



AUTOMATIC DIGITAL REFRACTOMETER

Automatic Digital Refractometer TT-1218

Automatic Digital Refractometer TT-1218 conforms to the ASTM D1218 Standard Test Method for Refractive Index and Refractive Dispersion of Hydrocarbon Liquids.

Automatic Digital Refractometer TT-1218 features high-performance CCD photosensitive components, allowing it to automatically measure the refractive index (nD) of transparent, translucent, dark, viscous, and other liquid samples. It can also measure the sugar content (Brix) of sugar solutions. The TT-1218 is accurate, reliable, fast, and easy to operate, fully complying with FDA 21CFR Part 11.

The TT-1218 utilizes an innovative cloud service system, enabling all data from the instrument to be updated to a cloud server, making it especially useful for group or government customers. The Automatic Refractometer is widely used in factories, schools, scientific research institutes, and the petroleum and oil industries.

APPLICATIONS

The primary application of the Automatic Digital Refractometer TT-1218 is to automatically measure the **refractive index (nD)** of various hydrocarbon liquids, in compliance with the **ASTM D1218** standard. The refractive index is a fundamental physical property that can be used to determine the composition and purity of a substance. The instrument's versatility also allows it to measure the **sugar content (Brix)** in solutions, making it a valuable tool across multiple industries for quality control and research.

Key Industries

- **Petroleum and Petrochemical:** This is a core industry for the instrument. The refractive index is used for the quality control of fuels, lubricants, and various hydrocarbon-based chemical feedstocks. It can help identify contaminants or verify the composition of a product.

- **Food and Beverage:** The refractometer is widely used in this sector for quality control by measuring the Brix (sugar content) of products like juices, soft drinks, jams, and honey, ensuring product consistency and adherence to recipes.
- **Pharmaceutical and Chemical Manufacturing:** These industries use the refractometer to verify the purity and concentration of raw materials, intermediates, and final products. The refractive index is a quick and reliable check to ensure a product meets its required specifications.

FEATURES

- **Ultra-long life light source:** The TT-1218 uses high-brightness LED lights with a service life exceeding 100,000 hours. This reduces preparation time, saving both cost and time.
- **Automatic temperature control system:** The TT-1218 features a Peltier temperature control system, ensuring accurate and constant temperatures throughout the testing process, with accuracy up to 0.02°C.
- **Superior measuring prism:** The measuring prism is made of high-hardness material, offering excellent resistance to corrosion and scratches.
- **High-performance CCD sensor:** The TT-1218 is equipped with a high-performance CCD sensor, providing accuracy up to the fifth decimal place.

TECHNICAL SPECIFICATIONS

1. Refractive Index Measuring Range (nD): 1.30000~1.70000
2. Measured Value Error (nD): ± 0.00001
3. Measurement Resolution (nD): 0.0001/0.00001
4. Scope of Sugar Solution Mass Fraction (Brix): 0~100%
5. Measured Value Error (Brix): ± 0.01
6. Measurement Resolution (Brix): 0.1%/0.01%
7. Temperature Control Mode: Built-in Peltier
8. Scope of Temperature Display: 0°C~100°C

- 9. Temperature Control Range: 10~80°C
- 10. Temperature Control Accuracy: $\pm 0.02^{\circ}\text{C}$
- 11. Interface: RS232/USB/Ethernet Interface
- 12. Data Storage Capacity: 4G
- 13. Display Modes: 7 inches, TFT touch screen
- 14. Power Supply: 110~240V (12V, 10A)
- 15. Power: 45W
- 16. Net Weight: 12kg
- 17. Dimensions: 365mm*300mm*150mm



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

