

TOY-C2

Package/Film Oxygen Permeability Tester

This equipment is designed and manufactured according to :

- ASTM F 1307 (standard method for oxygen transmission rate test of dry package by coulometric detector)
- ASTM D 3985 (standard method for oxygen transmission rate test of plastic films and foils by coulometric detector)
- ASTM F 1927 (standard method for oxygen transmission rate test of barrier materials under controllable humidity by coulometric detector)
- JIS K 7126 (test method for gas transmission rate of plastic films and foils)
- ISO15105-2 (test method for gas transmission rate test of plastic films and foils by equal pressure method)

This tester is used in oxygen permeability tests of plastic films and packaging containers (such as plastic bottles and plastic packages) in air or in 100% oxygen.

Configuration

This equipment consists of a test chamber, a pipeline, adjusting valves, a temperature and humidity control system.

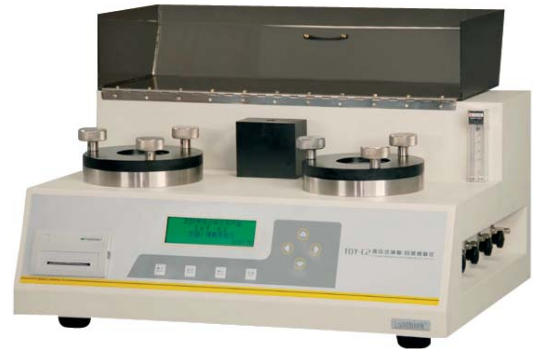
The test chamber is applied to place and clamp the specimens. Adjusting valves enable the gas moving in the upper and lower chambers according to the standard requirement.

The control system controls the temperature and the humidity of the gas flow accurately.

This control system realizes setting and modification of parameters, monitoring, signal transmission and displays test results.

Test principle

High pure oxygen flows on one side of the film, high pure nitrogen flows on the other side of the film. Oxygen molecules pass the film into the nitrogen of another side, and is taken to the sensor by the flowing nitrogen. Test the transmission of oxygen by analyzing the concentration of oxygen detected by sensor. As for packaging container, nitrogen flows in the container, air or high pure oxygen covers the outside of the container.



Features

- Equal pressure principle which is more like actual of production
- Function of temperature and humidity control
- High resolution, accurate test data
- Two test models such as package and film, easy to change
- Professional software, clear process
- Test data is stored forever, easy to search and compare
- Users can get other gas permeation data by technical support - multifold functions in one
- Employs best elements in the world, steady and reliable running
- LCD shows test parameters, friendly human-equipment interaction design
- Free from the interference of power down
- Compatible with ISO, ASTM and various oxygen transmission test standards

Physical specifications

Dimensions

62 x 46 x 63 cm (LxWxH) container
62 x 46 x 31 cm (LxWxH) film

Net Weight

50 kg container & film test

Standards

ASTM F 1307, F 1927, D 3985, JIS K 7126,
ISO15105-2

Configuration

Standard configuration:
mainframe, software, temperature control facility,
container accessories valves and pipes for nitrogen
feeding, valves and pipes for oxygen feeding, pres-
sure reducing valves for oxygen, pressure reducing
valves for nitrogen.

Note: Users provide gas resource for themselves.

Options

Seal accessories

Technical data

Parameters of container test

Test range

0 - 50000 ml/pkg day (normal)

Resolution

0.0001 ml/pkg day

Specimen size

100% O₂ test - less than Ø 120 mm, height is less
than 360 mm, open test (air) - no limited to size

Specimen specification

bottle - inner diameter > Ø 13 mm, outer diameter < Ø
50 mm, package and box - supported by accessories

Test condition

ambient condition (standard condition 23 ± 2 °C 50%
RH)

Humidity control range

0% RH; 15% RH - 90% RH;

Humidity control accuracy

± 2% RH

Temperature control range

5 - 75 °C, accuracy: ± 0.1 °C

Power

AC 220 V 50 Hz

Power consumption

50 W

Parameters of film test

Test range

0 - 20000 ml/m² day (normal)

Resolution

0.01 ml/m² day

Specimen size

Ø140 mm, thickness < 1 mm (thicker specimen needs
accessories)

Test area:

104.4 cm² × (1-3)

Test condition

ambient condition (standard condition
23 ± 2 °C 50% RH)

Humidity control range

0% RH; 15% RH - 90% RH;

Humidity control accuracy

± 2% RH

Temperature control range 5 - 75°C, accuracy:

± 0.1°C

Power

AC 220 V 50 Hz

Power consumption

50W

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