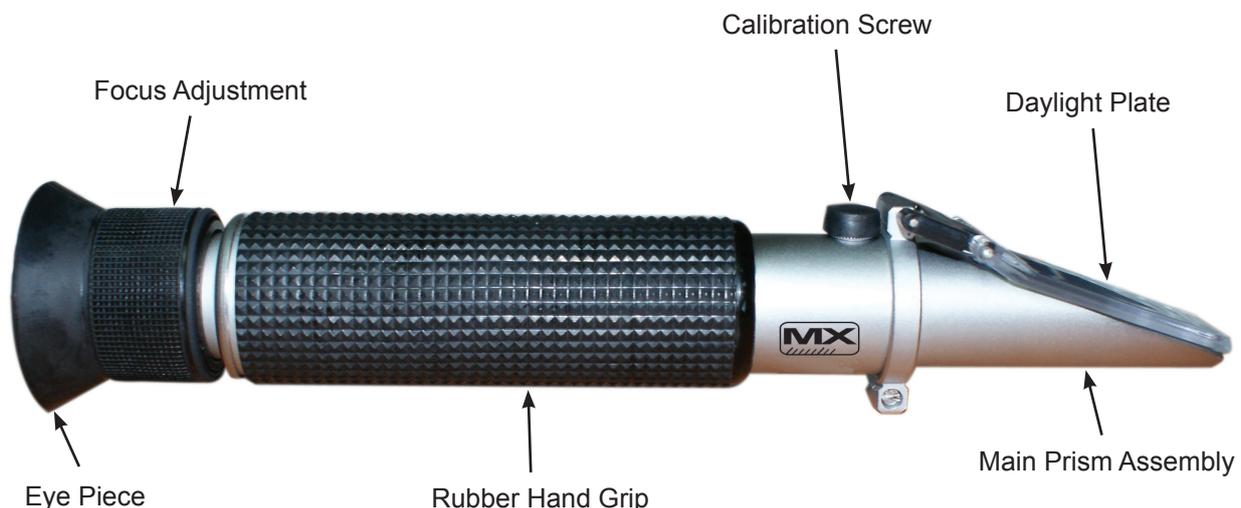


## Operation Manual 70-670 Hand Held Brix Refractometer

The Measumax 70-670 Refractometer comes complete with an additional feature of a built in calibration adjusting screw. The 70-670 is fitted with a high resolution Brix scale and is developed for low concentration readings. This range can measure the low concentration in fruit juice, soft drink, grape wine and most kinds of beverage. It can also be used in Industry for testing of Oil fluids such as Cutting fluids and Lubricating oil. Materials used in the Measumax 70-670 are carefully selected to bring out a quality results. With a robust aluminum body and rubber grip, it will provide easy accurate measurements when used correctly.

### Specifications

Model	Range	Min. Division	Accuracy
70-670 ATC	0-18% Brix	0.1%	±0.1%



### How to Use Your Refractometer

**Calibrating:** Hold the refractometer in the direction of good natural light and look into the eyepiece and adjust the eye peice until the graduated scale is in focus as shown in (**Fig.1**). Now open the daylight plate (**Fig.3**) and place 2-3 drops of clean distilled water or calibration liquid on the main prism. Close the daylight plate so the water spreads evenly across the entire surface of the prism without any air bubbles or dry spots. Then wait 30 seconds to allow the sample to adjust to the ambient temperature of the refractometer.

Now turn the adjusting calibration screw until the boundary of the upper blue field and the lower white field meet exactly at ZERO on the scale as shown in (**Fig.2**)

You are now ready to take readings of the liquid you want to test.

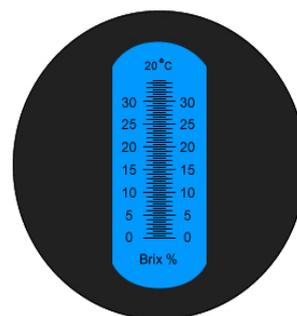


Fig.1



Fig.2



Fig.3

**Measuring The Coolant Concentration:** it is best to clean the instrument test area, both the daylight plate and the top of the main prism assembly by using a soft damp cloth.

Then once the scale has been calibrated place 1 to 2 drops of cutting fluid onto the prism glass and close the plate cover (**Fig.4**). If you are measuring the current concentration of a sump it is recommended to fill a paper cup with the your used cutting fluid and let it sit for 10 minutes. Then poke a small hole in the middle of the cup and use the stream of coolant to take your sample. When you look through the refractometer your reading is measured at the intersection of where the two blue & white colours meet - example 3 Brix. (**Fig.5**)

**Note!** It is important to note that each coolant has its own unique concentration readings. Coolant can have a different refractometer reading of  $9.2^{\circ}\text{Bx}$  at 10% concentration (10:1) while another coolant may have reading of  $3.3^{\circ}\text{Bx}$  at 10% concentration (10:1)

**Example:** Coolant with a Refractometer Index of 2. Therefore if the scale measures 3 on the Brix scale then we multiply this figure by the index ( $2 \times 3 \text{ Brix} = 6$ ) concentration ratio is **6:1**

The advantage of checking coolant with a refractometer is that it can also indicate when the coolant is dirty and old. This is displayed as a fuzzy or blurred line where the top colour meets the white bottom of the scale. Clean coolant will display a sharp line. (**Fig.6**)

### **Automatic Temperature Compensation (ATC) System:**

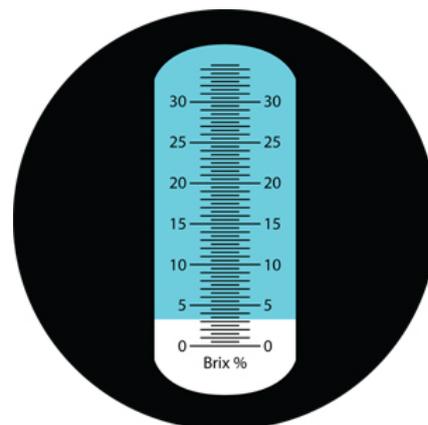
The Measumax 70-670 unit has an Automatic Temperature Compensation system (ATC). Please note for best results the ambient working temperature of the room should be  $20^{\circ}\text{C}$

**Warnings:** Accurate measurements depends on properly calibrating the refractometer and the temperature of the prism should be the same as the test piece.

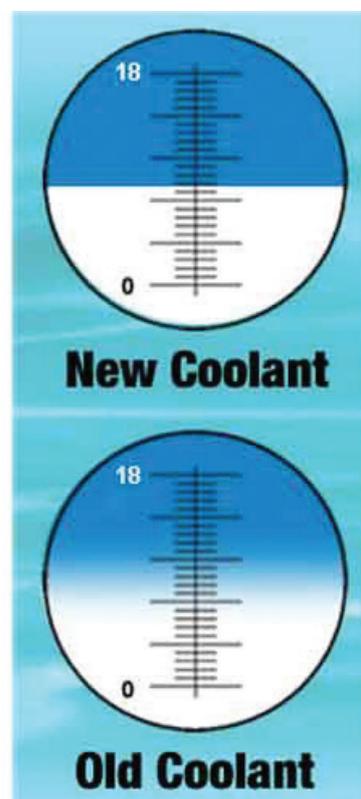
Do not immerse the instrument into liquids.  
Clean the instrument after using



**Fig.4**



**Fig.5**



**Fig.6**