



AUTOMATIC REFRACTOMETER TTAR-SERIES

TTAR-Series Automatic Refractometer features a high-performance linear CCD sensor. With advanced signal acquisition, analysis, and processing capabilities, the Digipol-R integrates a semiconductor Partesuper temperature control system. It accurately and efficiently measures the refractive index (Nd) and Brix (sugar concentration) of transparent, translucent, dark, and viscous liquids.

APPLICATIONS

Fields of use

The automatic refractometer is widely used across various industries, including petroleum, oil, pharmaceuticals, food production, daily chemicals, and sugar processing. It is also a standard instrument in educational institutions and scientific research facilities.

Food Industry:

Used for quality control of raw materials, in-process products, and finished goods. It helps determine concentrations of dry matter, solids, and sugars, and ensures purity in products such as sugar, desserts, beverages, dairy, chocolate, coffee, oils, and fats.

Pharmaceutical Industry:

Used to analyze solid content in blood and urine, and to verify product purity.

Cosmetics Industry:

Measures the refractive index of essential oils and fragrances, and analyzes fatty acid content in soaps and scented formulations.

Chemical and Petrochemical Industries:

Measures the refractive index of raw materials and reagents, verifies substance purity, and evaluates the refractive index

and concentration of petroleum-based products and lubricating oils.

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FEATURES

Automatic Refractometer TTAR-Series Features

1. Built-in Parpaste temperature control system enhances accuracy and stability.
2. With dual temperature control and a durable sapphire prism.
3. Uses an LED cold light source, replacing traditional sodium and halogen lamps.
4. Compliant with 21 CFR Part 11 for audit trails, pharmacopeia standards, and electronic signatures.
5. Supports network printing and data search with statistical reporting features.
6. Multi-level access control with customizable user permissions.

7. Touchscreen color display with an intuitive, user-friendly interface.
8. Fully certified with TART and CE standards.

TECHNICAL SPECIFICATIONS

Specification	TTAR-200	TTAR-300	TTAR-500	TTAR-600
Range	1.30000-1.70000 (nD)			
Resolution	0.0001 (nD)	0.0001 (nD)	0.00001 (nD)	0.00001 (nD)
Precision	±0.0002	±0.0002	±0.00003	±0.00002
Brix Range	0-100% (Brix)			
Brix Accuracy	±0.1% (Brix)	±0.1% (Brix)	±0.05% (Brix)	±0.01% (Brix)
Test Mode	Refractive index / sugar content or customized	Refractive index / sugar content or customized	Refractive index / sugar content / honey moisture / salinity or customized	Refractive index / sugar content / honey moisture / salinity or customized
Temperature Control Method	None	Built-in Peltier	Built-in Peltier	Built-in Peltier
Temperature Control Range	Room temperature	5°C-65°C	5°C-65°C	5°C-90°C
Temperature Control Stability	Room temperature	±0.03°C	±0.02°C	±0.01°C
Light Source	LED			
Wavelength	589nm			
Prism	Sapphire			
Sample Cell	Stainless steel	Stainless steel	Hastelloy	Hastelloy

Specification	TTAR-200	TTAR-300	TTAR-500	TTAR-600
Detection Method	High-resolution linear CCD			
Display Method	7-inch FTF color touch screen			
Data Storage	32GB	32GB	32GB	64GB
Output Method	USB, RS232, RJ45, SD card, U disk			
User Management	Yes/Four-level authority management			
21CFR PART 11	YES			
Audit Trail	YES			
Electronic Signature	YES			
Custom Method Library	YES			
Export fofile to verify high-level protection MD5	YES			
WiFi Printing	YES			
Export in multiple file formats	PDF & Excel			
Packing Size	440 × 400 × 340mm			
Voltage	220V / 50Hz (110V is also available)			
Weight	7.15kg			



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