

SMART DETECTOR DIGITAL REFRACTOMETER



Smart Detector Digital Refractometer – ToronDR™ SD Series

A Digital Refractometer in the ToronDR™ SD Series is a compact handheld Refractometer designed for fast sugar-content and refractive-index checks in beverages, fruit products, and other sugar-containing solutions. ToronDR™ SD 35 with a 0.0–35.0% Brix range and ToronDR™ SD 55 with a 0.0–55.0% Brix range. Both models also display refractive index, temperature, and Brix on a backlit LCD screen.

This product family is positioned for users who want a lightweight digital alternative to a manual optical refractometer. The ToronDR™ SD suitable for sugar-content measurement in fruit juice, beverages, wine, beer, alcohol, liquid sugar, and for fruit grading from production through sales.

Smart Detector Digital Refractometer – ToronDR™ SD Series is a portable digital Brix meter built for quick sugar-concentration measurement with direct numeric readout. Unlike a manual optical refractometer that requires the user to interpret a light/dark boundary through an eyepiece, this series uses a digital optical sensor and shows results on an LCD screen. The display shows temperature, sugar content, and refractive index at the same time.

The two-model structure makes the series easier to match to the application. ToronDR™ SD 35 is better for lower- to mid-range sugar solutions, while ToronDR™ SD 55 provides a wider range for more concentrated liquids. This makes the ToronDR™ SD Series suitable for routine QC, production support, and incoming checks where quick results matter.

APPLICATIONS

Smart Detector Digital Refractometer – ToronDR™ SD Series Application

- Fruit juice and beverage testing: the meter is suitable for fruit juices, refreshing drinks, and carbonated drinks. This makes the series a practical fit for beverage production and routine soluble-solids checks. ISO 2173 is the closest

recognized method reference for refractometric determination of soluble solids in fruit and vegetable products.

- Sugar solution and liquid sugar measurement: the instrument is suitable for liquid sugar and other products with high sugar content. This makes it useful for syrup handling, sugar-process verification, and concentration checks in food-related process streams.
- Wine, beer, and alcohol-related product checks: that means the series can support quick concentration screening in fermented or sweetened beverage workflows where Brix remains a useful process reference.
- Fruit grading and agricultural use: the ToronDR™ SD can be used from planting to sales of fruits, for degree classification. This makes it suitable for agricultural production and fruit-quality comparison where sugar-content level is used as one of the grading indicators.
- Scientific research and industrial use: the ToronDR™ SD can be used in sugar, beverage and other industrial sectors, as well as in scientific research. This makes it a flexible choice for labs or production teams that need a portable digital sugar meter.



FEATURES

Smart Detector Digital Refractometer - ToronDR™ SD Series Key Features

- Handheld Digital Refractometer for fast sugar-content and refractive-index measurement.
- Two available models: ToronDR™ SD 35 (0.0–35.0% Brix) and ToronDR™ SD 55 (0.0–55.0% Brix).
- Large 1.5-inch backlit LCD screen showing temperature, sugar content, and refractive index simultaneously.
- Uses a high quality optical refractive sensor for fast measurement in seconds.
- Measurement accuracy of $\pm 0.2\%$ Brix and resolution of 0.1% Brix.
- Automatic temperature compensation for more stable readings across the stated operating range.
- A dust-proof protective cover helps protect the prism and supports easier cleaning.
- Lightweight ABS construction for portable use.

THEORY & METHOD

Theory and Method

A Digital Refractometer measures how light changes as it passes through a liquid sample, then converts that optical response into a digital value. In the ToronDR™ SD Series, that value is shown as Brix, temperature, and refractive index on the LCD display. The instrument uses a high quality optical refractive sensor for quick measurement in seconds.

The instrument also includes automatic temperature compensation (ATC) from 10°C to 40°C, which helps reduce measurement error caused by temperature variation during normal use.

TECHNICAL SPECIFICATIONS

Smart Detector Digital Refractometer - ToronDR™ SD Series Technical Specification

Specification	ToronDR™ SD 35	ToronDR™ SD 55
Measuring range	0.0-35.0% Brix	0.0-55.0% Brix
Resolution	0.1% Brix	
Accuracy	±0.2% Brix / ±0.5°C	
Refractive index display	1.333-1.426	
Ambient temperature	10-40°C	
Automatic temperature compensation	10-40°C	
Display	1.5-inch LCD screen with backlight	
Material	ABS	
Voltage	3 × 1.5V AAA batteries (not included)	
Item size	113 × 56 × 32 mm	
Item weight	110 g	
Package weight	187 g	
Package size	19.3 × 11.3 × 4.5 cm	



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