

Background

A traditional handheld refractometer is an analog instrument for measuring a liquid's refractive index. It works on the critical angle principle by which lenses and prisms project a shadow line onto a small glass reticle inside the instrument, which is then viewed by the user through a magnifying eyepiece.

In use, a sample is placed between a measuring prism and a small cover plate. Light traveling through the sample is either passed through to the reticle or totally internally reflected. The net effect is that a shadow line forms between the illuminated area and the dark area. It is where this shadow line crosses the scale that a reading is taken. Because refractive index is very temperature dependent, it is important to use a refractometer with automatic temperature compensation. Compensation is accomplished through the use of a small bi-metallic strip that moves a lens or prism in response to temperature changes.

1. Introduction:

Refractometer produces different refractive indexes in the liquid with different concentration, this is the design principle of the product. Refractometer is a test instrument to test liquid by using light ray.

Refractometer belongs to the precision optical instrument, featuring in simple use, accurate measurement, light weight, small volume and etc. By using this instrument, it could be measured percent concentration of sugar degree in bean milk and concentration in bean juice, it is also used in foodstuff and agricultural scientific research.

2. Main technical data

Product name: Freezing point refractometer

Model: LH-B70

Measuring range: 0~70%(Freezing point)

Resolution: 0.2

Dimension and weight: 207*87*55mm, 300grams



3. Component part of the instrument

Division prism

Cover board

Benchmark calibration screw

Rubber sleeve

Panocratic eyepiece(definition)

Feature: It has the function of ATC, which makes the record more accurate. Eyepiece has been upgraded, the higher definition eases observer's feeling of fatigue. Structure simple and shockproof, easy operation and convenient to carry.

4. Using method

Let the deviation prism point to the light, adjust the visual ring till the gage mark becomes clear.

Adjustment benchmark: Before using, please keep the standard liquid (purified water), instrument and the testing liquid under same temperature. Open the cover plate and apply 1~2 drops of standard liquid onto the deviation prism, and then use hand to press the cover plate lightly to get a dividing line. Turn the calibration screw to coincide the dividing line with the benchmark (0%). The one for honey will be an exception.

Note: The instrument has been calibrated before delivery, you are allowed to use it directly.

Open the cover plate and use the soft lint to clear the surface of prism: apply 1~2 drops of the testing liquid onto the deviation prism and close the cover plate to press lightly; afterwards read the relevant scale for dividing line; the reading will be the concentration value and destiny value of the testing liquid.

After measuring, use the wet rag to clean the prism and cover plate; when it becomes dry, please store the prism safely.

5. Precautions & Maintenance

After using, please do not use the tap water to clean directly; Otherwise the water may go into the pipe of optical system.

When using or maintaining, please handle with care and keep the surface of optical parts away from scratch or damage.

The instrument can only be stored in the environment where is dry, free of dirt and corrosive gas; otherwise the optical component will be damaged.

The prism that will be contacted with the testing object is an consumption product, which can not be recovered, pls understand.

Users are required to follow the methods said above; If the instruments is damaged because of misconduct or operation in error, we shall not bear the warranty responsibility.

6. Packing:

The instrument will be packaged into the special box, with the accessories (i.e.: Operation manual; Screwdriver, Suction pipe and lint)

7. Warranty period:

The product will enjoy a one-year warranty from date of purchase and professional after sales service.