

Refractometer

Instruction Manual



Model pictured:
Refractometer (CTL-REFM-PRSG)

See back page for model specifications.

Total Protein/Specific Gravity

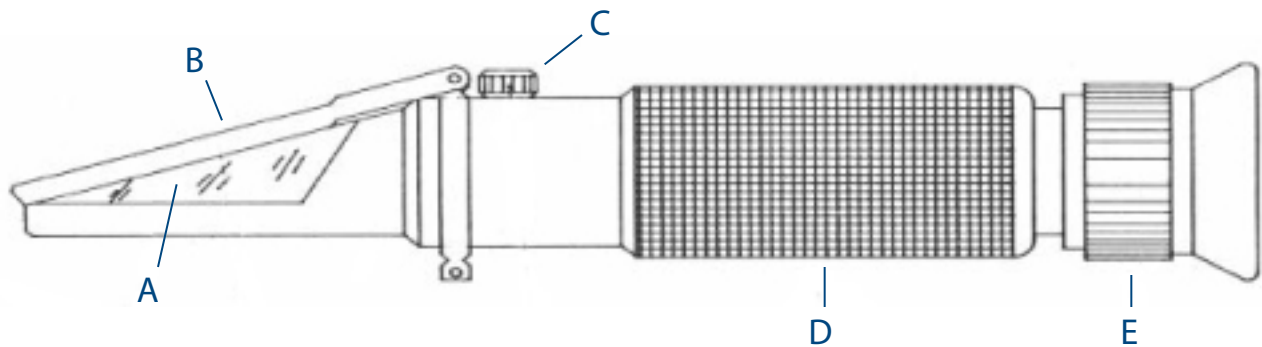
Range: 0 to 12 g/dl;
1.00 to 1.05 sg

Resolution: 0.2 g/dl;
0.002 sg

Size: 30 x 160 mm

Weight: 215 g

- A Prism
- B Cover Plate
- C Adjustment Screw
- D Mirror Tube
- E Eyepiece
(Diopter Adjustment Ring)



Model Number: ATC (Automatic Temperature Compensation) 311

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This device has a built-in temperature compensation that ranges from 10 degrees C to 30 degrees C (50 to 86 degrees F)



Note: Always treat specimen samples as though they were infectious. When using the Refractometer, keep it horizontal as you look into the eyepiece. The specimen sample will be less likely to drip out and contaminate the user and/or the surroundings. Clean the refractometer between samples and when done using the instrument. (Clean according to the guidelines contained within these instructions.)

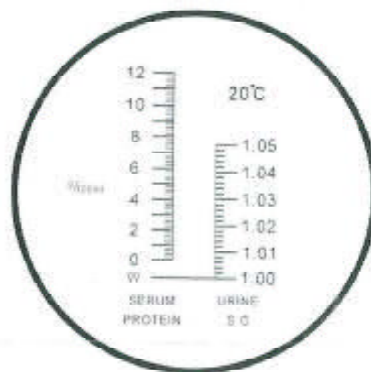
Recommended
Upgrades:

Ask
your
authorized LWS
dealer about
additional
accessories

Operation

- 1 Adjusting Diopter: Prior to inserting a sample, aim the front of the Refractometer toward a bright indoor light source. Adjust the diopter adjustment ring (fig. E) until the graduations on the scale can be clearly seen through the eyepiece.
- 2 Adjustment of Zero (null): Lift the cover plate (fig. B) and add 1 or 2 drops of distilled water on the surface of the prism (fig. A). Lower the cover plate, making sure that the water covers the entire surface of the prism. Next, turn the adjustment screw (fig. C) to make the light/dark boundary coincide (meet) at the "W" at the bottom of the protein scale. Using a soft cotton cloth or absorbent paper, clean and dry the prism before measuring the first specimen.
- 3 Lift the cover plate and add 1 or 2 drops of urine or serum (or plasma) depending on the type of measurement desired. Lower the cover plate. Alternatively, you can add the sample to the opening in the top of the cover plate allowing the prism to be covered by capillary action. **DO NOT OVERFILL.** Lightly press the cover plate, making sure the specimen is evenly distributed across the prism. You can now read the value of the protein concentration (for serum or plasma) or specific gravity from the appropriate scale by reading the boundary line between the light and dark area as it intersects the scale.
- 4 After use, clean with distilled water only. Rinse and dry the glass and metal parts. Store the Refractometer in its case in a cool, dry place. Notes:
 - a) When adjusting the Zero (null), the distilled water and specimens to be measured should all be the same temperature. If the temperature varies greatly between the two, the zero should be adjusted once every 30 minutes.
 - b) Never immerse the Refractometer in water.
 - c) Use extra caution when cleaning to avoid scratching the prism.
 - d) As with any precision instrument, care should always be used when handling, cleaning, and storing. Storage in a clean, dry, non-corrosive atmosphere is recommended. Avoid dropping or strong shocks.
 - e) When used properly, the LW Scientific Refractometer will give years of reliable performance.

Refractometer Dial



FG-301/311

