



BINOCULAR ABBE REFRACTOMETER

Binocular Abbe Refractometer – ToronAR™ B

A Binocular Abbe Refractometer is a laboratory Refractometer used to measure refractive index and related optical properties of transparent or semi-transparent samples. Binocular Abbe Refractometer – ToronAR™ B is designed for measuring refractive index ND, average dispersion NF–NC, and sugar concentration, with a refractive-index range of 1.300 to 1.700 ND and a sugar scale range of 0 to 95%.

This model is positioned for use across petroleum, pharmaceutical, paint, food, sugar, geology, teaching, and research environments. It can be connected to a constant-temperature device for refractive-index measurement from 0°C to 70°C.

Binocular Abbe Refractometer – ToronAR™ B is a bench-style optical instrument built for laboratory refractive-index measurement rather than quick field screening. Compared with handheld refractometers that usually display one application-specific scale such as Brix, salinity, or coolant protection, a binocular Abbe Refractometer provides broader lab flexibility and improved observation comfort through a binocular viewing design.

The ToronAR™ B is suitable for measuring ND refractive index, average color dispersion NF–NC, and sugar percentage. It is also positioned as a common tool for quality control, teaching, and scientific research where a wider refractive-index range and more stable observation are needed than a simple handheld Refractometer can provide.

APPLICATIONS

Binocular Abbe Refractometer – ToronAR™ B Application

- Petroleum and hydrocarbon liquid testing: refractive index is a useful physical-property parameter for transparent and light-colored hydrocarbon liquids.

- Pharmaceutical and chemical quality control: the pharmaceutical industry and daily-use chemical industry. In these settings, refractive index can support incoming inspection, raw-material verification, and batch comparison when optical-property changes reflect composition or concentration differences.
- Paint, coating, and materials work: a binocular Abbe Refractometer can support refractive-index checks on liquid raw materials and transparent or semi-transparent materials used in formulation and development work.
- Food and sugar analysis: this instrument includes a 0 to 95% sugar scale, which makes it suitable for food-processing and sugar-related checks where a bench refractometer is preferred over a simple handheld model.
- Teaching, geology, and research: geological survey, factory laboratories, schools, and scientific research units. This makes the ToronAR™ B suitable for instructional use and general laboratory refractive-index work.



FEATURES

Binocular Abbe Refractometer - ToronAR™ B Key Features

- Binocular bench-style Abbe Refractometer for measuring ND refractive index and NF-NC average dispersion.
- Wide refractive-index range of 1.300 to 1.700 ND.
- Sugar concentration range of 0 to 95%.
- Compatible with a constant-temperature device for refractive-index measurements from 0°C to 70°C.
- Suitable for transparent and semi-transparent liquid or solid samples.
- Designed for use in oil, pharmaceuticals, paint, food, sugar, geology, teaching, and research.
- Binocular viewing format for more comfortable observation during laboratory use.
- Supplied with a complete accessory set including thermometer, gauge block, contact liquid, screwdriver, manual, and carry case.

THEORY & METHOD

Theory and Method

A binocular Abbe Refractometer works by placing a sample between prisms and observing the optical boundary through the viewing system to determine refractive index. This model measures refractive index ND and average dispersion NF-NC, and can also measure sugar percentage directly.

The instrument can also be connected to a constant-temperature bath or oven for refractive-index testing from 0°C to 70°C. That makes the ToronAR™ B more versatile than a simple handheld Refractometer, especially in laboratory settings where temperature-controlled optical measurement is important.

TECHNICAL SPECIFICATIONS

Binocular Abbe Refractometer - ToronAR™ B Technical Specification

Specification	Binocular Abbe Refractometer - ToronAR™ B
Product type	Binocular bench Abbe Refractometer
Refractive index range	1.300 to 1.700 ND
Refractive index accuracy	±0.0002
Refractive index minimum division	0.0005
Dispersion measurement	NF-NC average dispersion measurement supported
Sugar concentration range	0 to 95%
Sugar minimum division	0.5%
Temperature-controlled use	Can be connected to constant-temperature equipment for 0°C to 70°C measurement
Dimensions	100 × 200 × 240 mm
Weight	3 kg
Standard accessories	1 refractometer, 1 thermometer, 1 gauge block, 1 bottle of contact liquid, 1 screwdriver, 1 manual, 1 carry case



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