

YK-2806G

Dropping point and Softening point tester



YK-2806G fully automatic softening point tester is designed and manufactured according to the requirements of T 0606 "Asphalt softening point test (ring and ball method)" in the industry standard JTG E20 "Test procedures for highway engineering asphalt and asphalt mixtures" of the People's Republic of China and GB/T 4507 "Determination method for softening point of petroleum asphalt" of the People's Republic of China. This instrument is suitable for the determination of softening point of various types of asphalt such as road petroleum asphalt, coal asphalt, liquid petroleum asphalt, etc. This instrument can also be used to test the softening point of resin and rosin products.

I. Main technical features

1. It adopts computer intelligent control, laser automatic detection, LCD touch screen human-machine interface, screw stepper motor lifting and other technologies, with the characteristics of linear heating, uniform bath stirring, and automatic sample detection. It is an asphalt softening point determination instrument with high degree of automation, fast and convenient testing, and accurate and reliable test results.
2. The instrument heats the solution medium and sample through the heating tube, and stirs the beaker to make the temperature uniform through the magnetic stirrer. The controller uses

the interpolation algorithm to control the output so that the medium rises linearly at 5°C/minute. The sample in the test ring begins to soften slowly during the heating process. When the softening temperature point is reached, the sample in the sample ring slowly drops in the shape of a water drop under the gravity of the steel ball. When the samples in the two sample rings drop and contact the lower baffle, the average temperature is the sample softening point temperature.

3. The instrument is mainly composed of chassis bracket, touch screen human-machine interface, screw lifting system, heating and temperature adjustment system, laser detection system, magnetic stirring system and other parts.

4. In order to facilitate the test operation and the smooth lifting and lowering of the components in the beaker, a test platform is designed. The test components are suspended and positioned on the test platform. The test platform and the test components are driven by the lead screw to smoothly descend and accurately position, so that the light column of the laser beam is close to the upper side of the lower baffle.

5. The test process has animation simulation display, touch operation, and human-computer interaction interface, which is more intuitive and convenient.

6. The temperature control adopts slope interpolation algorithm, precise heating, program control, and real-time temperature control.

7. The split magnetic stirring adopts stepless speed regulation, and the temperature is more uniform.

8. The laser beam automatically detects and judges the sample falling, with strong anti-interference ability and high reaction sensitivity.

9. This product has won the national qualification certificate, numbered: Software Registration No. 6089527.

II. Main technical indicators and parameters

1. Measuring range

A. For samples with softening point below 80°C, 5°C~80°C (distilled water).

B. For samples with softening point above 80°C, 32°C~162°C (glycerol).

2. Temperature resolution: 0.1°C (deviation can be corrected).

3. Heating tube power: 700W.

4. Heating slope: After three minutes of starting, the heating rate stabilizes at (5.0±0.5)°C/min.

5. Beaker size: diameter 110mm, height 130mm.

6. Number of samples measured: 2 samples are measured at the same time.

7. Stirrer: magnetic stirring, stirring speed is continuously adjustable.

8. Test result processing 200 sets of data storage.

9. The stored data can be retrieved and displayed on the LCD, or transferred to a USB flash drive for viewing (.csv file).

10. Optional micro printer to print the results.

11. Communication interface RS-485 communication interface, ModBus protocol.

12. Dimensions 390mm×300mm×575mm (length×width×height).

13. Working power 220±10%VAC/50Hz.



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14. Machine power Maximum 800W.

15. Machine net weight 12.0Kg.

16. Operating environment:

A. Temperature: $15^{\circ}\text{C} \sim 35^{\circ}\text{C}$ and relatively stable, without obvious air convection;

B. Humidity: $\leq 85\%$;