

LTWTC-303H Water Vapor Transmission Rate Tester



LTWTC-303H This tester is based on the test principle of the infrared moisture analysis sensor, and provides a wide-range and high-efficiency water vapor transmission rate detection experience for medium and high water vapor barrier materials. Suitable for water vapor transmission of plastic films, composite films, high barrier materials, back sheets, sheets, paper, metal foils, packaging and other related materials in the fields of food, medicine, medical equipment, daily chemicals, photovoltaic electronics, etc. Performance Testing. It can also be extended to test the water vapor transmission performance of containers such as bottles, bags, and tubes.

Features

- It has three completely independent test chambers, which can test three same or different samples at the same time
- Precise flow controller and automatic gas flow control, effectively ensure the stable operation of the test process
- The world's first advanced temperature control system, which can realize automatic temperature control and a wider temperature control range
- It can realize the independent temperature control of the upper and lower chambers and the sensor, effectively ensuring the accuracy of the test results
- The sample clamping part adopts self-developed anti-side leakage sealing technology to ensure the accuracy of the test

- Fully automatic precision control, dual pressure method and dual air flow method combined humidity control, wide control range
- The humidity control mechanism is independent and external, independent temperature control, high humidity control efficiency and good precision
- Manual, proportional and cyclic test modes are available, which can easily cope with different test scenarios
- The system has self-test ability to ensure that the equipment is in a normal test state at any time
- The test range can be expanded as needed to meet the requirements of high transmittance test
- Provide standard film for quick calibration to ensure data accuracy and versatility
- With the function of automatic saving after power failure, to avoid the loss of test data due to unexpected situations
- Efficient testing, low nitrogen consumption, short testing time
- Real-time monitoring of gas flow, automatic alarm when there is little or no gas
- Multi-level user authority setting, test data integrity and other functions, meet GMP related test requirements (customizable)
- Support convenient historical data query, comparison, analysis and printing and other functions

Test Principle

Based on the principle of infrared analysis sensor method, humidified nitrogen gas with a certain humidity flows on one side of the material, and dry nitrogen gas flows at a fixed flow rate on the other side of the material; the existence of a difference in humidity gradient causes water vapor to pass through the film from the high-humidity side Diffusion to the low-humidity side; on the low-humidity side, the permeated water vapor is carried to the infrared sensor by the flowing dry nitrogen (carrier gas), and different water vapor concentrations generate different light signals. the same water vapor transmission rate. For the package, dry nitrogen flows inside the package, and the outside of the package is in a high humidity state.

Reference Standards

GB/T 26253、GB/T 21529、YBB 00092003-2015、ASTM F1249、ISO 15106-2、TAPPI T557、JIS K7129、ISO 15106-2、DIN 53122-2



Link Testing
Only for Flexible Packaging

Technical Parameters

Items	Parameters
Test Range	Film: 0.005~40 g/ m ² •24h (Standard)
	Container: 0.00025~0.25 g/pkg•24h (optional)
Resolution	0.001 g/ m ² •24h
Repeatability	0.05 or 2% (bigger one)
Temperature Range	10°C~55°C
Temperature accuracy	±0.2°C
Humidity range	0% RH, 5%~90%RH ,100%RH
Humidity Accuracy	±1%RH
Specimen quantity	3 (independently)
Test area	50 cm ²
Sample thickness	≤3 mm (customizable)
Carrier gas	99.999% Nitrogen (prepared by customer)
Flow rate	0~200 mL/min
Gas source pressure	≥0.28MPa/40.6 psi
Interface size	1/8 inch
Dimension	740mm (L)×415 mm (W)×430mm (H)
Power	AC 220V 50Hz
Net Weight	50Kg

Configuration

Standard: Host, software, cable, sampler, valves, gas tubes and ports, grease, standard film

Optional: container test devise and container temperature controller, sampler, grease

Note: The hose use diameter 6mm tubes and ports, operator need to prepare the pure water and gas source