

LD-GPT-03 Gas Permeability Tester

Gas Permeability Tester is applicable in the measurement of gas permeability rate, solubility coefficient, diffusion coefficient and permeability coefficient at various temperature of plastic films, laminated films, high barrier material, sheets, foils, and etc.

Characteristics

It can measure the gas permeability and gas permeability coefficient of the sample at the same time

It can meet the completely independent test of three test chambers

Wide range, high precision temperature and humidity control, meet various test conditions test

Provide three test process judgments of proportional, fuzzy mode and time mode model

The test range can be expanded as needed to meet the requirements of high transmittance test

Support the test of toxic gas and flammable and explosive gas (customized)

Pneumatic clamping sample, convenient and fast

The system adopts electronic intelligent control, and the whole test process is completed automatically

Provide standard film for quick calibration to ensure the accuracy of test data

The product conforms to GMP three-level authority

Micro-printer, note to print test statistical results at any time

Special computer communication software, which can perform real-time display of the test, analysis and processing of data, and data storage

Equipped with USB universal data interface, convenient for data transmission



Principle

Put the pre-conditioned specimen between the upper chamber and chamber, clamp it tightly. First vacuumize the low-pressure chamber (lower chamber), and then the whole system. When the specified degree of vacuum is achieved, shut off the lower test chamber and feed test gas to the upper test chamber (high pressure chamber) until certain pressure is reached. Ensure that a constant differential pressure (adjustable) is maintained across the specimen. Hence under the gradient of differential pressure the test gas permeates from the high-pressure side to the low-pressure side. By monitoring and measuring the pressure in the low-pressure side we can get various barrier parameters of the tested specimen.

Technical Indexes

Test Range: $0.1 \sim 10,000 \text{ cm}^3/\text{m}^2 \cdot 24\text{h} \cdot 0.1\text{MPa}$ (Routine)

Upper limit is not less than $600,000 \text{ cm}^3/\text{m}^2 \cdot 24\text{h} \cdot 0.1\text{MPa}$ (extension volume)

Temp. Control Range: $10^\circ\text{C} \sim 60^\circ\text{C}$

Temp. Control Accuracy: $\pm 0.1^\circ\text{C}$

Vacuum Resolution: 0.05Pa

Vacuum Degree: $< 20\text{Pa}$

Specimen Size: $\Phi 93\text{mm}$

No. of Specimens: 3 pieces (independent data respectively)

Transmission Area: 33.18cm²

Test Gas: O₂, N₂ and CO₂, etc.(Users provide gas source themselves)

Test Pressure: -0.1MPa ~ +0.1MPa

Pressure of Gas Source: 0.4MPa~0.6MPa

Inlet Size: Φ6mm polyurethane pipe

Dimensions: 600mm (L)×475mm (B)×450mm (H)

Power: AC 220V 50Hz

Net weight: 75kg

Standards

ASTM D1434, ISO 2556, ISO 15105-1, JIS K7126-A

Configuration

Standard configuration: host, professional software, communication cable, micro printer, special sampler, vacuum grease, fast quantitative filter paper, vacuum pump, Temperature control device

Optional parts: sampling blade, vacuum pump oil, humidity generator

Remarks: The air source inlet of this machine is Φ6mm polyurethane pipe; the air source and distilled water are provided by the user