Distributed by:

cntech
Analysis & Testing Instruments

Gravimetric Method Water Vapor Permeability Analyzer

AUTO W806

Product introduction

This product is based on the test principle of cup method water vapor transmission, and is designed and manufactured according to ASTM E96 standard, and provides a wide range and high efficiency water vapor transmission rate detection for low, medium and high water vapor barrier materials testing.

It is suitable for the water vapor transmission performance test of films, sheets, paper, fabrics, non-woven fabrics and related materials in the fields of food, medicine, medical equipment, daily chemicals, etc.

Test principle

Desiccant (weight gain method) or place water (weight loss method) in the sample cup; seal the sample cup with the sample and place it in the test box; control the temperature, humidity and wind speed of the test box; The difference in humidity drives the water vapor to penetrate the sample, and the mass of the sample cup increases or decreases; the mass of the sample cup is regularly weighed, and the performance parameters such as the water vapor transmission amount of the sample are calculated.

Standard

ASTM E96, ASTM D1653, ISO 2528, TAPPIT464, DIN 53122-1, YBB00092003

Technical parameters

Item	Technical parameters
Test range	film：0.05~10,000 g/(m^2·24h)，Container：0.0002~30 g/(pkg·24 h)
Test precision	film：0.001 g/(m^2·24h)，Container：0.0002 g/(pkg·24 h)
Test chambers	6 Pieces
Balance range	210 g
Balance indexing	0.01 mg
Temperature range	10~50±0.1 ℃
Humidity range	5%～95%，100% RH
air speed	0.5~2.5 m/s（0.03~0.5 m/s　optional）
Sample size	Φ74 mm
Sample thickness	≤3 mm
Test method	weight gain method, weight loss method
Standard test area	33 cm^2
Carrier gas specification	Air compressor
Air pressure	≥0.6 MPa
Connection size	Φ6 mm Polyurethane tube

Features

◆ Test chamber and breathable cup design upgrade, efficient multi-mode

Newly designed test cavity and round moisture permeable cup, fully automatic rotating tray, high weighing efficiency, 360° three-dimensional constant temperature and humidity in the test cavity, test error less than 0.001 g/m^2·24h.

6 test chambers; support weight gain and weight loss test modes.

◆ Precise control of temperature, humidity and wind speed

The semiconductor stabilizer automatically controls the temperature, and the temperature control accuracy is 0.1 ℃.

Dual airflow (dry air and wet air) humidity control method, automatic wind speed adjustment, no water mist humidity adjustment technology, stable humidity, high precision, humidity accurate to ±2%RH, to meet the needs of long-term continuous testing.

◆ Fault self-check, professional safety protection

Power-on self-test to avoid testing under fault conditions.

Balance thermal insulation, moisture-proof technology, to ensure the stability and life of the balance.

◆ Excellent appearance, convenient control, real-time visualization of curves

The product is artistically designed from the perspective of ergonomics and technical aesthetics, with exquisite 3D printed shell, smooth lines, fashionable and beautiful, novel and unique.

The instrument is fully automatic operation, one-key test, automatic judgment, automatic shutdown.

Real-time display of four sets of curves of transmittance-time, temperature-time, humidity-time, weight-time.

◆ Intelligent operating system, global certification

We develop intelligent operating system by ourselves, with modular graphics, flexible setting of test process parameters, intuitive and convenient operation.

Designed according to the GMP appendix "Computerized System", it has the function of auditing and tracking, and multi-level permission settings for users can meet the requirements of the pharmaceutical industry for data traceability.

Personalized test reports can be set as needed, and data output forms in multiple formats are supported. Support electronic signature, online submission of audit report functions.

Global strength certification, Chinese and English language settings can be performed as needed.

◆ Professional calibration service, accurate and reliable data

Our company has approved and issued by the "General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China": water vapor transmission rate "National Standard Material Grading Certificate" and "People's Republic of China Manufacturing Measuring Instrument License", the standard object number (GBW (E)130543 / GBW(E)130544). The instrument is calibrated and verified by the national standard material independently developed to ensure the accuracy, versatility and authority of the test data.

◆ Lab intelligent IoT platform

The instrument can be connected to the IoT platform to realize network digital management. Remote authorization to log in to the IoT platform can realize these functions such as managing experimental data, remote diagnosis and troubleshooting etc.

Customers can download the required instrument information, documents, and operation videos on the platform by themselves.

Application Area

	Film	Suitable for water vapor permeability test of various plastic films (PP/PET/PE/PVC/BOPP/CPP, etc.), plastic composite films, paper-plastic composite films, metal composite films, co-extrusion films, aluminized films, degradable packaging films (PLA/PBAT/PBS) etc.
	sheet	Suitable for water vapor permeability test of solid pharmaceutical hard sheet (PP/PVC/PTP, etc.), metal composite sheet, rubber sheet and other sheet materials.

	Paper, cardboard and composite material	Suitable for water vapor permeability test of paper and cardboard, such as coated paper, silicone paper, aluminized paper for cigarette packs, paper-aluminum-plastic composite sheet, etc.
	Medicinal patch	Suitable for water vapor permeability test of medical plasters
	Package	Customizable clamps can be extended to packaging parts, such as medical polyethylene bottles, sealed bags, medical ointment tubes, infusion hoses, plastic trays

Factory configuration

The standard configuration	Power cord, communication line, weighing scale, moisture permeable cup, sample cutter, sealing grease, mouse, weight, 4A molecular sieve, reference material, inner hexagon
Optional	measurement certificate, air compressor

Remark	1. There is no vibration source nearby, and the test bench requires no vibration and must be level; 2. Standard laboratory environment, the temperature is 23° ±2; 3. Power requirements: 220 V regulated power supply, one socket with three holes and three switches; 4. Computer requirements: standard configuration (Windows 10, with a nine-pin serial port); 5. One set of muffle furnace or drying equipment whose temperature can reach above 500℃, used for drying the desiccant (which can be used multiple times after drying); 6. Drying dish (all samples need to be dehydrated and degassed for 24 hours); 7. First-grade distilled water, 2 L (bottled)

Note: GBPI has always been committed to the innovation and improvement of product performance and function. For this reason, product technical specifications and appearance will be changed accordingly. The above situation will not be notified. The company reserves the right of modification and final interpretation.