

SUGAR/BRIX REFRACTOMETER w/ATC

300010

SPER
SCIENTIFIC

INSTRUCTION MANUAL

INTRODUCTION

Your portable refractometer is a precision optical instrument which is designed to measure the concentration of sugar in aqueous solutions. This unit features automatic temperature compensation (ATC) which makes manual temperature corrections unnecessary between 10 and 30°C. It utilizes the standardized Brix scale which is accurate and easy to read. Its light weight, ergonomic design make it convenient for both field and laboratory applications. It is excellent for quality assurance, process control, and scientific research.

The refractometer operates 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.

PANEL DESCRIPTION

1. Prism
2. Cover plate
3. Calibration screw
4. Barrel with textured grip
5. Eyepiece focus ring

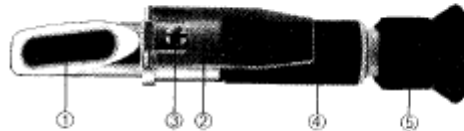


Fig. 1

OPERATING PROCEDURES

1. Aim the front end of the refractometer toward the light source and adjust the eye piece (5) until the scale is in focus.
2. Adjustment of the null (reference point).

- A - Open the cover plate (2). Carefully clean the prism (1) with a soft cloth.
- B - Place a few drops of distilled water on to prism platform (1).
- C - Close cover plate (2).
- D - Rotate the calibration screw (3) so that the dark and light boundary line coincides with the zero line.

Note: At the factory the adjustment of the null line (zero) is done at 20°C.

3. Open the cover plate and clean the prism with a soft cloth. Remove any surface residue.

4. Apply a few drops of solution to be tested on the prism and close the cover plate so the solution spreads evenly.
5. Aim the front end of the refractometer toward the light source and adjust the eyepiece until the boundary line and the scale are in focus. The light/dark boundary will show the percent sugar contained in the sample on the scale. (See Fig. 2). After use, clean the platform with distilled water and a soft cloth.

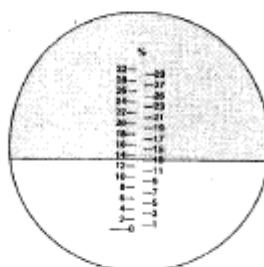


Fig. 2

Model #300010 illustrating a 13% Brix reading

PRECAUTIONS

1. Do not dip or run the unit under water. Avoid letting water seep into the internal section of the refractometer.
2. Store the refractometer in a dry, clean, and non-corrosive environment. Avoid strong shocks.
3. If reasonable care is applied to your refractometer the reliability, precision and optical performance will not change.
4. After each use clean the prism with a soft cloth. Avoid scratching the surfaces.

SPECIFICATIONS

MODEL	RANGE	RES.	ACCURACY	SIZE	WEIGH	MAGNIFICATION
#300010	0-32%	0.2%	±0.2%	6 ³ / ₄ " x 1 ¹ / ₂ " dia.	7.5 oz.	3.4X

STANDARD ACCESSORIES

Carrying case, Distilled water, Transfer pipette, 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.