

# SYD-2801E1 Penetrometer



## Summary

This instrument is designed and made as per T0604-2011 Penetration Test for Bituminous Materials in JTG E20-2011 Standard Test Methods for Bitumen and Bituminous Mixtures for Highway Engineering and ASTM D5 Standard Test Method for Penetration of Bituminous Materials. It is used to determine the penetration of pavement petroleum asphalt, modified asphalt, liquid petroleum asphalt and emulsified asphalt. It is also suitable to test solid particle, powder, colloid and raw-food materials such as cheese, glycine, butter, cream, and leavening. It can be widely used in food industry, highway engineering, and other industrial fields.

## I. Main technical features

1. The needle holder is designed novelty. It can be moved vertically and adjusted roughly and finely without measurable friction.
2. It adopts novel heating design. The heating and temperature measuring appliance are separated from the water bath. Easy to operate.
3. Equipped with an automatic temperature controller and high accuracy temperature sensor, the temperature can be set conveniently and control precision is high.
4. It adopts newly designed digital meter. The measuring data is stable and reliable.

## II. Main technical specifications

1. Measurement range : (0~600) penetration scale
2. Resolution : 0.01mm
3. Timing controller : 5s or 60s can be set at will, bias within  $\pm 0.1s$
4. Heating power : 200W
5. Temperature control accuracy :  $25^{\circ}\text{C}\pm 0.1^{\circ}\text{C}$  (Note: The ambient temperature shall not exceed  $20^{\circ}\text{C}$ )
6. Temperature control mode : High accuracy digital temperature controller
7. Constant temperature bath : Hard glass bath
8. Stirring : Automatically stirred by magnetic stirrer
9. Standard needle :  $2.5\text{g}\pm 0.05\text{g}$
10. Needle holder : It can be adjusted roughly and finely without measurable friction to make the tip aim the sample conveniently.
11. Power supply : AC ( $220\pm 10\%$ ) V, 50Hz
12. Dimension : 280mm $\times$ 350mm $\times$ 700mm

## III. Optional accessories

1. Grease masher : It is used in the tests which determine the cone penetration of lubricating grease (or petrolatum)
2. Standard cone :  $102.5\text{g}\pm 0.05\text{g}$
3. Other cones : 1/2 scale cone, 1/4 scale cone