

Water Vapor Permeability Analyzer W413 2.0

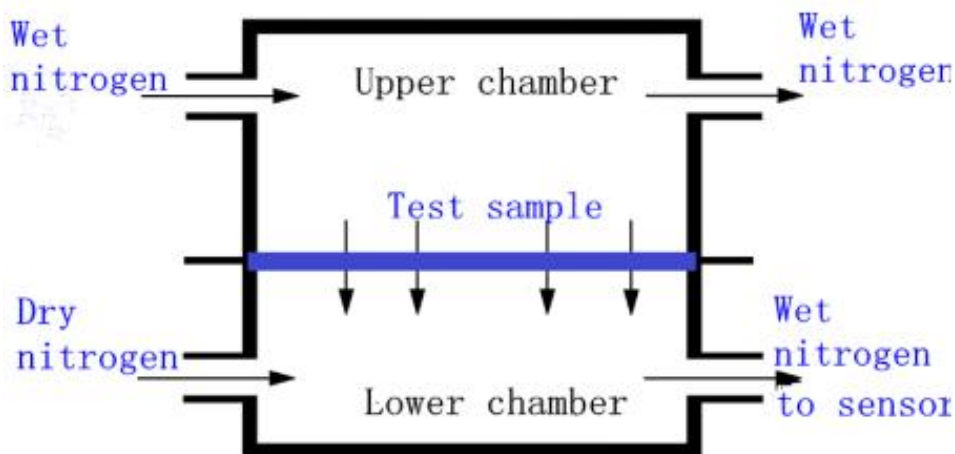


Product introduction

W413 2.0 Infrared Water Vapor Transmission Rate Tester is a high-end precision packaging material testing instrument developed by Guangzhou Biaoji R&D team based on ASTM and GB standard requirements and market demand. It is used to test the water vapor transmission rate of samples under set temperature and humidity conditions. rate (amount). It is suitable for the water vapor transmission performance test of films, sheets, paper, packaging parts and various materials in the fields of food, medicine, medical equipment, daily chemicals, photovoltaic electronics, etc. Ideal configuration instrument for material barrier properties.

Test principle

W413 2.0 water vapor transmission rate analyzer adopts the principle of **infrared method**. The pre treated sample is fixed in the middle of the test chamber, and the test chamber is divided into a high-humidity side and a low-humidity side. The compressed air flows on one side of the film, and the dry nitrogen (carrier gas) flows at a fixed rate on the other side. Due to the existence of the humidity gradient, the water vapor will permeate from the high humidity side to the low humidity side, and the water vapor passing through the sample is carried to the infrared sensor by the flowing dry nitrogen, and the water vapor permeability of the sample is obtained by the electrical signal output by the sensor parameters such as overrun.



Schematic diagram of infrared method

Standards

ASTM F1249, GB/T 26253, YBB 00092003, BS EN ISO 15106-2, JIS K7129

Technical parameters

Item	Technical parameters
Test range	0.002~100 g/(m ² ·24h) (film and sheet)
Test precision	0.0001 g/(m ² ·24h) (film and sheet)
Temperature range	15~45°C (15~60°C optional)
Temperature accuracy	±0.1°C
Humidity range	(5~90) %RH, 100%RH
Humidity accuracy	±1%RH
Test area	50.24 cm ² (with additional adapting piece and be small as 0.785 cm ²)
Sample size	Φ100 mm
Sample thickness	≤3 mm
Number of test sample	3Pieces
Carrier gas	99.999% N ₂ (user provide)
Carrier gas pressure	≥0.1 MPa
Carrier gas flow	5~120 mL/min
Pneumatic pressure	≥0.3 MPa
Gas supply port	1/8 inch metal pipe
Instrument size	700 mm×630 mm×400 mm
Weight	60 kg
Power	750 W
Power supply	AC 220 V, 50 Hz (110V as requested)



Features

◆ **Patented core technology, efficient and accurate testing**

The high-precision infrared moisture sensor developed by the top foreign technical team has ultra-high stability, ultra-low failure rate, high sensitivity, and a resolution of up to 0.0001 g/(m² · 24h).

The new pneumatic control system, the automatic pneumatic fixture, with pressing a button to open and lock the sample chamber, which is convenient and labor-saving, and has excellent sealing performance.

◆ **Precise control of temperature and humidity**

Temperature control: The international advanced electromagnetic temperature control technology is adopted to automatically control the temperature rise and fall, and the temperature control accuracy is 0.1 °C.

Humidity control: dual airflow (dry and wet) humidity control, stable humidity, high precision, and humidity accurate to ±2%RH.

◆ **Meet the test requirements of high throughput, wide range and high applicability**

The instrument is equipped with 3 chambers with independent data, which can meet the needs of high-throughput testing with high testing efficiency.

The measuring range is 0.002~500g/(m²·24h), and the measuring range is wide, which can meet the testing requirements of high, medium and low barrier materials. With the addition of suitable accessories, it can measure the water vapor transmission rate of containers such as bottles, bags, and bowls.

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

The host is embedded with a 11.6-inch high-resolution color touch screen, with clear



view, sensitive touch and easy operation.

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

Real-time display of five sets of curves of transmittance-time, temperature-time, humidity-time, flow-time, voltage-time, and the curve supports preview and hide function.

◆ **Intelligent operating system, global certification**

Self-developed intelligent operating system, modular icons, stylish color matching, user-friendly settings, intuitive and convenient operation.

According to GMP appendix computer system design, test process parameters are flexibly set to meet different standard requirements.

It has the function of audit trail (log tracking, test tracking), which can meet the needs of traceable data. System operation authority can be set to different levels.

Intelligent statistical analysis, support for standard deviation analysis of multiple data.

At the same time, the system can be expanded, such as access to laboratory LIMS system.

Personalized test reports can be set as needed, and data output forms in multiple formats are supported.

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

◆ **Offline or online detection**

The instrument comes with its own operating system, which can be tested independently from the computer, and the data is automatically processed. The instrument is equipped with a computer interface, and can also be connected to a computer for online testing.

◆ **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.

Log in to the IoT platform remotely and authorize to enter the instrument software interface, which 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 field

	<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

<p>The standard configuration</p>	<p>Power cord, communication line, sample cutter, sealing grease, ferrule connector, standard film, hexagon socket wrench, syringe, sealing ring, syringe sealing ring, fork wrench, cross screwdriver, mouse, metal trachea</p>
<p>Purchase</p>	<p>Computer, measurement certificate, air compressor</p>
<p>Note</p>	<p>1.Standard laboratory environment; 2.Power requirements: 220V regulated power supply, one three-hole three-position switch socket; 3.Computer requirements: standard configuration (Windows10, with a nine-pin serial port); 4.Other accessories: a bottle of 40 liters of nitrogen (purity 99.999% or more) for calibration, other gases are customized; 5.Drying dish (all samples need to be dehydrated and degassed for 24 hours); 6.Distilled or purified water; 7.Air compressor</p>

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.





Service Commitment

- ◆ Free packaging inspection technical support.
- ◆ One-year warranty for instrument, free software upgrade service, and lifetime free technical support.
- ◆ Free to the factory to train the operation of the instrument, qualified people issued graduation certificates, free accommodation and food.
- ◆ Instrument “trade-in” policy and provision of backup instruments in case of failure.
- ◆ There is a testing center (CNAS L8185) to provide incoming sample testing and sample data comparison services.
- ◆ Set up a Reference Standards Development Center to provide calibration services.

Company Introduction

Guangzhou Biaoji Packaging Equipment Co., Ltd. was established in 2002 and located in Guangzhou Economic Development Zone. It is a company integrating R&D, production and sales of packaging testing instruments, packaging equipment, modified atmosphere preservation equipment and other products, as well as providing third-party testing and standard material proficiency testing. It is committed to providing comprehensive, professional and high-quality products and technical services for packaging, food, medicine, testing and other industries.

Write industry standards with quality, and become the leader and leader in the field of global packaging testing. The 80,000-mile journey is sailing, and Guangzhou Biaoji will escort you!



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