

## PERME™ VAC-V3 Gas Permeability Tester

PERME VAC-V3 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;
- Gas permeability rate, solubility coefficient, diffusion coefficient and permeability coefficient measurable;
- Two testing modes of proportional and non-proportional;
- Measure range expansion blocks;
- 6 chamber independent;
- Two precision testing groups A and B;
- Constant temperature control;
- Data curvefitting functions at any temperatures;
- Can be extended to cover the tests for poisonous and explosive gases;
- Rapid calibration by reference films;
- RS232 port;
- 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:
- 0.1~50,000 cm<sup>3</sup>/m<sup>2</sup>•24h•0.1MPa (normal volume for group A)
- 1.00~500,000 cm<sup>3</sup>/m<sup>2</sup>•24h•0.1MPa (extension volume for group A)
- 0.01~1,000 cm<sup>3</sup>/m<sup>2</sup>•24h•0.1MPa (group B)
- Temp. Control Range: 5°C~95°C
- Temp. Control Accuracy: ±0.1°C
- Vacuum Resolution of Group A: 0.1Pa
- Vacuum Resolution of Group B: 0.01Pa
- Vacuum Degree: <20Pa
- Specimen Size: Φ97mm
- Transmission Area: 38.48cm<sup>2</sup>
- No. of Specimens: 6 pieces(3 pieces for each of A and B group, independent data respectively)
- Test Gas: O<sub>2</sub>, N<sub>2</sub> and CO<sub>2</sub> etc. (Users provide gas sources themselves)
- Test Pressure: -0.1MPa ~ +0.1MPa
- Gas Source Pressure: 0.4MPa~0.6MPa
- Inlet Size: Φ6mm polyurethane pipe
- Dimensions:1370mm(L)×575mm(B)×450mm(H)
- Power: AC 220V 50Hz
- Net weight:160kg

### Standards

ISO 2556, ISO 15105-1, ASTM D1434, JIS K7126-A, GB1038, 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

**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

