service life.

The long-life LED light source can operate continuously for over 100,000 hours.

The entire instrument has no mechanical moving parts, supporting consistent and stable measurements and meeting high-intensity usage demands.



RFT-A756

### Compliant with Regulations, Meeting Audit Requirements

RFT-A756 offer optional audit trail software functionality, complying with FDA 21 CFR Part 11, GMP, GLP, and pharmacopoeia requirements, making them suitable for the stringent quality management needs of the pharmaceutical industry.



RFT-A733 RFT-A731

### Wide Applicability Across Industries, Diverse Measurement Modes

RFT-A756: 12 industry-standard parameters.

RFT-A733/731: 8 industry-standard parameters.

## Industry Applications

Model	RFT-A756	RFT-A733	RFT-A731
Pharmaceutical Industry	Testing for glycosides, organic acids, phenols, esters, antibiotics, etc.		
Food and Beverage	Testing for sauces, condiments, extracts, sugars, and soy products.		
Flavors and Flavors	Refractive index testing for edible flavorings, tobacco flavorings, and daily-use flavorings.		
Petrochemicals	Refractive index testing for light gasoline, diesel, tire rubber oil, and liquid hydrocarbons.		
Metalworking	Testing for cutting fluids, rust inhibitors, cleaning fluids, antifreeze, and chillers.		
Fine Chemicals	Testing for the concentration of inorganic acids, alkalis, and salts; testing for organic chemicals such as alkanes.		

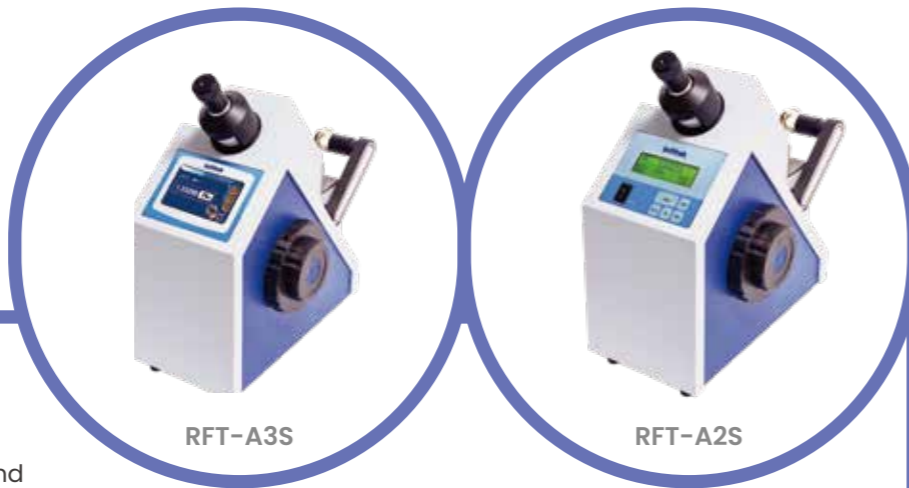


## Specifications

Model	RFT-A756	RFT-A733	RFT-A731
Refractive index			
Range	1.30000nD to 1.70000nD	1.30000nD to 1.70000nD	1.30000nD to 1.70000nD
Max. resolution	0.00001nD	0.00001nD	0.00001nD
Accuracy	±0.0002nD	±0.0002nD	±0.0002nD
Brix			
Range	0% to 100%	0% to 100%	0% to 100%
Display resolution	0.01%	0.01%	0.01%
Accuracy	±0.1%	±0.1%	±0.1%
Temperature			
Display range	0 °C to 100 °C	0 °C to 90 °C	/
Control range	Peltier temperature control: 5 °C to 85 °C	Peltier temperature control: 10 °C to 60 °C	/
Accuracy	±0.02 °C	±0.1 °C	/
General			
Min. sample volume	0.5mL	0.5mL	0.5mL
Prism	Sapphire	High hardness glass	High hardness glass
Light source	LED (100,000 hours lifespan)	LED (100,000 hours lifespan)	LED (100,000 hours lifespan)
Wavelength	589nm	589nm	589nm
User management permissions	Four levels	/	/
Electronic signature	Yes	/	/
Audit trail	Optional FDA software	/	/
Technical data			
Display	8" color LCD touchscreen	7" color LCD touchscreen	7" color LCD touchscreen
Internal storage	16G	1000 sets of data	1000 sets of data
User management	500	/	/
Communication interface	USB, Keyboard, Mouse, Ethernet	RS232, USB, U disk	RS232, USB, U disk
Connect PC, LIMS	Yes	Yes	Yes
Printer (Optional)	Thermal printer Stylus printer	Stylus printer	Stylus printer
Power supply	AC 100 to 240V, 50/60Hz, 150W	220V±22V, 50Hz±1Hz, 50W	220V±22V, 50Hz±1Hz, 50W
Product dimensions (L×W×H)	430mm×260mm×150mm	345mm×245mm×165mm	345mm×245mm×165mm
Package dimensions (L×W×H)	565mm×460mm×295mm	500mm×330mm×220mm	500mm×330mm×220mm
Net weight	5kg	4kg	4kg
Gross weight	11kg	9kg	9kg

# Digital ABBE Refractometer, RFT-AS Series

RFT-A3S RFT-A2S



## Features

### RFT-A3S/2S

Utilizing a hard glass prism, it possesses excellent corrosion and scratch resistance.

Measurements can be completed with only 1-2 drops of sample, making it particularly suitable for the detection of precious or trace samples.

Using an internationally renowned brand LED light source, it features zero temperature rise, small size, low power consumption, high brightness, and long lifespan, ensuring long-term stable operation and measurement accuracy.

The instrument employs a specific wavelength of 589nm, combined with an optimized optical path structure, improving measurement accuracy while offering advantages such as ease of operation and rapid aiming.

Equipped with a high-precision temperature sensor, this instrument achieves more accurate temperature measurements. The built-in flow cell can be used with a constant temperature bath to ensure measurements are performed under constant temperature conditions.

### RFT-A3S

Features a visual aiming system and a color LCD touchscreen, providing a user-friendly and intuitive interface, and allowing for easy data saving.

Automatic correction of the effect of temperature on the Brix.

Data can be exported via USB connection to a computer or printed directly via RS232 connection to a printer.

It is suitable for measuring the refractive index of transparent and semi-transparent liquids and solids, and can be widely used for determining the mass percentage of sucrose, glucose, and F42/F55 fructose syrup, as well as for analyzing the dry solids content and water content of honey in fruit juice, vegetables, soft drinks, canned products.

## Description

Refractive index and mean dispersion are key optical constants that characterize a material. Precisely measuring the refractive index not only helps identify substance purity and analyze optical performance but also accurately assesses its dispersion properties. Based on this principle, the abbe refractometer can accurately measure the refractive index of liquids at different temperatures. With its wide range of applications, it directly correlates with multiple critical parameters, such as the mass fraction of sucrose solutions, the solid content in soft drinks, and the water content in honey, providing reliable data support for quality control and process analysis.

## Specifications

Model	RFT-A3S	RFT-A2S
<b>Refractive index</b>		
Range	1.3000nD to 1.7200nD	1.3000nD to 1.7000nD
Max. resolution	0.00001nD	0.0001nD
Accuracy	±0.0002nD	±0.0002nD
<b>Brix</b>		
Range	0% to 100%	0% to 100%
Display resolution	0.01%	0.1%
Accuracy	±0.1%	±0.1%
<b>Temperature</b>		
Display range	-20 °C to 120 °C	0 °C to 50 °C
Control range	Controlled by the constant temperature bath	Controlled by the constant temperature bath
Accuracy	Controlled by the constant temperature bath	Controlled by the constant temperature bath
<b>General</b>		
Min. sample volume	0.1mL	0.1mL
Prism	Hard glass	Hard glass
Light source	LED	LED
Wavelength	589nm	589nm
<b>Technical data</b>		
Display	Color LCD touchscreen	LCD
Internal storage	500 sets of data	/
Communication interface	RS232, USB	RS232
Connect PC	Yes	/
Printer (Optional)	Stylus printer	/
Power supply	220V±22V, 50Hz±1Hz, 30W	220V±22V, 50Hz±1Hz, 30W
Product dimensions (L×W×H)	290mm×180mm×390mm	290mm×180mm×390mm
Package dimensions (L×W×H)	370mm×240mm×470mm	370mm×240mm×470mm
Net weight	10kg	10kg
Gross weight	12kg	12kg

## Visual ABBE Refractometer, RFT-A Series

RFT-A2      RFT-A1



### Specifications

Model	RFT-A2	RFT-A1
Refractive index		
Range	1.3000nD to 1.7000nD	1.3000nD to 1.7000nD
Max. resolution	0.0001nD	0.0001nD
Accuracy	±0.0003nD (Estimate Reading)	±0.0002nD (Estimate Reading)
Brix		
Range	0% to 95%	0% to 95%
Temperature		
Display range	Digital thermometer	Digital thermometer
Control range	Controlled by the constant temperature bath	Controlled by the constant temperature bath
Accuracy	Controlled by the constant temperature bath	Controlled by the constant temperature bath
General		
Min. sample volume	0.1mL	0.1mL
Prism	Hard glass	Hard glass
Technical data		
Product dimensions (L×W×H)	160mm×140mm ×100mm	130mm×90mm ×240mm
Package dimensions (L×W×H)	240mm×220mm ×420mm	270mm×170mm×410mm
Net weight	3kg	2kg
Gross weight	4kg	3kg

### Description

Refractive index and mean dispersion are key optical constants that characterize a material. Precisely measuring the refractive index not only helps identify substance purity and analyze optical performance but also accurately assesses its dispersion properties. Based on this principle, the abbe refractometer can accurately measure the refractive index of liquids at different temperatures. With its wide range of applications, it directly correlates with multiple critical parameters, such as the mass fraction of sucrose solutions, the solid content in soft drinks, and the water content in honey, providing reliable data support for quality control and process analysis.

### Features

Utilizing a hard glass prism, it possesses excellent corrosion and scratch resistance.

Measurements can be completed with only 1-2 drops of sample, making it particularly suitable for the detection of precious or trace samples.

Equipped with a digital thermometer. The built-in flow cell can be used with a constant temperature bath to ensure measurements are performed under constant temperature conditions.



It is suitable for measuring the refractive index (nD), average dispersion (nF-nc) of transparent and semi-transparent liquids and solids, and mass fraction (Brix) of cane sugar solution.

The instrument features visual aiming and optical index-plate reading, ensuring easy operation and reliable results.

It is widely used in industrial sectors such as sugar, pharmaceutical, beverage, petroleum, food, and chemical industries, as well as in various research institutes and educational institutions.

## Portable refractometers, Brix meter, RFT-P Series

RFT-P32 RFT-P50 RFT-P62 RFT-PS1



### Features

Portable refractometers are very commonly used which can be used for low, middle, and high resolution Brix concentration. The low range can be used for high-precision measurement such as fruit juice, cola and most kinds of beverage. The middle range can be used for concentrated fruit juice, canned food, sugar solution detections, sauce, ketch up, seasoning and many kinds of industry fluids. The high range can be used for use with food products of high sugar content such as liquid sugar, honey, etc

They can be used for industry fluid testing, such as for vegetable oils, industry, and many other chemical liquids or laboratory use fluids. It provides a fast and accurate way to test the ratio and concentration in water soluble cutting oil and many other industries fluid.

### Specifications

	Model	Range	Minimum Scale
Brix	RFT-P32	0~32%	0.2%
	RFT-P50	0~50%	0.5%
	RFT-P62	28~62%	0.2%
Salinity	RFT-PS1	0~100‰ Salinity	1‰
		1.000~1.070	0.005
		0~10% Brix	0.1%

Model	RFT-P Series
Dimensions	155*25*40mm
Net weight	160g
Package Dimension(W*D*H)(mm)	280*220*110
G.W.(kg)	0.6

## Portable Digital Refractometer, RFT-PD Series

RFT-PD85 RFT-PD92 RFT-PDHN1 RFT-PDHN2 RFT-PDA1

### Features

- LCD large screen digital display;
- With automatic temperature compensation function;
- The number of uses can reach more than 10,000 times;
- With automatic shutdown power saving function;
- Ergonomic design, environmentally friendly and durable materials;
- Temperature display: Celsius/Fahrenheit conversion;
- Power supply : 2×AAA(1.5V)



### Specifications

Model	Scale	Range	Min. reading	Accuracy
RFT-PD85	Brix (%)	0~85%	0.1	±0.5
	Refractive Index	1.3330~1.5100	0.0001	±0.0005
RFT-PD92	Brix (%)	58~92%	0.1	±0.2
	Refractive Index	1.4370~1.5233	0.0001	±0.0003
RFT-PDHN1	Brix (%)	58~92%	0.1	±0.2
	oBe'	38~43	0.1	±0.2
	Water (IHC2002)	13~25	0.1	±0.2
RFT-PDHN2	Refractive Index	1.4370~1.5233	0.0001	±0.0003
	Brix (%)	58~92%	0.1	±0.2
	oBe'	38~43	0.1	±0.2
RFT-PDA1	Water (GB/T 18796-2012)	17~27	0.1	±0.2
	Refractive Index	1.4370~1.5233	0.0001	±0.0003
	Salinity	0~28%	0.1	±0.2

## Portable Digital Refractometer (Waterproof) RFT-PD-F Series

RFT-PD85F RFT-PD92F RFT-PDS1F RFT-PDHN1F RFT-PDA1F



### Features

- F series instruments have IP65 grade water and dust proof certification;
- Large TFT backlight color screen
- With automatic temperature compensation function;
- The number of uses can reach more than 10,000 times, with automatic shutdown power saving function;
- Ergonomic design, environmentally friendly and durable materials;
- Temperature display: Celsius/Fahrenheit conversion;

### Specifications

Model	Scale	Range	Min. reading	Accuracy
RFT-PD85F	Brix (%)	0~85%	0.1	±0.5
	Refractive Index	1.3330~1.5100	0.0001	±0.0005
RFT-PD92F	Brix (%)	58~92%	0.1	±0.2
	Refractive Index	1.4370~1.5233	0.0001	±0.0003
RFT-PDHN1F	Brix (%)	58~92%	0.1	±0.2
	oBe'	38~43	0.1	±0.1
	Water (IHC2002)	13~25	0.1	±0.1
RFT-PDA1F	Refractive Index	1.4370~1.5233	0.0001	±0.0003
	Salinity	0~28%	0.1	±0.2
RFT-PDS1F	Refractive Index	1.3330~1.3900	0.0001	±0.0003
	Brix (%)	0~35%	0.1	±0.2
	Salinity	0~28%	0.1	±0.2