

SMT-275 Membrane Separation Permeability Tester



Application

Professionally used for qualitative and quantitative determination of the permeability, selectivity and separation rate of various gases by separation membranes.

- Measurement of gas permeability of single and mixed gases in separation membranes.
- Determination of multi-component gas selectivity and separation rate of separation membranes gas.

Principle

The sample is clamped between the upper and lower chambers. The upper chamber maintains a constant high pressure and the lower chamber has a low pressure. Under the action of the pressure difference, the test gas in the upper chamber passes through the sample and reaches the lower chamber. After the penetration reaches equilibrium, the gas can be obtained. Indicators such as transmittance and transmission gas are carried to the gas chromatograph by the flowing carrier gas. By analyzing the chromatographic peaks, indicators of multi-component gas selectivity and separation rate can be obtained.

Features

- Differential pressure chromatography principle
- One-button test, test automatically through whole process
- High accuracy vacuum sensors embedded in
- Chamber temperature sensor embedded in
- Chamber with water bath temperature control technology (optional)
- Real-time data curves display
- Unit based on embedded system, 24bit $\Delta-\Sigma$ AD
- Supports DSM system (DSM, lab data management system, optional)

Technical Indexes

Test range: 0.01- 2*E+04Barrers

Test flow: 0-100ml/min (200ml/min, 300ml/min Optional)

Accuracy: 0.01Barrers

Vacuum accuracy: 0.1Pa

Test gas: O₂, N₂, CO, CO₂, H₂, CH₄, C₂H₄, C₂H₆, He and etc

PS: DO NOT test oxygen together with flammable and explosive gas.

Corrosive gas is forbidden.

Pressure difference: 0-10bar (STD)

System pressure resistance: 16bar

Temperature range: 5°C~95°C, accuracy: $\pm 0.1^\circ\text{C}$ (optional)

Test area: $\Phi 20\text{mm}$ (3.14cm²)

Sample thickness: $\leq 2\text{mm}$

Sample: One piece

Detector sensitivity: $\geq 5000\text{mv.ml/mg}$ or 10000mv.ml/mg

Detector drift: $\leq 0.10\text{mv}$. Noise: $\leq 0.015\text{mv}$

Loading gas pressure: 2bar

Loading gas: N₂, H₂, He, Ar and etc.

Dimension: 320 mm(W)×625mm(D)×335mm(H)

GC dimension: 590 mm(L)×480mm(W)×500mm(H) (STD)

Power supply: AC 220V 50Hz

Configuration

Delivery: Main unit, professional software, vacuum pump, cylinder regulator, PCIE card, communication cable, vacuum grease, gas pipeline.

Optional: Temperature controller, computer, gas chromatograph, DSM system.

Note: Specifications are subject to change without prior notice.