

Water Vapor Permeability Tester – QT-WVP-300 Series (Weight Reduction Method)

ASTM E96, ASTM D1653, ISO 2528, DIN 53122-1, JIS Z0208

<https://www.worldoftest.com/water-vapor-permeability-tester-qt-wvp-300>

Best Application:

To test water vapor transmission rate (WVTR) of a wide range of materials

General Summary

QT-WVP-300 series is the ideal water vapor permeability tester for R&D institutions, factories, universities with reliability, speed, versatility and accuracy that required for Quality Control testing.



Theory

ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials, cover the determination of water vapor transmission (WVT) of materials through which the passage of water vapor may be of importance, such as paper, plastic films, other sheet materials, fiberboards, gypsum and plaster products, wood products, and plastics. The test methods are limited to specimens not over 11/4 in. /32 mm in thickness. Two basic methods, the Desiccant Method and the Water Method are provided for the measurement of permeance.



Application

This instrument is widely used in the food industry, pharmaceutical industry, cosmetics, flexible packaging materials industry and related industries in the field of manufacturing of plastic film, barrier materials, sheets, metal aluminum, PVC sheets, etc. for measurement of Water Vapor Transmission Rate (WVTR) of material and product quality control. It is also widely used in research and educational institutions to study application characteristics of materials.

Users can perform testing on packaging materials, such as plastic film, composite film, co-extrusion film, geo-membrane, aluminum-plated films and foils, infusion bag, sheets, paper, paper board, solar battery panel, cellophane, and various packaging materials. It can also measure permeability through containers such as bag, pouch, bottle, can, bowl, box, pharmaceuticals, healthcare, electronics, etc. with optional adapters for containers.

Features

Precise & Reliable

- High precision sensor, continuous data collecting, accurate and reliable.
- Test accuracy 0.001g / (m²·24h), top performance of the industry.
- Same sample data discreteness is less than 5%.

Easy Operation and Real-time Curves Exhibition

- Fully automatic operation, One-click test, automatic judgment, and automatic stop.
- Supported by professional software. The software interface is simple and easy to operate.
- A built-in operating system can work independently without a computer.

- Curves of temperature, humidity, weight and transmission rate: real-time display and zoom in/out.
- The professional test report can be exported in Office or PDF easily.

Advanced Technology

- Configured with a 7-inch color touch screen for setting parameters or display curves and reports.
- Advanced electromagnetic technology is adopted by the temperature control system. Program stepping controlling allows the temperature to rise and drops automatically.
- Built-in advanced ARM controlling system, the machine can run independently without a computer.
- Automatic over-range protection.
- Humidity control utilizes proportioning dry and wet gas, performing excellently.
- Parameters are stored with password automatically.
- Temperature control: International advanced electromagnetic program step temperature control technology, auto heating and cooling; no need of external accessories. Precision: 0.1°C
- Using international advanced technologies, the accuracy can reach 0.001 g/m²·24h

Authority management & data trace

- The software is designed according to the requirements of the new GMP Appendix computerized system.
- Need a username and password to log in to the workstation and ensure the safety and effectiveness of account and experiment data.
- Users can be classified into different levels of system administrator, instrument administrator, auditor and operator.
- The system administrator can adjust the permissions of various levels, for example, increase and decrease system control items of any level.
- Have audit and trace functions (test tracking, log tracking), every data change is recorded, ensure the security and integrity of test data.

Wide Test Range

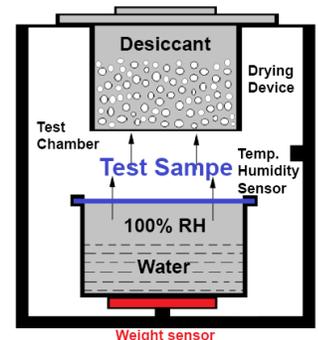
- Added external fittings for packaging container test, the machine is able to test bag, pouch, bottle, can, bowl, aluminum foil, aluminum-plated film, and many other packaging containers.
- The only tester in the industry that can test High barrier materials like aluminum foil and aluminum-plated film.

Reliable and easy-maintenance instrument

- Sensor over-range automatic protection, prevent damaging important sensors while instrument failure.
- Functional modular design, easy to maintain.

Professional Calibration

- Adopt two calibrating methods: Weight calibration and standard film calibration. Configured with an appropriate mouthpiece of temperature and humidity.



Working Principle

Weight reduction method belongs to the gravimetric method. User must seal the cup with the test sample, keep humidity difference between inside and outside of the cup, then water vapor will penetrate the test sample. Finally, measure the difference of cup weight to calculate the transmission rate.

Technical Specifications

Model	QT-WVP-301	QT-WVP-303
Chamber	1	3
Number of Samples	1 piece	3 pieces
Testing Range	0.1 ~ 10000 g/(m ² ·24h)	
Testing Precision	0.001 g/(m ² ·24h)	
Temperature Range	15~55 °C	
Temperature Precision	±0.1 °C	
Humidity Range	dry method: ≤10%RH	≤10%RH Desiccant Method
Humidity Precision	±1%RH	
Test Area	50.24cm ² each chamber	
Sample Size	Φ90mm	
Sample thickness	≤ 3mm	
Power	450W	1300W
Power Supply	AC 220V 50Hz (110V optional)	

Installation Requirements

Power AC 220V 60/50Hz (110V optional)

Please Note:

Qualitest is always dedicated to the innovation and improvement of product performance and function. Therefore, technical specifications are subject to change without further notice. Please visit our website at www.worldoftest.com for the latest updates. Qualitest reserves the rights of final interpretation and revision.