

SUGAR / BRIX  
REFRACTOMETER

300001, 300002

INSTRUCTION MANUAL

SPER  
SCIENTIFIC

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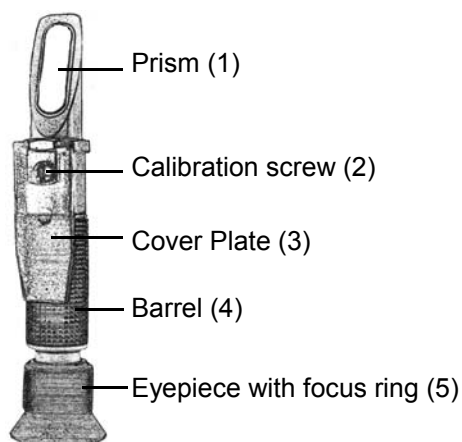


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**Introduction:** Your portable refractometer is a precision optical instrument designed to measure the concentration of sugar in aqueous solutions. It utilizes a Brix scale that is accurate and easy to read. It is excellent for quality assurance, process control requirements, and research. Refractometers operate on the principle that as the concentration or density of a solution increases, its refractive index changes proportionately. The refractive angle measured by your refractometer registers on the scale. The larger the concentration of sugar in solution, the higher the reading on the scale.

### Description:

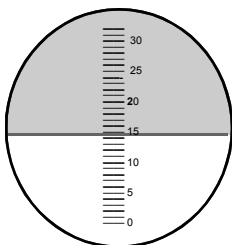




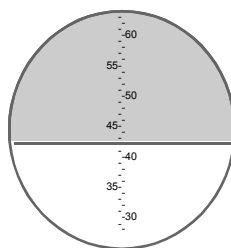
### Operating Procedures

1. With the COVER PLATE open, clean the PRISM with a soft cloth to avoid scratching the surfaces.
2. Aim the refractometer toward a light source and rotate the EYEPIECE to obtain the clearest focus.
3. Adjustment of the null (reference point):
  - A. Open the COVER PLATE.
  - B. Apply a few drops of pure distilled water onto the PRISM platform.
  - C. Close the COVER PLATE.
  - D. Turn the CALIBRATION SCREW until the dark and light boundary line coincides with the bottom line of the scale.
4. Carefully dry the prism platform and the cover.
5. Place a few drops of the test solution on the prism and close the COVER PLATE so the solution spreads evenly on the prism.
6. Aim the front of the refractometer towards the light source and focus the eyepiece on the boundary line of the light and dark hemispheres.
7. The boundary line indicates the concentration of sugar in the test sample.

15% Sample (300001)



43% Sample (300002)



8. After use, clean prisms with a cloth and remove any residue.
9. The temperature of the null reference liquid should be at the same temperature as the sample solution. For variations in temperature the null point should be adjusted once every 30 minutes.



### Precautions

Never submerge the unit, and do not let liquid to seep into the unit's body. Clean the refractometer after each use with a soft cotton cloth. Do not scratch surface of the prisms. Store in a dry, clean, and non-corrosive environment. Avoid strong shocks.

Specifications	300001	3000002
Range	0-32%	28-62%
Resolution	0.2%	
Accuracy	±0.2%	
Size	6 3/4" x 1 1/2" (171 x 38 mm)	6 1/4" x 1 1/2" (159 x 38 mm)
Weight	3.1 oz. (89 gr.)	3.2 oz. (90 gr.)
Accessories	Screwdriver, Carrying Case, Transfer Pipette, Distilled Water, Instruction Manual, Registration Card.	

### WARRANTY

Sper Scientific warrants this product against defects in materials and workmanship for a period of **five (5) years** from the date of purchase, and agrees to repair or replace any defective unit without charge. If your model has since been discontinued, an equivalent Sper Scientific product will be substituted if available. This warranty does not cover damage resulting from accident, misuse, or abuse of the product. To obtain warranty service, ship the unit postage prepaid to:

SPER SCIENTIFIC LTD,  
7720 E. Redfield Suite 7  
Scottsdale, AZ 85260  
WWW.SPERSCIENTIFIC.COM  
INFO@SPERSCIENTIFIC.COM

Please Note: The defective unit must be accompanied by a description of the problem and your return address. Register your product online or return your warranty card within ten (10) days of purchase.