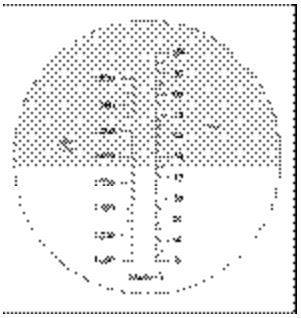
MR100ATC - Salinity Refractometer

Specifications

Scale Range Resolution
Parts Per Thousand 0 to 100 0/00 1 0/00
Specific Gravity 1.000 to 1.070 d20/20 0.001 d20/20
Dimensions 7.6 x 1.5 x 1.5" (194 x 38 x 38mm)
Weight Approx. 8.0 oz. (227g)

Shadow-line →



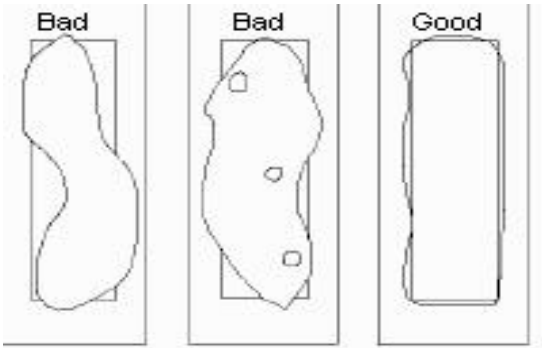
Operation
The instrument measures the refractive index of the sample and displays the result in parts per thousand (0/00) and specific gravity (d 20/20).

1. Zero Adjustment
Put distilled water on the prism; enough to cover the entire prism. Close the cover plate and rotate the adjusting screw so that the light/dark boundary line (known as the shadow-line) evens up with the zero line. After the zero adjustment, clean the prism with soft cloth.

2. Sample Preparation and Reading
To take a reading, place a few drops of a sample liquid on the measurement prism. Ensure that enough solution is added to the prism in order to cover the entire prism. Close the prism so that the liquid spreads across the entire surface of the prism without air bubbles or dry spots (see diagrams below). Allow the sample to remain on the prism for approximately 30 seconds. While holding the instrument under a light source, look through the eyepiece. The salinity concentration is determined by the intersection of the boundary of the light and dark fields (known as the shadow-line) on the printed scale. The left side of the scale indicates the specific gravity and the right side parts per thousand. If the scale appears out of focus, the eyepiece may be adjusted by rotating the knurled portion. The instrument also features an eye guard to prevent stray light from entering the eyepiece and causing reflections. It may be necessary to adjust the position of the light source to maximize the contrast of the shadow-line. Under normal conditions, optimal contrast is obtained by holding the instrument underneath and perpendicular to a light source. (florescent light is not recommended) - Once a reading has been taken, wipe dry with a clean cloth (do not wash or rinse) and place the instrument in the supplied plastic case. Store the instrument in a safe, dry environment.

Temperature is the single most important factor influencing refractometer readings and is one of the largest sources of measurement error. However, this device incorporates **automatic temperature compensation** (**ATC**) and the concern for temperature fluctuations in sample liquids is alleviated. When ambient temperature varies from 68°F (20°C), readings are automatically adjusted to compensate for temperature variance between 50°F to 86°F (10°C to 30°C).

Liquid on lens display



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