

CLINICAL & VETERINARY DIGITAL REFRACTOMETER



Clinical & Veterinary Digital Refractometer - ToronDR™ CV Series

A Digital Refractometer in the ToronDR™ CV Series is designed for fast clinical and veterinary fluid screening with direct digital readout instead of a manual eyepiece scale. Based on the linked models, this series covers urine specific gravity, serum protein, refractive index, cat urine SG, dog urine SG, and colostrum / immunoglobulin-related screening, depending on the model.

This makes ToronDR™ CV Series suitable for clinics, veterinary practices, animal-care settings, and routine in-house screening where users want quick numeric values rather than manual optical interpretation. Veterinary guidance also notes that refractometers are common in-house tools for urine specific gravity measurement and are used to assess renal concentrating ability and hydration status.

ToronDR™ CV is a handheld Refractometer platform built for clinical and veterinary screening. Unlike a general food or industrial refractometer, these models are configured around biological or veterinary-use scales such as urine-specific gravity, serum protein, and animal-specific urine interpretation. The three distinct model types in this family: a human/clinical tri-scale model, a cat-urine model, a cat-and-dog veterinary model, and a colostrum-oriented model.

Compared with a manual clinical refractometer, the digital format is intended to simplify repeated screening work by providing a direct numeric result. That makes the series practical for routine clinic workflows, especially where multiple samples are tested in a short period. This is an inference from the digital product format and the screening-oriented measurement scales.

APPLICATIONS

Clinical & Veterinary Digital Refractometer - ToronDR™ CV Series

Application

- Human urine specific gravity screening: urine specific gravity is one of the most common in-house refractometer applications in clinical and veterinary settings, and veterinary guidance describes refractometers as standard screening tools for this purpose.
- Serum or plasma protein checks: this family is relevant for basic protein screening in clinical, veterinary, and animal-health contexts.
- Veterinary urine interpretation for cats and dogs: that makes these models better suited to companion-animal practice than a general clinical refractometer.
- Colostrum and animal immunoglobulin screening: a specialized role in animal health and colostrum quality screening rather than general urine-only work. This makes it useful for veterinary and livestock-related workflows where colostrum quality matters.



SDI 26.2°C
0.8%

READ CAL SCALE



TORONTECH

ToronDR™ CV Series
Clinical & Veterinary Digital Refractometer

FEATURES

Clinical & Veterinary Digital Refractometer - ToronDR™ CV Series Key Features

- Handheld Digital Refractometer platform for clinical and veterinary fluid screening.
- Dual Scale Readings: Most units provide both the specific concentration/gravity and the base refractive index.
- Easy Calibration: Calibrates quickly with distilled or deionized water to a set zero point.
- LCD Display: Features a large digital screen for high-visibility results in field or laboratory environments.
- Construction: Rugged handheld design with high-quality sensors for precision measurement.
- Digital workflow is easier to read than a manual optical Refractometer during repeated screening.

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 direct digital value. In the ToronDR™ CV Series, this refractometric principle is expressed through clinical and veterinary scales such as urine specific gravity, serum protein, and refractive index, depending on the model. The different models are configured for human clinical screening, cat urine, cat/dog urine, or colostrum-related measurement.

Veterinary guidance explains that refractometers are commonly used in-house for urine specific gravity measurement from a very small urine volume. ToronDR™ CV applies that same practical concept in a digital handheld format, which reduces

manual reading error compared with an analog eyepiece instrument. The reduced-reading-error point is an inference based on the digital format.

TECHNICAL SPECIFICATIONS

Clinical & Veterinary Digital Refractometer - ToronDR™ CV Series
Technical Specification

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
Dimension	121 x 58 x 25 mm
Weight	0.4 kg

Model Name	Measurement Parameter	Measurement Range	Resolution	Accuracy
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ToronDR™ CV 501	Urine Specific Gravity (Urine SP.G)	1.000 – 1.050	0.001	± 0.002
	Serum Protein (Serum P.)	0 – 12 g/dl	0.1 g/dl	± 0.2 g/dl
	Refractive Index	1.3330 – 1.3900 nD	0.0001 nD	± 0.0003 nD
ToronDR™ CV 408	Isopropanol (IPA-W) Concentration	0 – 100%	0.1%	± 0.2%
	Refractive Index	1.3330 – 1.4200 nD	0.0001 nD	± 0.0003 nD
ToronDR™ CV 600	Glycerol Concentration	0 – 100%	0.1%	± 0.2%
	Refractive Index	1.3330 – 1.5040 nD	0.0001 nD	± 0.0003 nD



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