

PERME® VAC-V2 Gas Permeability Tester

PERME VAC-V2 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

- Computer control, full automatic testing;
- Diffusion coefficient, solubility coefficient and permeability coefficient measurement.
- Two testing modes of proportional and non-proportional;
- Measure range extension block;
- 3 independent chambers;
- Constant temperature control;
- Optional humidity control;
- Data curvefitting function at any temperatures.
- Can be extended to cover the tests for poisonous and explosive gases;
- Rapid calibration with reference film;
- RS232 interface;
- Network transmission interface for LAN data management and Internet 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: 0.05 ~ 50,000 cm³/m²•24h •0.1MPa (Routine)
- Upper limit is not less than 500,000 cm³/m²•24h •0.1MPa (extension volume)
- Note: Routine and extension volume can be selected using extension volume blocks..
- Temp. Control Range: 5°C~95°C
- Temp. Control Accuracy: ±0.1°C
- Humidity Control Range: 0%RH, 2%RH~98.5%, 100%RH
(humidity generator should be purchased separately)
- Humidity Control Accuracy: ±1%RH
- Vacuum Resolution: 0.1Pa
- Vacuum Degree: <20Pa
- Specimen Size: Φ97mm
- No. of Specimens: 3 pieces (independent data respectively)
- Transmission Area: 38.48cm²
- 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: 760mm (L)×575mm (B)×450mm (H)
- Power: AC 220V 50Hz
- Net weight: 88kg

Standards

ASTM D1434, ISO 2556, ISO 15105-1, JIS K7126-A, GB 1038, YBB 00082003

Configuration

Standard: Mainframe, temperature controller, software, sample cutter, vacuum grease, vacuum pump, filter paper.

Optional: blades, vacuum grease, oil for vacuum pump, filter paper, humidity generator

Note: Users provide test gas cylinder and distilled water for themselves.

It is better to use server instead of the common computer.

Φ6mm PU pipe is equipped to connect the unit to gas resource

