

PERME OX2/230 Oxygen Transmission Rate Test System is applicable in the oxygen transmission rate testing of plastic films, high barrier materials, solar energy backsheets, sheets, laminated materials, aluminizer, coextrusion and foils as well as bottles, pouches, jars and boxes made of plastic, rubber, paper, glass and metal materials.

Characteristics:

Computer control;
3 Testing chambers integrated in one block (patent);
3 independent testing chambers in one;
1 master base can connect 9 satellite modules; thirty specimens testable simultaneously;
Oxygen and water vapor transmission rate mixed testing control;
Multi-testing modes: proportional, non-proportional, cycle and manual;
Testing data can be stored in doc, database and Excel formats;
Previous data inquiry, comparison and printing; original data re-analysis;
2 testing functions of film/sheet and finished package (optional purchase);
Constant temperature and humidity control;
Temperature and humidity testing port;
Double side humidification of specimen;
Pressure balance compensation;
Catalytic deoxidization device;
2 carrier gas choice of high pure nitrogen and nitrogen with hydrogen;
Broad power input;
Rapid calibration with reference film;
Network transmission interface for LAN data management and Internet data transmission.

Principle

Mount the pre-conditioned specimen between the upper and lower testing chambers. Oxygen or air flows in one side of specimen, high pure nitrogen flows in another side of the specimen. Oxygen molecules permeate through the specimen and enter into the high pure nitrogen side, which is then carried to the sensor by the flowing nitrogen. Obtain the oxygen transmission rate by analyzing the oxygen condensation detected by the sensor. For package test, high pure nitrogen flows in the package; air or pure oxygen flows around the outer side of the package.

Technical Indexes:

① Film Testing Technical Indexes:

Test Range: 0.01 ~ 6500 cm³/m²•day (Routine)

0.07 ~ 65000 cm³/m²•day (Optional)

Resolution: 0.001 ml/m²•day

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

Expansion Capability: 9 satellite modules (1-30 specimens)

Specimen Size: 108mm×108mm

Specimen Thickness: 3mm

Test Area: 50cm²

Temp. Control Range: 15°C ~ 55°C (Routine)



Temp. Control Accuracy: ± 0.1 (Routine)

Humidity Control Range: 0%RH; 35%RH~90%RH; 100%RH

Humidity Control Accuracy: $\pm 1\%$ RH

Test gas: oxygen, air, etc. (Users provide gas sources for themselves)

Gas Source Pressure: 0.28MPa, 40.6psi

Inlet Size: 1/8 inch metal pipe

Carrier Gas: 99.999% high pure nitrogen, or nitrogen with 2% hydrogen (Users provide gas sources for themselves)

Dimensions: 690mm (L) \times 350mm (B) \times 360 mm(H)

Power: AC (85~264)V (47~63)Hz

Net weight: 70kg

② Package Testing Technical Indexes (optional purchase):

Test Range: 0.0001~60 cm³/pkg•day

Resolution: 0.00001cm³/ pkg•day

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

Extension Capacity: 9 satellite modules (30 cells)

Sample Size: Temperature controlled 1 package: < 150mm, height < 380mm

Temperature controlled 3 package: < 100mm, height < 380mm

Non-temperature controlled no restriction to specimen size

Temp. Control Range: 15°C~55°C (Routine)

Temp. Control Accuracy: ± 0.1 °C (Routine)

Humidity Control Range: 0%RH; 35%RH~90%RH; 100%RH

Humidity Control Accuracy: $\pm 1\%$ RH

Test Gas: oxygen, air, etc. (Users provide gas sources themselves)

Gas Source Pressure: 0.28MPa, 40.6psi

Inlet Size: 1/8 inch metal pipe

Carrier Gas: 99.999% high pure nitrogen, or nitrogen with 2% hydrogen (Users provide gas sources themselves)

Dimensions: 690mm (L) \times 350mm (B) \times 360 mm(H)

Power: AC(85~264) V(47~63)Hz

Net weight: 70kg

Standards

ASTM D3985, ASTM F2622, ASTM F1307, ASTM F1927, ISO 15105-2, JIS K7126-B, GB/T 19789, YBB 00082003

Configuration

Standard: Mainframe, software, vacuum grease, sampling cutter, valves and pipes for gas inlet

Optional: Satellite modules, package testing accessories, package testing temperature control device, reference film, sampling cutter, vacuum grease

Note: The gas source inlet is 1/8 inch metal pipe; Users provide gas source themselves.