

# Y110 2.0 Oxygen Permeability Analyzer -Coulometric Sensor Method

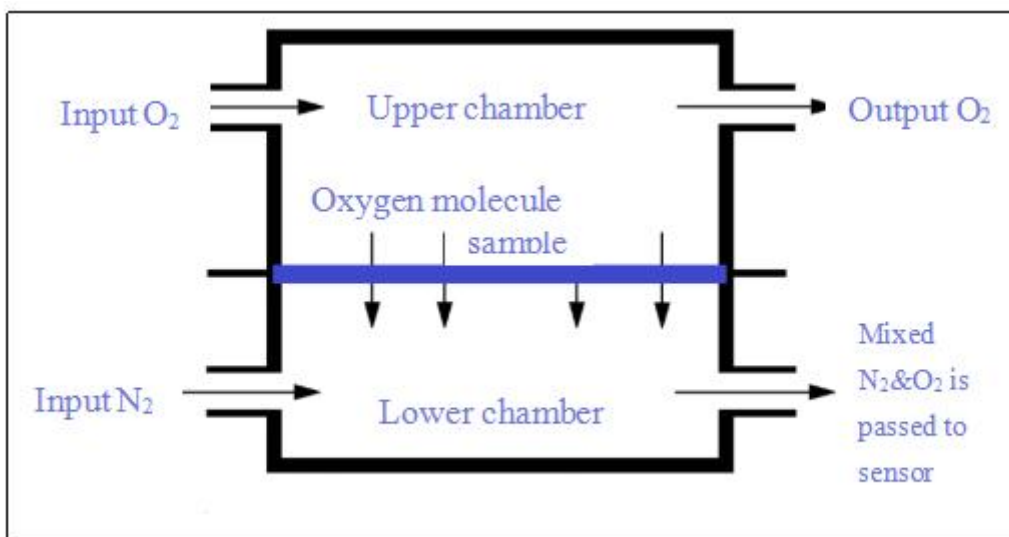


## Introduction

This product is based on the testing principle of the coulometric sensor method testing Oxygen, and is designed and manufactured with reference to GB/T 19789, ASTM D3985 and other standards. Adopting high-precision imported oxygen sensor, high test accuracy, it is suitable for oxygen transmission performance testing of films, sheets, paper, packaging and related materials in the fields of food, medicine, medical equipment, daily chemicals, photovoltaic electronics, etc., and provides a wide range and high-efficiency oxygen transmission rate detection for high, medium and low oxygen barrier materials.

## Testing Principle

Y110 2.0 Oxygen Transmission Rate Tester adopts the principle of Coulometric sensor method. The pre-processed sample is fixed in the middle of the test chamber, while high-purity oxygen flows in the upper chamber of the film, high-purity nitrogen (carrier gas) flows in the lower chamber, oxygen molecules diffuse through the film to the nitrogen on the other side, and the flowing nitrogen gas is carried to the sensor, and the oxygen transmission rate is calculated by analyzing the oxygen concentration measured by the sensor.



Schematic diagram for Coulometric sensor method



## Standards

GB/T19789、YBB00082003、ASTM D3985、ASTM F2622、ASTM F1927、ASTM F1037、ISO 15105-2、JIS K-7126-B、DIN 53380-3

## Specification

Item	Technical Parameters
Test range	0.01~1000 cm <sup>3</sup> /(m <sup>2</sup> ·24h) (customized maximum 260000 cm <sup>3</sup> /(m <sup>2</sup> ·24h))
Resolution	0.0001 cm <sup>3</sup> /(m <sup>2</sup> ·24h)
Temperature range	15~45°C
Temperature accuracy	±0.1°C
Humidity range	Dryness=0%RH, 5~90%RH, 100%RH
Humidity accuracy	±2%RH
Test area	50.24 cm <sup>2</sup> (minimum 0.785 cm <sup>2</sup> optional customization)
Sample size	Φ100 mm
Sample thickness	≤3 mm
Number of samples	1piece
Carrier gas pressure	≥0.1 MPa
Gas supply port	Φ3 mm gas port
Carrier gas port	1/8inch
Instrument size	600 mm×400 mm×330 mm
Power	750 W
Power supply	AC 220 V, 50 Hz



## Features

◆ Patented core technology, efficient and accurate testing

High-precision imported oxygen sensor with high sensitivity, ultra-high stability and ultra-low failure rate, with a resolution of  $0.001 \text{ cm}^3/(\text{m}^2 \cdot 24\text{h})$ .

The new pneumatic control system, automatic clamp clamping the sample, convenient and labor-saving, excellent sealing performance.

Adopt international advanced electromagnetic temperature control technology, automatically control the temperature rise and fall, and the temperature control accuracy is  $0.1 \text{ }^\circ\text{C}$ .

◆ Meet the test requirements of wide range and high applicability

The instrument is equipped with a single cavity, which is compact and flexible, and has high test efficiency

The measurement range is  $0.02\sim 1000 \text{ cm}^3/(\text{m}^2 \cdot 24 \text{ h} \cdot 0.1 \text{ MPa})$ , and the measurement range is wide, which can meet the testing requirements of high, medium and low barrier materials. With the addition of suitable accessories, it can measure the oxygen transmission rate of containers such as bottles, bags, and bowls.

◆ Excellent appearance, convenient control, real-time visualization of curves

The host is embedded with a 11.6-inch high-resolution color LCD screen, with clear view, sensitive point control, and easy operation.

The instrument is fully automatic operation, one-key test, automatic judgment, automatic shutdown.

Real-time display of six sets of curves of transmittance-time, temperature-time, humidity-time, nitrogen flow-time, oxygen flow-time, concentration-time, and the curve supports preview and hide function.

◆ Smart operating system, global certification



Self-developed intelligent operating system, modular icons, stylish color matching, user-friendly settings, intuitive and convenient operation.

According to GMP appendix computer system design, test process parameters are flexibly set to meet different standard requirements.。

It has the function of audit trail (log tracking, test tracking), which can meet the needs of data traceability. System operation authority can be set to different levels.

Intelligent statistical analysis, support for standard deviation analysis of multiple data. At the same time, the system can be expanded, such as access to laboratory LIMS system.

Personalized test reports can be set on demand, support data output in multiple formats, support electronic signature functions, and submit audit reports online

Global strength certification, Chinese and English language settings can be performed as needed.

◆ Offline or online detection

The instrument comes with its own operating system, which can be tested independently from the computer, and the data is automatically processed. The instrument is equipped with a computer interface, and can also be connected to a computer for online testing.

◆ Professional calibration service, accurate and reliable data

Our company has approved and issued by the "General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China": gas transmission rate "National Standard Material Grading Certificate" and "People's Republic of China Manufacturing Measuring Instrument License", the standard number (GBW (GBW ( E) 130497 / GBW(E) 130498); use national standard materials to calibrate and verify the instrument to ensure the accuracy, versatility and authority of the test data.

◆ Lab intelligent IoT platform

The instrument can be connected to the IoT platform to realize network digital management.






Log in to the IoT platform remotely and authorize to enter the instrument software interface, which can realize functions such as managing experimental data, remote diagnosis







and troubleshooting.

Customers can download the required instrument information, documents, and operation videos on the platform by themselves.

### Application

	<p>Film</p>	<p>Various plastic films (PP/PET/PE/PVC/BOPP/PP, etc.), plastic composite films, paper-plastic composite films, metal composite films, co-extrusion films, aluminized films, degradable packaging films (PLA/PBAT/PBS) etc.) Oxygen transmission rate test of film-like materials</p>
	<p>Sheet</p>	<p>To test Oxygen transmission rate of solid pharmaceutical hard sheet (PP/PVC/PTP, etc.), metal composite sheet, rubber sheet and other sheet materials</p>
	<p>Medicinal stickers, warm stickers</p>	<p>To test Oxygen permeability of medical plaster therapy patch, warm patch, dysmenorrhea patch and other patches</p>
	<p>Hygiene products</p>	<p>To test Oxygen permeability of sanitary napkins, pads and other sanitary products</p>
	<p>Paper, cardboard and</p>	<p>To test Oxygen permeability of coated paper, carbon paper, silicone paper, aluminized paper, paper-aluminum-plastic composite sheet and other</p>

	composites	paper, cardboard
	Package	To test Oxygen permeability of wine bottles, cola bottles, peanut oil barrels, Tetra Pak packaging, vacuum packaging bags, three-piece cans, cosmetic packaging, toothpaste tubes, jelly cups, yogurt cups and other plastic, rubber, paper, paper-plastic composite, glass, metal bottles , bag, can, box, barrel
	Package closures	To test Oxygen permeability of various package closures
	Solar back sheet	To test Oxygen permeability of solar back sheet
	Pipe	To test Oxygen permeability of pipes of various materials such as PPR pipes





### Configuration

Standard configuration	Power cord, communication line, sample cutter, sealing grease, metal gas pipe, terminal ferrule, terminal ferrule, standard membrane, special wrench, syringe, sealing ring, fork wrench, Phillips screwdriver, mouse
Option	Computer, measurement certificate
User-supplied	<ol style="list-style-type: none"> <li>1、 Standard laboratory environment;</li> <li>2、 Power requirements: 220V regulated power supply with three holes and three sockets with a switch;</li> <li>3、 Computer requirements: standard configuration (Windows10, with a nine-pin serial port);</li> <li>4、 1 bottle of oxygen, the purity must be above 99.999%, with pressure reducing valve, the output range is 0-0.4 Mpa;</li> <li>5、 1 bottle of nitrogen, the purity must be above 99.999%, with pressure reducing valve, the output range is 0-0.4 Mpa.</li> </ol>

Note: Guangzhou Standard has always been committed to the innovation and improvement of product performance and function. For this reason, product technical specifications and appearance will also be changed accordingly. The above situation will not be notified. The company reserves the right of modification and final interpretation.







## After-sales Commitment

- ◆ Provide free technical support for packaging testing.
- ◆ One-year warranty for the instrument, free software upgrade service, and lifetime free technical support.
- ◆ Free training of instrument operation at the factory, a graduation certificate will be issued to those who pass, and board and lodging will be provided free of charge.
- ◆ Instrument "trade-in" policy, as well as provision of backup instruments in case of failure.
- ◆ There is a testing center (CNAS L8185), which provides sample testing and sample data comparison services.
- ◆ There is a reference material research and development center to provide calibration services.

## Company Introduction

Guangzhou Biaoji Packaging Equipment Co., Ltd. was established in 2002 and is located in Guangzhou Economic Development Zone. It is a company integrating R&D, production and sales of packaging testing instruments, packaging equipment, modified atmosphere preservation equipment and other products, as well as providing third-party testing and standard material proficiency testing. An enterprise dedicated to providing comprehensive, professional and high-quality products and technical services for packaging, food, medicine, testing and other industries

Guide industry standards with quality, and become the leader in the field of global packaging testing. The 80,000-mile journey is sailing, and Guangzhou Biaoji will escort you!



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