OTR-1901
Oxygen Permeability Tester

Application

OTR-1901 is based on the coulometric sensor method and available for the OTR test of flexible films, sheeting and packages. It can test 3 specimens in one operation with independent results.

Films:

Plastic films, aluminum foil, aluminized films, plastic composite films, paper-plastic composite films, coextruded films, aluminum foil composite films and many others.

Packages:

Plastic, rubber, paper, paper-plastic composite, glass and metal packages, e.g. red wine bottles, blister, various plastic bottles, Coke bottles, peanut oil packages, Tetra Pak materials, vacuum bags, metal three-piece cans, plastic packages for cosmetic, soft tubes for toothpaste, jelly and yogurt cups.

Features

- Coulometric sensor method
- Own technology
- Film and package test
- 3 specimens test simultaneously and independently
- One-button test, test automatically in whole process

SYSTESTER Instruments Co.,Ltd. Add : 22799 Jingshi Road, Jinan, P.R.China
Website：www.systester.com Phone：(86) 0531 87031169 Fax：(86) 0531 69903803
Version： v1.04190514

- Multiple test modes optional
- Data curves display
- Computer control
- Digital flow adjustment
- 3 Chambers temperature sensor embedded in
- Environment temperature and humidity sensor inside
- Chambers water bath technology
- Unit based on embedded system,24bit Δ-Σ AD
- Pressure, oxygen and temperature overload protection
- Traceable reference film calibration
- Supports DSM system (DSM, lab data management system)

Principles

Film:

The specimen is clamped between the upper and lower chamber, the upper chamber is purged by a oxygen stream, and the other side of specimen, lower chamber is purged by a stream of nitrogen, due to the effect of oxygen concentration gradient at two sides of the specimen, oxygen molecules will permeate through the specimen into the nitrogen side, penetrated oxygen molecules will be carried to the coulometric sensor which generates the proportional signal, so oxygen transmission rate and permeability coefficient will be obtained by calculating the sensor signal.

Package:

The package is mounted on the lower chamber, the outside of the package is air or a pure oxygen stream, the inside of the package is purged by a nitrogen stream, oxygen will permeate through the wall into the inside of the package, penetrated oxygen molecules will be carried to the coulometric sensor which generates the proportional signal, so oxygen transmission rate will be obtained by calculating the sensor signal.

Technical indexes

Test range:

Film: 0.01-6500 $cm^3/m^2 \cdot d$ (Standard)

0.07-6,5000 $cm^3/m^2 \cdot d$ (Optional)

Resolution: 0.001 $cm^3/m^2 \cdot d$

Package:

0.0001~62 $cm^3/pkg \cdot d$

Resolution: 0.00001 $cm^3/m^2 \cdot d$

Specimen amount: 3 specimens, independent

Temperature range: 5C – 95C

Temperature accuracy: ±0.1C

Humidity range: 0%RH,35%RH-90%RH,100%RH

Humidity accuracy: ±1%RH

Test area: $50cm^2$

Specimen size:

Film: size:>=150mm * 94mm; thickness: less 1mm

Package: max size: D120mm * 400mm

Carrier gas: 99.999% Nitrogen

Carrier flow: 0~20ml/min

Gas interface: 1/8inch

Power supply: AC 220V 50Hz

Dimension: 730mm(L) * 590mm(W) * 350mm(H)

Net weight: 57kg

Standard

ASTM D3985, ASTM F2622, ASTM F1307, ASTM F1927, ISO 15105-2, GB/T 19789,

JIS K7126-B, YBB 00082003

Configuration

Delivery: Main unit, computer, OX-TRANS software, temperature controller, tank regulator, PCIE card, communication cable, sample cutter, vacuum grease.

Optional: Package fixtures, reference film, vacuum grease, sample cutter, DSM system.

Note: Specifications are subject to change without prior notice.