C201B Oxygen Transmission Rate Test System

C201B Oxygen Transmission Rate Test System is designed and manufactured based on the coulometric sensor method and conforms to ASTM D3985. This instrument can be used to measure the oxygen transmission rate of barrier materials with high and medium barrier properties with high accuracy and high efficiency. C201B is applicable to the determination of oxygen permeability of plastic films, sheeting, paper, and other packaging materials used in food, pharmaceutical, medical apparatus, consumer products, photovoltaic and electronic industries, etc.

Features note1

- Equipped with Labthink self-developed coulometric sensor conforming to ASTM D3985, intrinsic standard and no calibration is required
- Support temperature control to satisfy tests under different conditions (optional)
- Built-in high-quality stainless steel test cell with better sealing performance
- Imported manual isolation valve and flow regulator are adopted for better sealing performance and lower failure rate
- Industrial computer appearance design, small size and fast cooling
- Reference film is provided for quick calibration
- The system adopts single-chip microcomputer control and can run independently
- The test report can be exported in common formats such as EXCEL and PDF
- Support micro printer, automatically print test data (optional)
- Equipped with RS232 data interface, which can be connected to computer software for curve analysis, data storage, report printing, etc. (optional)
- The gas purifier independently developed by Labthink can remove trace oxygen in nitrogen and provide oxygen-free carrier gas (optional).

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Test principle

The pre-conditioned specimen is clamped in the test cell, oxygen or air flows on one side of the specimen while a stream of high purity nitrogen flows on the other side. Oxygen molecules permeate through the specimen into the nitrogen side and are carried to the coulometric sensor. The sensor analyzes the oxygen concentration and calculates the oxygen transmission rate.

Standards

ASTM D3985、ASTM F1307、GB/T 19789、GB/T 31354、DIN 53380-3、JIS K7126-2-B、YBB 00082003-2015

Standards

Applications	**Films** Oxygen transmission rate test of various plastic films, paper-plastic composite films, coextruded films, aluminized films, aluminum foils, aluminum foil composite films, glass fiber aluminum foil composite films and many others
	Sheets Oxygen transmission rate test of PP, PVC and PVDC sheets, metal foils, rubber pads, silicon wafers and other sheet materials

Technical specifications

Table 1: Test parameters[note2]

Parameters/Model		C201B
Test range	**cc/(m²·day) (Standard area 50cm²)**	0.1～200
Resolution	**cc/(m²·day)**	0.1
Test Temperature	℃	15～50（Optional）
Temperature resolution	℃	0.1
Temperature fluctuation	℃	±0.5
Additional Functions	**GMP Computer System requirement**	Optional
	GP-01 Gas Purifier	Optional

	TC03 Temperature control device	Optional

Table 2: Technical specifications

Test Cell	1Cell
Specimen Size	3.8” x 3.8”（9.7cm×9.7cm）
Specimen Thickness	≤120 Mil（3mm）
Standard test area	50cm^2
Test Gas	99.999% High purity nitrogen、99.5%Oxygen（Outside supply scope）
Gas Pressure	7.2 PSI /50 kPa
Port Size	1/8”Metal tube
Instrument Dimension	12.9” H x 16.9” W x 15.7” D (33cm× 43cm× 40cm)
Power Supply	120VAC±10% 60Hz / 220VAC±10% 50Hz（one of two）
Net Weight	50Lbs（23kg）

Table 3: Product Configuration

Standard Configuration	Instrument mainframe, sampler, vacuum grease	
Optional Parts	Professional software, GP-01 Gas Purifier ,TC03 temperature control device, Computer System requirement, Micro-printer	GMP

Note 1: The described product functions are subject to the specification in "Technical Parameters"

Note 2: The parameters in the table are measured in Labthink laboratory by professional operators according to the requirements and conditions stapulated in laboratory environmental standards.

✧ Labthink is always committed to the innovation and improvement of product performance and functions. For this reason, product technical specifications are subject to changes without further notification. Labthink reserves the right of modification and final interpretation.