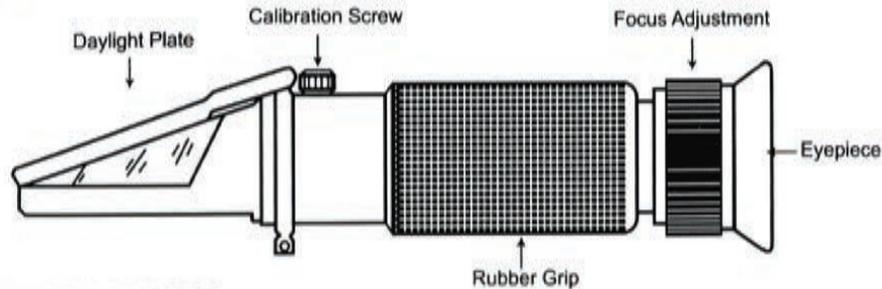


# OPERATION MANUAL

## For Hand Held Refractometer

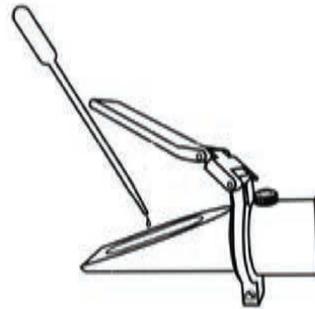
### PARTS:



### CALIBRATION PROCESS

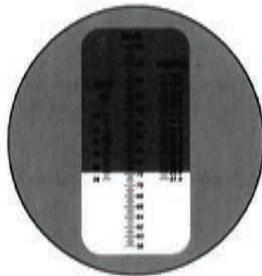
#### Step 1

Open daylight plate, make sure no dust on the main prism, 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 remain 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)



#### Step 2

Aim the front end of the refractometer to the direction of light and look into the eyepiece. You will see a circular field with graduations down the center (you may have to twist the focus adjustment to see the graduation clearly). The upper portion of the field should be blue, while the lower portion should be white.

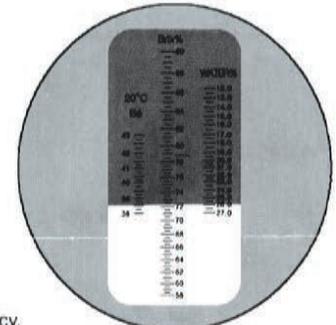


←  
As seen when looking into the Instrument

(The Scales in Step 2 & 3 are for references only, please refer to your product for the specific scale.)

#### Step 3

Look into the eyepiece and turn the Calibration screw by using a screwdriver until the boundary between the upper blue field and the lower white field meet exactly on the 72.2 scale, such as shown in the image. This is the end of the calibration process.



Calibrate to 72.2

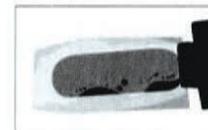
**Note:** Make sure the ambient temperature is not too hot or too cold when calibrating. 50°F--86°F is the best. Also the temperature of calibration solution should be close to the ambient temperature, and allow the sample to stay on the prism for a while before reading, to make the temperature of the ambient, the sample solution and the prism to be very close. When working temperature of the room or environment(not the sample) changes by more than 5°F, we recommend recalibrating to maintain accuracy. If the instrument is equipped with Automatic Temperature Compensation system, Once calibrated, shifts in ambient temperature within the acceptable range(50°F--86°F) should not affect accuracy.

### OPERATION

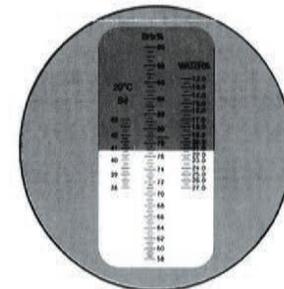
Place few drops of the sample to be tested on the main prism, and close the daylight plate. Make sure the sample is evenly distributed and air bubbles are eliminated on prism. Aim the front end of the refractometer to the direction of light. Take the reading where the boundary line of blue and white cross the graduated scale. The scale will provide a direct reading of the concentration."



Good and evenly distributed sample



Sample is not evenly distributed, and air bubbles are not eliminated.



Reading of Sample

(for reference only please refer to your product for the specific scale.)

### WARNING - MAINTENANCE

1. Accurate measurement based on good calibration, please calibrate the refractometer before your first use. But you don't have to calibrate it frequently, once every a few months is OK.
2. Clean the instrument with a soft cloth after each use, keep the refractometer dry and clean, which will keep the instrument accurate and durable. Do not put the entire instrument into water to wash, this may lead the refractometer to be foggy or rusty inside.
3. The instrument can be measured acidic and alkaline and other general corrosive liquid. But we do not recommend measuring these liquids for a long time. The residue should be cleaned immediately after measurement.
4. Please do not loose any connection part, and don't dropping, colliding, shaking the instrument intensely.