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Analysis & Testing Instruments



Gravimetric Method Water Vapor Permeability Analyzer AUTO W812



Product introduction

This product is based on the cup-type water vapor transmission test principle and is designed and manufactured in accordance with ASTM E96, GB/T 1037 standards. It provides wide-range, high-efficiency water vapor transmission rate testing for materials with low, medium and high water vapor barrier properties. test.

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

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.

Standards

ASTM E96, ASTM D1653, ISO 2528, TAPPIT464, DIN 53122-1, YBB00092003, GB/T 1037, GB/T 16928, GB/T 17146, GB/T 12704, GB/T 19082, GB/T 21332

Technical parameters

Item	Parameter
Measuring range	Film: 0.05~10,000 g/(m ² ·24h), Container: 0.0002~30 g/(pkg·24 h)
Resolution	0.0001 g/(m ² ·24h)
Test station	12 pcs
Balance range	210 g

Balance graduation	0.01 mg
Test temperature	10~50±0.1 °C
Test humidity	5%~95%, 100% RH
Wind speed	0.5~2.5 m/s (optional 0.03~0.5 m/s)
Sample size	Φ74 mm
Sample thickness	≤3 mm
Test Methods	Weight gain method, weight loss method
Standard test area	33 cm ²
Carrier gas specification	Compressed air
Air source pressure	≥0.6 MPa
Interface size	Φ6 mm Polyurethane pipe
Dimension	830 mm*670 mm*440 mm

Features

Upgraded design of test chamber and moisture permeable cup, efficient and multi-mode

The newly designed test chamber and circular moisture-permeable cup, fully automatic rotating tray, high weighing efficiency, 360° three-dimensional constant temperature and humidity in the test chamber, and a test resolution of 0.0001 g/m²·24h.

12 test stations; supports weight gain and weight loss test modes.

Precise control of temperature, humidity and wind speed

The semiconductor refrigeration chip automatically controls the temperature in both directions, with a temperature control accuracy of 0.1°C.

Dual air flow (dry air and wet air) humidity control method, automatic wind speed adjustment, water mist-free humidity adjustment technology, stable humidity, high precision, humidity accuracy to ±2%RH, meeting the needs of long-term continuous testing.

Fault self-checking, professional safety protection

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

The balance's heat insulation and moisture-proof technology ensures the stability and longevity of the balance.

Excellent appearance, convenient control, real-time curve visualization

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

The instrument operates fully automatically, with one-button testing, automatic judgment and automatic shutdown.

Real-time display of four sets of curves: transmittance-time, temperature-time, humidity-time, and weight-time. The curves support preview hiding function.

Intelligent operating system, global certification

Self-developed intelligent operating system, modular diagram, flexible setting of test process parameters, intuitive and convenient operation.

Designed in accordance with the GMP Appendix "Computerized System", it has audit tracking functions and multi-level user permission settings, which can meet the pharmaceutical industry's needs for data traceability.

Personalized test reports can be set on demand, support data output in multiple formats, and support electronic signature and online submission of audit reports.

Professional calibration services, accurate and reliable data

Our company has the "National Standard Material Grading Certificate" for water vapor transmission rate and the "License of the People's Republic of China for Manufacturing Measuring Instruments" approved and issued by the "General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China", and the standard number (GBW (E)130543/GBW(E)130544). Self-developed national reference materials are used to calibrate and verify the instrument to ensure the accuracy, versatility and authoritativeness of the test data.






Laboratory Intelligent IoT Platform

The instrument can be connected to the Internet of Things platform to realize digital network management.

Remote authorized login to the IoT platform can realize functions such as managing experimental data, remote diagnosis and troubleshooting.

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

Application

	<p>Films</p>	<p>Water vapor transmittance 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, aluminum films, degradable packaging films (PLA / PBAT / PBS, etc.)</p>
	<p>Sheet</p>	<p>Water vapor transmission rate test of solid pharmaceutical hard sheet (PP/PVC/PTP, etc.), metal composite sheet, rubber sheet and other sheet materials</p>
	<p>Paper, cardboard and their composites</p>	<p>Water vapor transmission rate test of paper and cardboard such as coated paper, silicone paper, aluminum paper for cigarette packs, paper-aluminum-plastic composite sheet, etc.</p>
	<p>Medicinal patch</p>	<p>Water vapor transmission performance test of medical plasters</p>
	<p>Package</p>	<p>Customized fixtures can be extended to packaging parts, such as the water vapor transmission rate of medical polyethylene bottles, sealed bags, medical ointment tubes, infusion hoses, plastic trays, etc.</p>

Configuration List

The standard configuration	Power cord, communication cable, scale pan, moisture-permeable cup, sample cutter, sealing grease, mouse, weights, 4A molecular sieve, standard membrane, inner hexagonal
Optional	Air compressor, measurement certificate
Remark	<ol style="list-style-type: none">1. There is no vibration source nearby, and the experimental bench is required to be free of vibration and level;2. Standard laboratory environment, with a temperature of $23^{\circ}\pm 2$;3. Power supply requirements: 220 V regulated power supply, three-hole and three-position socket with switch One;4. Computer requirements: standard configuration (Windows 10, 64-bit system);5. One muffle furnace or drying equipment with a temperature above 500°C, used for special desiccant for drying equipment (after drying Can be used multiple times);6. Drying dish (all samples need to be dehydrated and degassed for 24 hours);7. First-grade distilled water, 2 L (bottles are enough)

Note: GBPI is always committed to product innovation and improved performance, so accordingly product technical specifications are subject to change without notice. GBPI reserves the right to amend and the final power of interpretation.



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