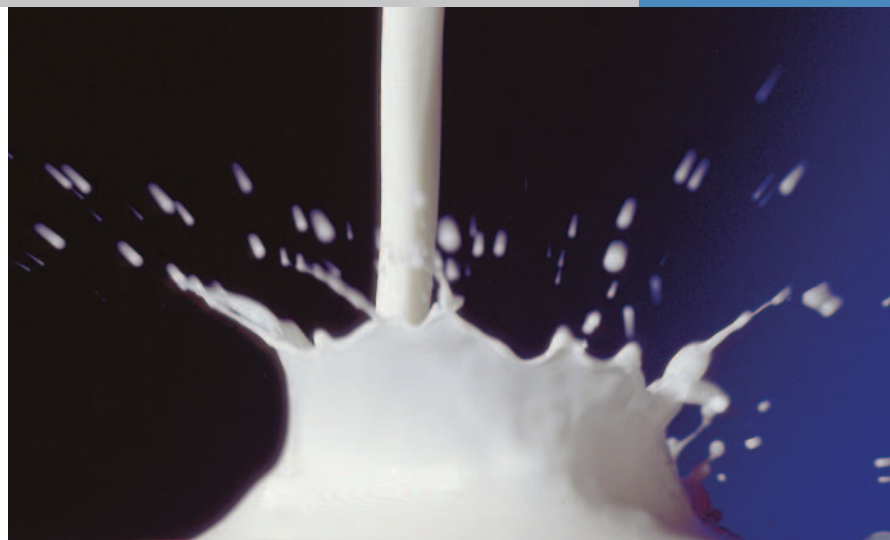


The Thermo Scientific ABBE-3L refractometer is designed for quick and accurate sugar content measurements (Brix), as well as a variety of other quality control applications. Combining reliability with operational simplicity, the ABBE-3L is the refractometer you can depend on to meet your demanding workload.

ABBE-3L Refractometer

Accurate, reliable results for teaching and quality control



The ABBE-3L™ refractometer is an industry workhorse used for a wide variety of analyses including:

- Purity studies
- Film thicknesses
- Binary mixtures
- Soluble sugars (Brix)
- Dispersion studies
- Refractive indices of liquids, solids, powders
- Opaque materials

This rugged, reliable instrument is built to withstand years of daily use in the lab, on the production floor, or in the classroom.

The ABBE-3L refractometer provides a quick and easy means for determining refractive index on a broad range of liquid or solid samples. It has a standard working range of 1.30 to 1.71 n_D and can be operated with rigid temperature control via an external water bath and circulator. The instrument

also furnishes direct readings in Brix from 0 to 85%. The ABBE-3L refractometer is an essential tool in both the teaching and quality control laboratory.

Applications

- Foods and Beverages
 - Soluble solids in fruit products
 - Rancidity in edible oils
 - Moisture in honey and strawberry jam
 - Total solids, water and fat in milk
 - Solids in egg
 - Oil in avocado and olives
 - Fat in chocolate
 - Moisture in meat
- Petroleum
 - Petroleum in oil sands
 - Olefins, aromatics, paraffins
 - Ethylene glycol in lubricating oil
- Agriculture
 - Oil content of seeds
 - Sweet corn maturity
- Industrial fluids
 - Plating baths
 - Battery acid
 - Salinity



Advantages

- **Easy-to-use** – Operators are quickly and easily trained to simply load, light, and look.
- **Accurate and Precise** – Readings directly to ± 0.0005 in refractive index (1.30 to 1.71 n_D) and 0.2% in dissolved solids readings [0 to 85% sucrose (Brix) scale].
- **Easy-to-read** – Dual Amici prism compensator produces sharp dividing lines with sodium (D) illumination.
- **Safe and Convenient** – The external transformer plugs directly into a standard electrical outlet to supply 6.3 volts AC for scale and sample illumination.
- **Reduced Maintenance** – Rugged and chemically-resistant metal housing reduces maintenance by protecting vital parts from dust, fumes, and liquids.

Easy-to-Use – Just Load, Light, and Look

Load – Simply place a small amount of sample – as little as 0.03 mL for liquid samples – directly on the measuring prism. A clip assembly assures proper prism/sample contact by locking the illuminating prism in place.

Light – A powerful sample illuminator swings easily into position for either transmitted or reflected readings. A three-position switch allows you to easily select one of three modes – sample illumination, momentary scale illumination, or power “off”.

Look – One look at the internally illuminated scale gives direct readings in refractive index and percent dissolved solids. The large adjustment knob sets the dividing line and allows fine adjustments for precise readings. Quantitative measurements require only the construction of a standard curve (n_D versus known concentration). Readings in optical dispersion and Nu values can be determined from dispersion dial readings. Dispersion tables are provided with each instrument.

Product Specifications

Range	Refractive Index – 1.30 to 1.71 n_D Dissolved Solids – 0 to 85% [sucrose (Brix) scale]
Accuracy	± 0.0001 Refractive Index $\pm 0.05\%$ Dissolved Solids
Display	Internally illuminated scale (via tungsten lamp); reads directly to 0.0005 in refractive index, 0.2% in percent dissolved solids [sucrose (Brix) scale]
Temperature Range	0° to 80 °C
Sample Volume	0.03 mL liquid
Sample Types	Transparent and opaque liquids and solids. Thin films must be 0.0001 mm or greater in thickness.
Lamp Type	Tungsten
Lamp Life	Average life approx. 500 hours
Lamp Operating Wavelength	Sodium D line, 589.3 nm
Lamp Voltage	6.3 Volts

Ordering Information

Description	Part Number
ABBE-3L refractometer complete with glass test piece, thermometer, 1-bromonaphthalene contact liquid, calibration wrench, dust cover, operator's manual, and dispersion tables. 120 V/60 Hz, US line cord.	334610-000
ABBE-3L refractometer complete with glass test piece, thermometer, 1-bromonaphthalene contact liquid, calibration wrench, dust cover, operator's manual, and dispersion tables. 230 V/50 Hz, European line cord.	334610-02