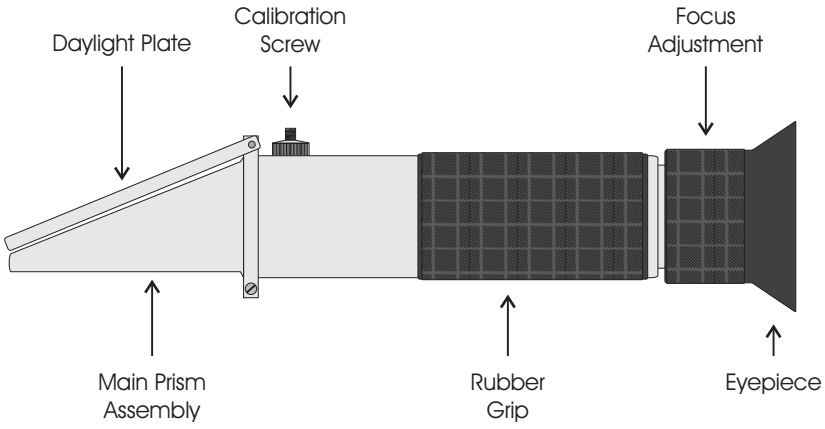
Operation Manual

for Westover Model RHB-18

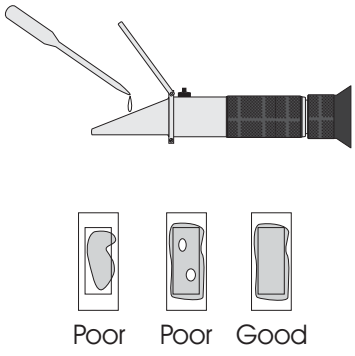
Hand Held Brix Refractometer

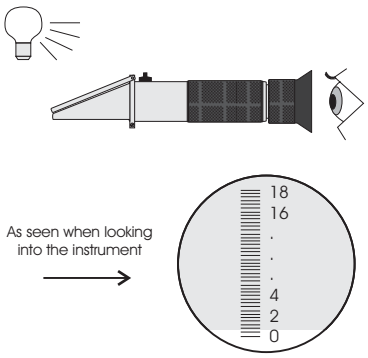
Range:	0-18°
Minimum Division:	0.2°
Accuracy:	0.1°
Dimensions:	27 x 40 160mm
Weight:	176 grams

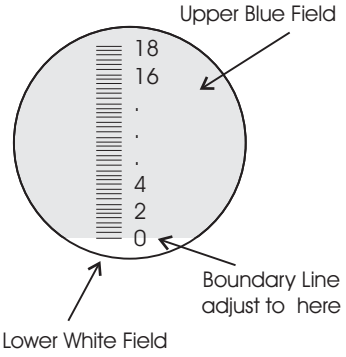
Parts Diagram



Calibration Procedure





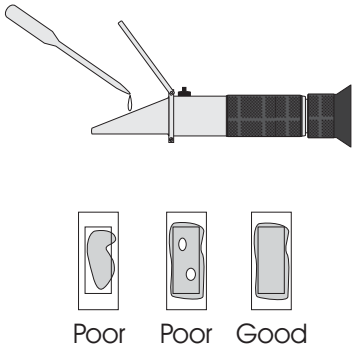


1) Open daylight plate, and place 2-3 drops of distilled water on the main prism. Close the daylight plate so the water spreads across the entire surface of the prism without air bubbles or dry spots. Allow the sample to rest on the prism for approximately 30 seconds before going to step #2. (This allows the sample to adjust to the ambient temperature of the refractometer)

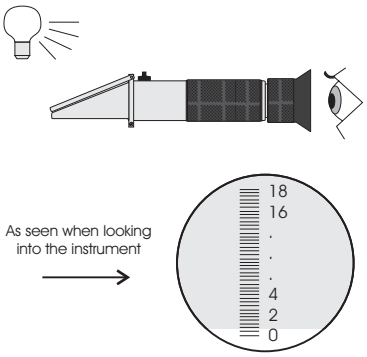
2) Hold daylight plate in the direction of a light source and look into the eyepiece. You will see a circular field with graduations down the center (you may have to focus the eyepiece to see the graduations clearly). The upper portion of the field should be blue, while the lower portion should be white.

3) While looking into the eyepiece, turn the Calibration Screw until the boundary between the upper blue field and the lower white field meet exactly on the 0.0°. Once complete, the instrument is calibrated for your current ambient room temperature. When working temperature of the room or environment (not the sample) changes by more than 5°F, we recommend recalibrating to maintain accuracy and reproducibility.

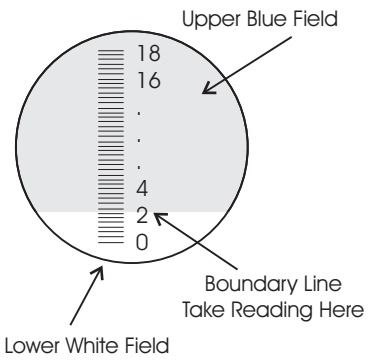
Basic Operation



1) Operation is done in essentially the same manner as calibration. Open daylight plate, and place 2-3 drops of of the liquid sample on the main prism. Close the daylight plate so the sample spreads across the entire surface of the prism without air bubbles or dry spots. Allow the sample to rest on the prism for approximately 30 seconds before going to step #2. (This allows the sample to adjust to the ambient temperature of the refractometer)



2) Hold daylight plate in the direction of a light source and look into the eyepiece. You will see a circular field with graduations down the center (you may have to focus the eyepiece to clearly see the graduations). The upper portion of the field should be blue, while the lower portion should be white.



3) Take the reading where the boundary line of blue and white cross the graduated scale. The scale will provide a direct reading of the Brix concentration. For use with non-sugar solutions, see below. Clean the prism carefully using a damp soft cloth. Do NOT immerse in water. Read warnings below carefully before use.

For Use with Industrial Fluids

The example below is based on using the refractometer with cutting and grinding fluids. The basic principles can be applied to any number of single solid solutions. For more information, contact your dealer.

1) Prepare a "Gold Standard" solution by carefully diluting a small volume of lubricant using an accurate measuring cup or graduated cylinder. (e.g. if the manufacturer recommends a 10:1 ratio, pour 10 ounces of water and 1 ounce of concentrated lubricant into a container)
2) Determine your target reading by measuring this "Gold Standard" with the refractometer. (instructions above)
3) Record your reading for future reference. (e.g. a 10:1 ratio may produce a reading of 2.3° on the instrument)
4) For all future dilution's, use the refractometer to ensure that the new dilution produces the same reading that your "Gold Standard" produced. (e.g. all future dilution's should read 2.3° on the refractometer)

Warnings - Maintenance

1) Accurate measurement depends on careful calibration. Follow the instructions above closely. Note: Shifts in ambient room temperature will necessitate recalibration and the sample must be allowed ample time to adjust to the temperature of the prism prior to measurement. The prism and sample MUST be at the same temperature for accurate results.
2) Do not expose the instrument to damp working conditions, and do not immerse the instrument in water. If the instrument becomes foggy, water has entered the body. Call a qualified service technician or contact you dealer.
3) Clean the instrument between each measurement using a soft, damp cloth. Failure to clean the prism on a regular basis will lead to inaccurate results and damage to the prism's coating.
5) Do NOT measure abrasive or corrosive chemicals with this instrument. They can damage the prism's coating.
4) This is an optical instrument. It requires careful handling and storage. Failure to do so can result in damage to the optical components and its basic structure. With care, this instrument will provide years of reliable