W533 Water Vapor Permeability Analyzer

Function

W533 water vapor permeability analyzer is to test the water vapor transmission rate (WVTR) of films or sheets materials.

Applied to:

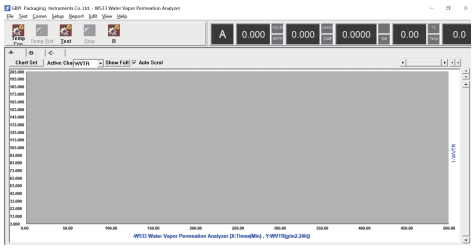
1) Plastic films, composite films, aluminum foil, aluminized films, etc.
2) Sheets, panels, rubber, ceramic, etc.
3) Packaging containers, such as: glass, bottles, cans, boxes, etc.
4) Expanding application: solar panels, LCD films, medical patches, etc.

Widely used in quality inspection organizations, drug control institutions, research institutes, packaging, thin film, food companies, pharmaceutical enterprises, personal care industry, electronics industry and so on.

Test Principle

The test chamber is divided into upper and lower parts by test samples, there is humidity nitrogen flowing in upper chamber, and the lower chamber is equipped with a drying device. Water molecules diffuse through the sample to the lower chamber and are absorbed by the desiccant. The WVTR is calculated by measuring the increased weight of the drying device.

Software Interface



Technical Specification

Items	Technical Parameters
Test range	0.1~10000 g/m^2 · 24h
Test precision	0.001 g/m^2 · 24h
Weight range	0.1mg~200g
Temperature range	15~55℃
Temperature accuracy	±0.1℃
Humidity range	30~90%RH，100%RH
Humidity accuracy	±1%RH
Test area	86.54 cm^2
Sample size	Φ125 mm

Items	Technical Parameters
Sample thickness	≤5mm
Number of test sample	3 pieces
Interface size	Φ4mm polyurethane tube
Air pressure	≥0.2MPa
Instrument size	1680×500×375mm
Weight	160kg
Power	750W
Power supply	AC 220V, 50Hz

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Features

Accurate and reliable data

· With The State Certificate for Gradation of the certified Reference Materials and Licence for Manufacturing Measuring Instruments of the state Reference Materials(GBW(E)130543/4) of Water Vapor Permeability Analyzer approved and issued by General Administration of Quality Supervision, Inspection and Quarantine of the P.R.C. Adopting state reference materials to calibrate and verify the instruments, ensure the accuracy, universality and authority of the test data.

Simple operation

· Professional software with simple interface, easy to use and convenient to set test process.
· Computer automatically monitors the whole test procedure: auto test, auto judgment, and auto stop.
· Curves display of transmission, water vapor concentration, temperature and humidity in real time. The curves with conceal function, support query function for background data.
· Professional test report; can export file in PDF format.

Advanced technology

· Temperature control: International advanced electromagnetic technology, program controlled, auto heating and cooling; no need of external accessories. Precision: 0.1℃.
· Humidity control: Dual gas flow method(dry gas and humid gas), high precision (1%RH) and stable flow.
· Mainframe configures with color touch screen, can observe temperature, humidity and transmission and can run independently without external computer.
· Introduce multiple foreign advanced technologies, precision is as high as 0.001 $g/m^2 \cdot 24h$.

High efficiency

· Three chambers work independently with gravimetric method, each chamber has separate report; can run one chamber or two chambers or three chambers respectively.
· High precision sensor, continuous weighing and data acquisition, so test data is reliable.
· By adding adaptive accessory, can test water vapor transmission of various containers such as bag, bottle, can and bowl.
· Can be expanded up to 10 chamhers.
· The only water vapor permeability analyzer with cup method that can test aluminum foil, aluminum laminated films and other high barriers materials in the industry.

Calibration & Certification

· The instrument supports two methods of reference materials and standard gas to calibrate and certificate; operation is simple, user only need use certified reference materials for normal testing, and then input the test result into the instrument interface.

Reliable and easy-maintenance instrument

· Adjustment parameters are managed by coded lock. The whole procedure is finished automatically.
· Sensor over-range protection, prevent damaging important sensors.
· Function modularization, easy to maintain.

Standards

ASTM E96

ASTM D1653

ISO 2528

JIS Z0208

TAPPI T464

DIN53122-1

Configuration

Power cable, Communication cable
Scale plate, Sample cutter, Sealing grease, Standard weight, 4A molecule sieve, Allen wrench, Cross screwdriver, Rubber pipe, Gas-pressure meter, Speed regulator valve, Air pipe adaptor, Reference material

Users owned
Computer, 1 piece of drying vessel, 3 pieces of 500-1000ml wide-mouth bottle(all samples must be degassed and dehydrated for 24 hours), Muffle furnace or drying device that temperature can up to 500°C, special desiccant for drying device (can use for several times after drying), Air supply through secondary filtration (separation of oil and water), such as air compressor (2.5HP, 8KG pressure), 2 bottles of 40 L bottled nitrogen, purity above 99.999%, 1 bottle is for spare, 5L first-class distilled water

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