POINTER VISCOMETER

Stainless Steel Viscometer Cup

Glass Viscometer Cup

Product Introduction

DHJ-4S rotational viscometer is an instrument used to measure the absolute viscosity of Newtonian liquids and the apparent viscosity of non-Newtonian liquids. It can be widely used in the measurement of viscosity of various materials such as oils, paints, plastics, pharmaceuticals, jewelry, coatings, and detergents.

Technical Parameters

Model	DHJ-4S	DHJ-1S
Measurement Range	1 ~2×10^6mPa.s	1 ~1×10^5mPa.s
Rotor Speed	0.3/0.6/1.5/6/12/30/60 RPM	3/6/12/30/60 RPM
Rotor Specifications	Rotor 1, 2, 3, 4 (Rotor 0 can be optionally added for measuring low viscosity down to 0.1 mPa·s)*	
Measurement Accuracy	±5% (Newtonian fluids)	
Operating Environment	Temperature 5°C～35°C, relative humidity not exceeding 80%	
Product Weight	Approximately 6.1 kg	
Dimensions	400*370*160 mm	
Input Power	AC 220V±10% 50Hz±10%	

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Product Features:

This instrument is a pointer viscometer, which is driven by a motor and a variable speed belt to rotate the rotor at a constant speed. When the rotor rotates in the liquid, the greater the viscosity of the liquid, the greater the viscous torque acting on the rotor; conversely, the smaller the viscosity of the liquid, the smaller the viscous torque. The viscous torque acting on the rotor is detected by the sensor, and the viscosity of the measured liquid is obtained after being processed by a computer.

This instrument processes the data detected by the sensor and displays the set rotor number, speed, and viscosity value of the measured liquid clearly on the pointer screen.

The DHJ-4S is equipped with 4 rotors (No. 1, 2, 3, and 4) and 4 speeds (0.3/0.6/1.5/6/12/30/60 rpm), which constitute 16 combinations. It can measure the viscosity of various liquids within the measurement range.

1. The lifting system adopts an oblique rack/gear method.
Other domestic manufacturers' rotational viscometers use a straight rack/gear method, and only one tooth contacts when the rack and gear are working. If it is easy to adjust upward, it will slide down, and if upward adjustment is difficult, it will avoid self-sliding. Our rotational viscometer uses an oblique gear method, and there are three teeth in contact when the oblique rack and gear are working, which effectively overcomes the shortcomings of the straight rack/gear method. The lifting is convenient and easy, and it will not self-slide. (The oblique rack/gear method is much more difficult in terms of processing cost than the straight rack/gear method).
2. The material of the rotor is changed to a more wear-resistant and corrosion-resistant alloy.
In order to improve the durability and corrosion resistance of the rotational viscometer, we have changed the material of the rotor to a more advanced alloy. Compared with the previous material, this alloy has better wear resistance, corrosion resistance, and higher precision in manufacturing. It can effectively ensure the accuracy and stability of viscosity measurement, and prolong the service life of the instrument.
3. A universal joint is added to the interface connecting the rotor.
Usually, the rotor of a rotational viscometer is directly and rigidly connected to the rotating shaft. Any eccentricity of the shaft or the rotor will cause shaking during testing and affect the measurement accuracy. The rotating shaft is thin and pointed, and even accidental collisions can easily cause bending or damage. By adding a universal joint, the testing error caused by the eccentricity between the shaft and the rotor can be effectively reduced, and the rotating shaft can be protected from damage due to collision. This structure is not yet available in other domestic manufacturers, and can only be found in high-end imported viscometers (the universal joint needs to be machined with imported CNC machine tools, and the precision requirements are very high, so the cost has also increased significantly).
4. The variable speed gears are made of high wear-resistant and high-performance engineering plastics.
In order to ensure the smooth operation and accurate measurement of the rotational viscometer, the machining accuracy of the gears is very high. Currently, the gears used by other domestic manufacturers to produce viscometers are made by machining metal sheets into tooth profiles and then riveting them with other components. Due to the limitations of this processing method, it is difficult to meet the design requirements, causing the viscometer to operate unevenly, such as shaking, wobbling, and pointer jumping, and also generating a lot of noise. However, our factory uses high-performance engineering plastics (which have better performance than metal) to press the entire gear component into shape at once. Due to the high precision of the mold, the processed gears fully meet the design requirements, fundamentally solving the problems caused by metal gears and making the viscometer operate very smoothly, thereby improving the measurement accuracy.
5. Fine processing and excellent performance.
Each component is carefully processed and debugged, and the quality is strictly controlled to ensure that users can purchase and use the instrument with peace of mind and satisfaction.