

W413 Water Vapor Permeability Analyzer



Function

W413 water vapor permeability analyzer is to test the water vapor transmission rate (WVTR) of films or sheets materials.

Applied to:

- 1) Plastic film, composite film, aluminum foil, aluminized film, etc;
- 2) Sheet, panel, rubber, ceramics, etc;
- 3) Packaging containers, such as: glass, bottle, cans, boxes, etc;
- 4) Expanding application: solar panel, LCD film, medical patch, etc.



Technical Specification

| Items | Technical Parameters |
|-----------------------|---|
| Test range | 0.002~1000 g/m ² ·24h |
| Test precision | 0.001 g/m ² ·24h (film and sheet) |
| Temperature range | 15~45°C (15~60°C optional) |
| Temperature accuracy | ±0.1°C |
| Humidity range | 30~90%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 | ≤3mm |
| Number of test sample | 1~3 pieces |
| Carrier gas | 99.999% N ₂ (user provide) |
| Carrier gas pressure | ≥0.1MPa |
| Carrier gas flow | 5~120 mL/min |
| Gas supply port | 1/8 inch metal pipe |
| Instrument size | 700×560×370mm |
| Weight | 80kg |



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.
- Fully-auto operation, one-button test, judge and stop automatically.
- Programmed auto-control, the experiment status display in real time.
- Curves display of transmission, water vapor concentration, temperature and humidity in real time. The curves with conceal function, support query function for background data.
- Mainframe configure with color touch screen, can observe temperature, humidity and transmission without external computer.
- Professional test report; can be exported as PDF.

Advanced technology

- Temperature control: International advanced electromagnetic technology, program controlled, auto heating and cooling; no need of external accessories. Precision: 0.1°C.
- Humidity control: Dual gas flow method (dry gas and humid gas), high precision (1%RH) and stable flow.
- Carrying cutting-edge ARM controlling system, can run independently without computer.

High efficiency

- Three independent test chambers: With three sensors and each chamber test independently, three same/different samples can be tested at the same time and output three test reports, which improve test efficiency.
- With three different test modes of high, medium and lower barriers, can test films with different barrier property.
- Measurement precise up to 0.001 g/m²·24h, can test high barrier materials, such as aluminum foil.
- By adding adaptive accessory, can test water vapor transmission of various containers such as bag, bottle, can and bowl.

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

- Imported infrared sensor, with high precise and good performance, can work for a long time.
- Sensor over-range protection, prevent damaging important sensors.
- Highly modularized, easy to maintain.



Standards

ASTM F1249-2013

BS EN ISO 15106-2-2005

JIS K7129-2008

GB/T 26253-2010

YBB 00092003-2015



Configuration

Spare parts

Power cable, Communication cable, Sample cutter, Sealing grease, Ferrule, connector, Reference material, Allen wrench, Injection syringe, Sealing circle, Sealing circle for injection, syringe, Straddle wrench, Cross screwdriver, Air pipe, Conversion plug, Pressure regulating valve, Oil-water separator, Air compressor connector, Mouse, Wooden box, Metal air pipe

User provide

- The surroundings cannot have the vibration source, the experiment platform can not shake and must be horizontal
- Laboratory requirements: ordinary laboratory with air conditioner, temperature stable at 23°C±2
- Power supply: 220V 1 piece of three-hole switch socket with three-position
- Computer requirements: standard configuration(Windows7,with nine-pin serial port)
- Others: (for calibration) 1 bottle of 40 L bottled nitrogen, purity above 99.999%, other gases are optional
- Drying vessel (all samples must be degassed and dehydrated for 24 hours)
- Distilled water or purified water
- Air compressor