



PN 0201010702

Thermal Conductivity Measuring Apparatus



DESCRIPTION

Thermal conductivity is a physics quantity representing the heat conducting characteristic of a matter, but change of material structure and different content of impurity have obvious influence on it, therefore, the thermal conductivity of material often needs to be measured on particular requires.

Two of steady state method and dynamic method are available for measuring thermal conductivity. By steady state method, the specimen should be preheated in result to make heat conduct from high temperature to the low inside the specimen due to reason of temperature difference, thus the temperature of each point insides the specimen vary with the speeds of heating and conducting,

and then give proper control to experiment conditions and parameters to make the process of heating and conducting reach to a balanced state, with which the specimen will have a stable temperature distributed inside. Based on it, the thermal conductivity can be found out. This apparatus is designed adopting the steady state method for measuring the poor conductor (such as rubber), with which we can learn the experimental technique of utilizing the rate of heat release of object to find out conducting speed.

The apparatus, with steady state method, is used for measuring the poor conductor. It is the second generation, the heating disc of which is changed to of self-adapting temperature control by monolithic processor with 0.1°C of reading resolution. The heat emission disc is designed with integrated sensor for temperature measurement, the reading resolution of which is 0.1°C . With firm structure, easy measurement and control, the apparatus has been widely applied on heat experiment of general physics in universities and colleges.

Experiments:

- ▶▶ Measure the thermal conductivity of poor conductor. Rubber specimen is attached with the apparatus for teaching purpose.
- ▶▶ Learn the experimental technique of utilizing the rate of heat release of object to find out conducting speed.
- ▶▶ Learn usage of high accuracy integrated temperature sensor.

Specification

Working temperature	$0^{\circ}\text{C}\sim 100^{\circ}\text{C}$
Thermostatic control range	ambient temperature- 80°C
Uncertainty of measured thermal conductivity	less than 6°C
Display resolution	0.1°C
Measure the specimen of poor conductor such as rubber	

Note :

Due to keeping innovation, the specification and Machine pictures or color are subject to alteration without notice!

HK-NIM1 Digital Conductivity Meter

Overview

Our HK-NIM1 is designed by ASTM D2624 Standard Test Methods for Electrical Conductivity of Aviation and Distillate Fuels, which covers the determination of the electrical conductivity of aviation and distillate fuels with and without a static dissipator additive. The test methods normally give a measurement of the conductivity when the fuel is uncharged, that is, electrically at rest (known as the rest conductivity).

Features

This tester adopts single chip microcomputer photoelectric isolation technology

Stability and repeatability is good

The apparatus with short polarization, long sampling time, high accuracy

Possesses with functions of temperature measurement

Conductivity detection is mainly used for light oil products, also can be used in the detection of fuel additive environmental protection

Configuration: Temperature measuring probe, conductivity pool, detector.

Conductivity value: Measuring range 1-2000 ps/m, resolution: 1 ps/m

Technical parameters

I, conductivity test

Range: 0 ~ 1999 pS/m

Resolution: 1pS/m

Accuracy: $< 2\% \pm 1$ pS/m

Measurement error: Less than request of ASTM D2624

Ambient temperature: 0°C ~ 40°C

Relative humidity: $\leq 85\%RH$

Power: 9V

Dimension: 80 × 140 × 35(mm)

Calibration value: Certificate value ± 2 pS/m

II, temperature test

Temperature range: - 50°C ~ 50°C

Resolution: 0.1°C

Accuracy: $< 1^\circ C$

product picture



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