



BRIX DIGITAL REFRACTOMETER

Brix Digital Refractometer - ToronDR™ Brix

A Digital Refractometer in the ToronDR™ Brix family is designed for fast concentration checks with a digital display instead of a manual eyepiece reading. This product family covers Brix, refractive index, and several application-specific concentration scales including glycerol, dextran, fructose, glucose, lactose, maltose, water, Baumé, and soybean milk, depending on the model.

The ToronDR™ Brix 101 with 0.0–50.0% Brix / 1.3330–1.4200 nD, ToronDR™ Brix 102 with 0.0–90.0% Brix / 1.3330–1.5177 nD, and ToronDR™ Brix 103 with multi-sugar concentration scales plus refractive index.

This makes ToronDR™ Brix suitable for users who need a compact digital Refractometer for routine food, beverage, ingredient, and specialty-liquid checks. Compared with a manual optical refractometer, a digital unit is generally easier to read, faster for repeated checks, and better suited to operators who want direct numerical output instead of reading a boundary line through an eyepiece. That digital workflow is especially useful when several concentration scales are needed across different products.

ToronDR™ Brix is a digital handheld refractometer platform built for concentration and refractive-index measurement across both general and specialty applications. The lineup includes standard Brix models for routine soluble-solids work, broader-range Brix models for higher-concentration products, and specialty variants for glycerol, multi-sugar analysis, beer-style or honey-style interpretation, and soybean milk applications.

APPLICATIONS

Brix Digital Refractometer - ToronDR™ Brix Application

- Food and beverage soluble-solids checks: the ToronDR™ Brix 101 and ToronDR™ Brix 102 models are clearly positioned around Brix and refractive-index measurement, which makes them suitable for juices, syrups, beverage concentrates,

and general sugar-solution testing. ISO 2173 specifically describes refractometric determination of soluble solids in fruit and vegetable products, which is the closest recognized standard context for this type of Brix work.

- Higher-concentration product screening: the 0.0–90.0% Brix span of ToronDR™ Brix 102 makes it better suited to higher-solids liquids than the ToronDR™ Brix 101 model. This is useful for concentrated syrups, thick product streams, and applications where a wider Brix window is needed in one digital instrument.
- Multi-sugar and ingredient concentration checks: the ToronDR™ Brix 103 model is set up for dextran, fructose, glucose, lactose, and maltose plus refractive index, so it fits users working with specialty ingredients or sugar-type-specific screening rather than a simple sucrose-equivalent Brix value only. That makes it a better fit for ingredient handling, formulation support, and certain lab or QA workflows.
- Specialty liquid testing: the ToronDR™ Brix specialty models for glycerol concentration, Brix/water/Baumé/refractive index, soybean milk, and MDT ATC workflows. That broadens the ToronDR™ Brix family beyond standard food Brix testing and supports more specialized product lines or multi-industry distribution needs.



SD1 26.2°C
0.8%

READ CAL SCALE



TORONTECH

ToronDR™ Brix
Brix Digital Refractometer

FEATURES

Brix Digital Refractometer - ToronDR™ Brix Key Features

- Digital handheld Refractometer format for direct numerical reading instead of manual optical scale interpretation. Supported by the listed DR and DRH product family structure.
- Standard Brix models for 0.0–50.0% and 0.0–90.0% Brix measurement.
- Refractive-index measurement included on core models, including 1.3330–1.4200 nD and 1.3330–1.5177 nD ranges.
- Specialty concentration models for glycerol, dextran, fructose, glucose, lactose, maltose, water, Baumé, and soybean milk.
- Suitable for both general soluble-solids work and more targeted formulation or ingredient checks, depending on model.

THEORY & METHOD

Theory and Method

A digital refractometer measures how light changes as it passes through a sample, then converts that optical response into a numerical result on the screen. In practical use, this allows the instrument to report direct values such as Brix, refractive index, or application-specific concentration scales without requiring the operator to interpret a manual eyepiece boundary. The listed ToronDR™ Brix models show this approach clearly by combining refractive index with direct concentration scales across different products.

ISO 2173 explains the core refractometric principle as measuring refractive index and correlating it to soluble solids, while ASTM D1218 frames refractive-index measurement of transparent liquids in recognized method form. ToronDR™ Brix applies that broader refractometric principle in a compact digital handheld format.

TECHNICAL SPECIFICATIONS

Brix Digital Refractometer - ToronDR™ Brix Technical Specification

General Technical Data

Feature	Specification
Resolution	0.1% (Concentration) / 0.0001 nD
Accuracy	±0.2% / ±0.0003 nD
Automatic Temperature Compensation	10°C to 40°C (Automatic ATC)
Measurement Time	Approx. 1.5 seconds
Min. Sample Volume	2 metric drops
Light Source	Yellow LED
Sample Cell	Stainless steel ring and flint glass prism
Voltage	1 x 9V Battery (approx. 5,000 readings)
Automatic Shut-off	After 3 minutes of non-use

Model	Parameter / Substance	Measurement Range	Refractive Index (nD)
ToronDR™ Brix 101	Brix	0.0 - 50.0%	1.3330 - 1.4200
ToronDR™ Brix 102	Brix	0.0 - 90.0%	1.3330 - 1.5177
ToronDR™ Brix 03	Dextran	0.0 - 10.6%	1.3330 - 1.4200*
	Fructose	0.0 - 68.9%	

Model	Parameter / Substance	Measurement Range	Refractive Index (nD)
Glucose	0.0 - 59.9%		
Lactose	0.0 - 16.5%		
Maltose	0.0 - 15.6%		
ToronDR [™] Brix 110	Glycerol Concentration	0.0 - 100.0%	1.3330 - 1.5040

**Refractive Index range for multi-sugar models typically follows the standard sugar-scale baseline.*

Operational Highlights

- **Extended Range:** The DR-102 model offers the widest Brix range (0-90%), making it suitable for high-sugar samples like honey, jams, and concentrated syrups.
- **Specialized Scaling:** The DR-103 is a specialized unit that uses a shared optical sensor to differentiate between five different types of sugar based on their specific refractive properties.
- **Industrial Durability:** The DRH-102GL (featured in 4 of the provided links) is optimized for the high-refractive index requirements of industrial-grade glycerol.



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