PERME™ W3/230 Water Vapor Transmission Rate Testing System

Applicable in water vapor transmission rate tests for plastic film, laminated film, and flat sheet materials, as well as the finished package made from plastic, rubber, paper, glass, metal and other materials. By measuring the water vapor transmission rate, users can adjust and control the technical index of the packaging materials and other products, to meet the different requirements of application.

Characteristics

Patent configuration design of chambers

3 samples could be different. 3 independent testing cells can give 3 results respectively, and can be connected together to enlarge the testing area for higher barrier materials.

1 master base can support 9 satellite modules, 30 different samples can be tested together

Master base and satellite modules have same testing functions.

Two testing functions for flat film, sheets and finished packages

Built-in temperature and humidity controllers.

Both heating and cooling functions are available

Temperature and humidity are adjustable, multiple testing methods are available.

Equipped with RS232

Sophisticated powerful software, multiple testing modes, one-button operation, high automatic

Proportional, non-proportional, cycle, manual and many other testing modes

Data can be stored into files that are only read using this software, and can be stored into database and Excel mode.

History data can be search, compare, and re-analyze

Web transmission port supports data sharing between LAN network as well as Internet.

Can be calibrated using reference film fast

Broad power range meets power standards of any country

Testing Principle

Infrared Sensor Detection Method: Mount the preconditioned specimen between the testing cells, clamp tightly. Nitrogen with constant humidity flows through one side of specimen, dry nitrogen flows through another side of the specimen. Under the function of humidity difference/grades, water vapor passes through the specimen and enters the lower humid side, and is carried to the infrared sensor by the dry nitrogen. The electrical signals are generated at the sensor when the water vapor enters. Calculate the water vapor transmission rate by analyzing the electrical signals. For package test, dry nitrogen flows in the package, humid nitrogen flows around the outer side of the package.

Technical index

① Film

Test Range:0.005～100 g/m^2•24h(Normal)

0.02～1000 g/m^2•24h (Optional)

No. of sample:3 pcs （independent respectively）

Sample size: 108mm×108mm

Sample thickness:≤3mm

Test area: 50cm2

Temp. control range:5℃～60℃

Temp. control accuracy:±0.3℃

Humidity control range: 10%RH～98%RH；100%RH

Humidity control accuracy: ±1%RH

Flux of carrier gas: 0~200 ml/min

Carrier gas: 99.999% high pure nitrogen

Extension capacity: 9 satellite modules (30 samples)

Size: 680mm (L)×350mm (B)×360 mm (H)

Power: AC (85～264)V (47~63)Hz

Net weight: 70kg

② Package:

Test Range:0.0001～0.6 g/ pkg•d,

0.00001~0.07g/pkg*d.

No. of sample: 3 pcs （independent respectively）

Sample size: Temperature controlled 1 package :＜ Φ180mm，height ＜ 380mm

Temperature controlled 3 package : ＜Φ100mm，height ＜380mm

Air no restriction to sample size

Temp. control range:5℃～60℃

Temp. control accuracy:±0.3℃

Humidity control range: 10%RH～98%RH；100%RH

Humidity control accuracy: ±1%RH

Flux of carrier gas: 0~200 ml/min

Carrier gas: 99.999% high pure nitrogen

Extension capacity: 9 satellite modules (30 samples)

Size: 680mm (L)×350mm (B)×360 mm (H)

Power:AC 110～220V 50/60Hz

Net weight: 70kg

Standard

ASTM F1249、ISO 15106-2、TAPPI T557、JIS K7129

Configuration

Standard: Mainframe, software, cable, vacuum grease, sampling cutter, valves and pipes for gas flow

Optional: Satellite modules, reference film, package fixture, sampling cutter, vacuum grease, valves and pipes for gas flow

Note: users themselves provide testing gas and carrier gas