RUDOLPH RESEARCH ANALYTICAL

Laboratory Accuracy Everywhere You Need to Measure

Refractometer J27

Rudolph J27 – Refractometer

Untethered Portability | Temperature Controlled | Laboratory Accuracy

ACCREDITED
CERT #7528.01

Rudolph Research Analytical serving it's customers with Integrity, Quality, and Innovation for over 50 years

Rudolph subjects itself to a variety of industry accreditations and outside examination. Visit our website to learn how these apply to your purchase.

Unmatched Capabilities in a Fully Portable Refractometer

Rudolph brings decades of leadership with High Accuracy, Benchtop Refractometers to Handheld Instrumentation

With the experience and innovation gained from over 2 decades of leadership in refractometer design and manufacturing, Rudolph introduces the new benchmark for handheld refractometers. The J27 Refractometer is entirely untethered yet refuses to accept the compromises in performance and accuracy of typical handheld instruments. Now measure everything anywhere still with laboratory level accuracy

The weakness of most handheld Refractometers is they do not control temperature. Refractometer measurements are often highly sensitive to drifting results because mathematically correcting for temperature alone does not work well when the ambient temperature is changing. Only precise temperature control will result in the measurement accuracy many users require.

The Rudolph J27 Peltier Temperature Control at the prism surface allows for improved accuracy and greater stability. Precise heating and cooling ensures stable and accurate measurements at 20 and 25°C.

For example, a glycol sample must be measured with precise temperature control for an accurate measurement – temperature correction for sugar cannot be applied to non-sucrose based samples. A sample coming from a hot kettle on a production line must also be temperature controlled as temperature correction will not be accurate for a sample far from room temperature.

High Durability Industrial Sapphire Prism

Synthetic sapphire prisms have similar hardness to diamond and can be cleaned with a paper towel. Its low volume sample dish makes sample loading fast and easy.

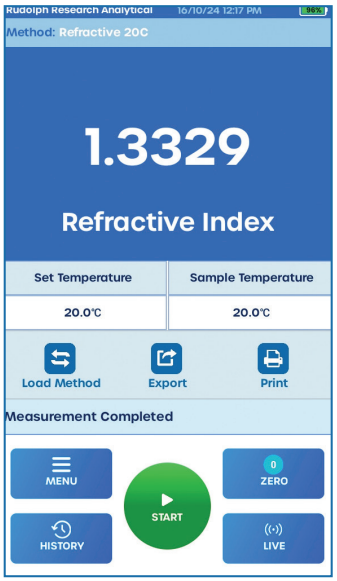
Regardless of an instrument's specified accuracy, a refractometer's real-world performance depends on how well the instrument is cleaned between samples. The J27 addresses this issue by providing a easy to clean measurement surface with no corners or crevices that tend to trap samples causing contamination.

Portability and Flexibility

The J27 is powered by a Lithium-Ion battery that is easily recharged, your J27 is ready to go everywhere you need to make measurements. This might be at the loading dock when receiving incoming raw goods or out on a distillery floor. The Lithium Ion battery can be charged in approximately 2 hours providing up to 4 hours of constant measurements. Included is a Charging Station for convenient stationary charging.

User friendly GUI and Bright LED, Touch Screen Display

Extremely easy to use Graphic User Interface (GUI) and a brightly lit 7 inch (178mm) touch screen makes this the most user friendly Refractometer on the market.
The interface is a bright, LED touchscreen, with an easy to navigate GUI. No more difficulties reading measurements in very bright or dark environments in the warehouse or field.



Rudolph Research Analytical 55 Newburgh Road, Hackettstown, NJ 07840 USA • Phone: 973-584-1558 • Fax: 973-584-5440 • E-mail: info@rudolphresearch.com • Internet: rudolphresearch.com

Laboratory Accuracy - Everywhere You Need to Measure

Most handheld Refractometers only provide for 2 or 3 decimal place accuracy and results are prone to drift. By combining laboratory level measurement module design, and true Peltier Temperature Control, Rudolph provides accuracy to the 4th decimal place. Laboratory accuracy in the field eliminates rechecking of materials in the Lab allowing users to test right in the field, on the receiving dock, or in a formulations area. Materials are measured for a reason, so why settle for just 2 or 3 decimal place accuracy when you can have steady and reliable 4 decimal place accuracy?

Temperature Controlled Measurements at 20 and 25°C

The problem with most handheld refractometers is they drift because they do not control temperature. Refractometer measurements are highly sensitive to temperature and mathematically correcting for temperature may not be good enough for some applications. Only temperature control will result in the accuracy many users require. The Rudolph J27 utilizes powerful and compact Peltier technology to control the sample temperature for precise heating and cooling this ensures stable and accurate measurements at 20 and 25°C.

Flexible Method Management

Factory installed measurement methods and scales cover a wide group of industries and applications. The J27 is factory configured with over 20 Methods and Concentration Scales which include RI, Brix, Urine SG, and more. Users can create measurement methods and store any scale they wish.

Food and Beverage Applications

- Seed Oils
- Edible Oils
- Candy
- Syrups
- Soups
- Milk
- Teas
- Soybean Oil
- Sodas
- Jams
- Starch
- Juices
- HFCS
- Soft Drinks
- Sauces
- Confections
- Jellies
- Fruit products
- Coffee Extracts
- Juice concentrates
- Vegetable Products
- Dairy products

Rudolph Research Analytical 55 Newburgh Road, Hackettstown, NJ 07840 USA • Phone: 973-584-1558 • Fax: 973-584-5440 • E-mail: info@rudolphresearch.com • Internet: rudolphresearch.com

Market Specific Scales Available

- **Urine Specific Gravity**
- **Fuel System Icing Inhibitor**
- **Ethylene Glycol / Coolant**
- **Alcohol**
- **Nitric Acid**
- **Coffee**
- **UAN Fertilizer**
- **Ethanol**
- **Formaldehyde**
- **Glycerol**
- **Methanol**
- **Potassium Chloride**
- **H_2O_2**
- **Propanol**
- **Baume**
- **Calcium Chloride**
- **Urea**
- **Sodium Chloride**
- **Propylene Glycol**

Technical Specifications

Handheld Rudolph J27	
Measurement Range	RI 1.3 -1.7, Brix 0-100
Accuracy	RI ±0.0001, Brix ±0.05
Repeatability	RI ±0.0001, Brix ±0.05
Resolution	RI 0.0001 - Brix 0.01
Temperature Controlled via Peltier	20° and 25 °C
Measurement Scales	Refractive Index (nD), Brix (% Sucrose)(% RDS)
% Concentration Scales	Unlimited
Ambient Temperature Limit	10° to 35°C
Sample Cover	EP Cover
Prism	Synthetic Sapphire
Operating System	Android OS
Measurement Time	User Configurable – can be less than 5 seconds
Display	Bright, Backlit - 7" touch screen
Data Storage	Internal Storage holds up to 5,000 measurements
Communication Interfaces	USB-C, WiFi, Bluetooth® –Manual Entry, RFID, and Barcode Reader for entering sample IDs are all Standard
Printing	WiFi , Bluetooth, Wireless Printing
Remote Support	Troubleshooting, Diagnostics Tools, Software and Updates available via the Internet
Internal Memory	6,000 Measurements
Operating Dimensions	7.25" (L) x 4.75" (W) x 13.50" (H) 18.50 cm (L) x 12.25 cm (W) x 34.50 cm (H)
Shipping Dimensions	18" (L) x 18" (W) x 12" (H) 45cm (L) x 45cm (W) x 30.5cm (H)
Operating Weight	3 lbs 5 oz 1.56kg
Charging /Power Consumption	6 – 8 hours battery life on a full charge
Country of Manufacture	Manufactured and Designed in the USA