ISOBARIC-404 Oxygen Transmission Rate Tester

ISOBARIC-404 Oxygen Transmission Rate Tester is designed and manufactured according to ASTM D3985 and other standards, and is suitable for testing the oxygen transmission rate of high and medium oxygen and air barrier materials. It is suitable for testing the oxygen transmission rate of films, sheets, containers and related materials in the fields of food, pharmaceuticals, medical devices, daily chemicals, photovoltaics, electronics, industrial products, etc.



Characteristics

1. High-precision coulometric oxygen sensor improves test accuracy and stability
2. Four test chambers are completely independent of each other, allowing simultaneous testing of four identical or different specimens.
3. One chamber is used as a reference chamber to determine the accuracy of the standard membrane data.
4. Three test chambers are used to test samples, ensuring that three parallel samples can be tested at one time
5. Wide-range, high-precision, automated temperature and humidity control to meet a variety of test conditions.
6. Unique test structure, four chambers under the same temperature and humidity for testing, to ensure the consistency of the test conditions of different test chambers.
7. Test results support multi-format storage and data output, including lab reports Excel, cloud sharing
8. Statistical analysis of test results can be carried out for single and grouped tests
9. With ISP online control, upgrade function, can be required to change the test function remotely
10. Specialized computer communication software, real-time display of the test and data analysis and processing, data preservation

Principle

The treated sample is clamped onto the test chamber.

Oxygen or air flows on one side of the film and high purity nitrogen flows on the other side of the film. Oxygen molecules diffuse through the film into the high purity nitrogen in the other side and are carried by the flowing nitrogen to the sensor, which analyses the oxygen concentration measured by the sensor and produces oxygen transmission rate test data after reaching permeation equilibrium.

Technical Indexes

Test Parameters (Film)

Parameter/Model ISOBARIC-404

Measurement range cc/(m2day) (standard area 50cm2) 0.02 ~ 200

Resolution cc/(m2day) 0.01

Humidity Range RH% (Standard Temperature Range) 0%, 5 ~ 90%±1

Temperature Range ℃ 20 ~ 50

Temperature Resolution ℃ 0.1

Technical specifications

Test chambers 4

Sample size 97 mm × 97 mm Other sizes can be customized.

Sample thickness ≤ 3 mm

Standard test area 50 cm2

Test Gas 99.5% Oxygen (user-provided gas source)

Carrier gas 99.999% high purity nitrogen

Test Pressure 7.2 PSI / 50 kPa

Connection Size 1/8 inch metal pipe

Dimensions 440 mm (L) × 450 mm (W) × 450 mm (H)

Power supply AC 220V 50Hz

Standards

ASTM D3985, ASTM F1307, ASTM F1927, GB/T 19789, GB/T 31354, DIN 53380-3, JIS K7126-2-B, YBB 00082003-2015

Configuration

Standard configuration: mainframe, micro-printer, specialized sampler, vacuum grease, computer

Options: professional software and communication cable, GMP computer system requirements

Remarks: The import of gas source of this machine is 1/8-inch metal tube; gas source and distilled water are provided by users.