



## REFRACTOMETER - AUTO DIGITAL TT- REFRACTOMETER-30

Refractometer – Auto Digital TT-Refractometer-30 features a high-performance CCD light-sensitive component based on the Abbe principle. It automatically measures the refractive index (nD) of a variety of liquid samples, including transparent, translucent, dark, and viscous types. Additionally, it can measure the sugar content (Brix) in sugar solutions.

## APPLICATIONS

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Designed for precision, reliability, and ease of use, this refractometer delivers fast results and complies fully with FDA 21 CFR Part 11 regulations. The TT-Refractometer-30 model incorporates an innovative cloud service system, allowing seamless data updates to a cloud server—ideal for group enterprises and government organizations.

This versatile instrument is widely used in industries such as manufacturing, academic research, petroleum, pharmaceuticals, paints, food production, personal care, sugar processing, and geological exploration.

## FEATURES

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### **Multiple Samples Suitability**

The Automatic Refractometer is a versatile tool extensively used across various industries. It is a critical instrument in sectors such as oil, pharmaceuticals, paints, food production, personal care, sugar processing, geological exploration, and research institutions.

### **Durable Measuring Prism**

The measuring prism is crafted from high-hardness sapphire glass, offering excellent resistance to corrosion and scratches. It is easy to clean and built for long-term reliability.

## High-Performance CCD Sensor

Equipped with a high-resolution CCD detector, the refractometer ensures precise, automatic measurements while minimizing user errors. It is suitable for transparent, translucent, and viscous liquid samples.

## Ultra-Long-Lasting Light Source

The LED cold light source has an impressive lifespan of over 100,000 hours, ensuring dependable and energy-efficient operation.

## Characteristic

1. **Regulatory Compliance:** Fully meets FDA 21 CFR Part 11 standards, ensuring secure user ID classification, tracking, e-signatures, and tamper-proof data management.
2. **Exceptional Measurement Precision:** Offers a resolution of up to 0.00001 (nD) and 0.01% (Brix) for the A670 model, delivering highly accurate results.
3. **Built-In Temperature Control:** Features a Peltier temperature control system with a precision of  $\pm 0.02^{\circ}\text{C}$ , ensuring consistent and reliable measurements.
4. **Durable Measuring Prism:** Constructed from high-hardness sapphire glass, the prism provides exceptional resistance to corrosion and scratches, ensuring long-term usability and easy maintenance.
5. **Advanced CCD Sensor:** The high-resolution CCD detector enables precise, automatic measurements while reducing user error. Compatible with transparent, translucent, and viscous liquid samples.
6. **Long-Lasting Light Source:** High-brightness LED light source with a lifespan exceeding 100,000 hours offers durability and energy efficiency.
7. **User-Friendly Interface:** Comes with a 7-inch color touchscreen powered by an Android system with 4GB RAM, allowing seamless data and method management.

8. **Flexible Connectivity:** Includes 2 USB ports, 1 RS232 port, and 1 Ethernet port, providing easy options for data export, backups, and printer or network connections.

## TECHNICAL SPECIFICATIONS

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|----------------------------------------------|-----------------------------------|
| Refractive index measuring range (nD)        | 1.30000-1.70000                   |
| Measured value error (nD)                    | ±0.0002                           |
| Measurement resolution (nD)                  | 0.0001                            |
| Scope of sugar solution mass fraction (Brix) | 0-100%                            |
| Measured value error (Brix)                  | ±0.1%                             |
| Measurement resolution (Brix)                | 0.1%                              |
| Temperature control mode                     | Peltier                           |
| Scope of temperature measuring               | 0-100°C                           |
| Temperature control range                    | 5-50 °C                           |
| Temperature control accuracy                 | ±0.05°C                           |
| Interface                                    | RS232/USB/SD card/U disk/Internet |
| Data storage capacity                        | 4GB                               |
| Display modes                                | 7 inches, TFT touch screen        |
| Voltage                                      | 110V~240V(12V,10A)                |
| Power                                        | 45W                               |
| Net weight                                   | 5kg                               |

|            |                   |
|------------|-------------------|
| Dimensions | 365mmX300mmX150mm |
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