

Salt Refractometer

300011 Instruction Manual

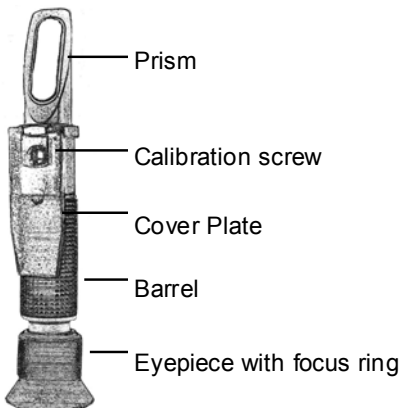
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Environmental Measurement Instruments

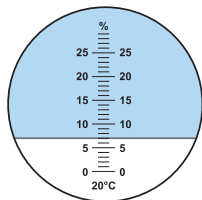
INTRODUCTION

This precision optical instrument is designed to measure the concentration of salt in aqueous solutions. It features automatic temperature compensation (ATC) which makes manual temperature correction unnecessary in a range of 10 to 30°C. This refractometer utilizes a parts per thousand (ppt) scale which is accurate and easy to read. 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 salt in solution, the higher the reading on the scale.

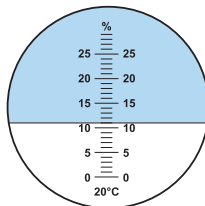
DESCRIPTION



7% Sample



11% Sample



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 salt in the test sample. (See 7% & 11% example to left)
To convert to ppt (parts per thousand), multiply the % reading by 10.
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 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

Range	Resolution	Accuracy
0.0 ~ 100 ppt, 1.000 ~ 1.070 sg	1.0 ppt, ± 0.001 sg	$\pm 1.0\%$ ppt, ± 0.001 sg
Dim: $6\frac{3}{4}$ x $1\frac{1}{2}$ (171 x 38 mm), Weight: 3.1 oz (89 g)		

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 probes, batteries, battery leakage, or damage resulting from accident, tampering, misuse, or abuse of the product. Opening the meter to expose its electronics will void the warranty. To obtain warranty service, ship the unit postage prepaid to:

SPER SCIENTIFIC LTD.

8281 E. Evans Rd., Suite 103
Scottsdale, AZ 85260

The defective unit must be accompanied by a description of the problem and your return address. Register your product online at www.sperwarranty.com within 10 days of purchase.

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