



## Guide Line Auto Refractometer

### 1. What is the differences between Automatic Refractometer and Abbe Refractometer?

- Automatic Refractometer can measure liquid, Abbe Refractometer can measure both solid and liquid.
- Abbe Refractometer measuring liquid has certain requirements, such as thick and dark sample can lower its measuring accuracy, but Automatic Refractometer need not take these factors into consideration.

### 2. Which field does Refractometer used in?

It can be widely used in petroleum, oil, medicine, paint, food, daily chemicals, sugar making and other industries.

### 3. Why we need control temperature when measure refractive index?

Temperature can affect refractive index of substance, and temperature affecting different substance is different. Temperature deviation of the same substance is not linear, only a few substances have temperature deviation coefficient or temperature deviation table, but most of substances testing need at a prescribed temperature.

### 4. How the temperature effects on testing result of sample?

Different substance influencing on temperature is uncertain, and the same substances refractive index change rate is not a linear at different temperature. Some substance temperature has a great influence on refractive index, each deviation of refractive index change more than 0.001. Some substance refractive index is insensitive to temperature, each deviation of refractive index may only change 0.0001.

### 5. What's the advantage of products with built-in Peltier temperature control system?

Compared with external connection water bath, Peltier temperature control system has the advantages of small control temperature volume and fast speed. Built-in Peltier can be convenient for user to set various of testing requirements, avoiding multiple instruments coordinate working together caused error or mistake.

### 6. A620 need connect water bath. Are there any requirements for refrigerated water bath?

There are three requirements:

1. Need with refrigeration
2. Need external circulator
3. Stability requires at least 0.1°C

### 7. Why measuring prism of Refractometer uses sapphire glass as raw material?

Traditional Refractometer adopt ordinary glass prism, but ordinary glass prism is not durable and service life is short. High hardness sapphire avoid the problem of natural sapphire impurity affect refractive index, with excellent properties against corrosion and scratches, greatly prolong service life.

### 8. What detector does Automatic Refractometer use?

Automatic Refractometer uses high-resolution CCD detector, can accurately and efficiently complete various samples analysis experiment by exclusive signal acquisition analysis processing technology

### 9. What are the advantages of CCD detector?

Use CCD detector instead of eyes, the advantages as below:

- Can greatly improve the resolution, avoiding man-made error, make the accuracy improved a high level.
- Improve the test speed, make the efficiency greatly improved.

### 10. Can Hanon Refractometer measure substance with color ? Why?

Hanon Automatic Refractometer Series, not only adopt CCD detector with the highest performance on currently market, but also make special optimized process. The instrument basically can measure any color liquid, and having very high sensitivity.

### 11. Does Refractometer need to calibration? How to calibrate?

Refractometer needs to calibrate. Hanon Automatic Refractometer provides users with single-point calibration. The users only need to calibrate distilled water, or a certain standard sample prepared by the users themselves.

