C190H Air Permeability Tester

C190H Air Permeability Tester applies volume method, and is professionally applicable to the gas permeability test of battery diaphragm, breathable membrane and related polymer materials, as well as the gas permeability test of cigarette paper and various papers.



Product Features Note 1

Volume Method, Fully-automatic & Highly Precise

- Gas volume passing through the specimen is fully-automatically determined, replacing the traditional manual sliding cylinder gas volume measurement method.
- Fully-automatic high-precision pressure control technology; the pressure accuracy is better than 0.01kPa.
- Test pressure can be set freely by software.

Three-cell Design, Flexible & Efficient

- Three-independent-testing-cell design can accomplish tests for threes specimens in a single test.
- Three-cell independent test and three-cell joint test can be selected freely.
- Fast test mode is provided, and the total test time of three cells is reduced to 1 minute.

Automatic Specimen Clamping, Safe & Labor-saving

- Pneumatic specimen clamping saves time and labor, with consistent clamping force and better sealing.
- Anti-pinch design and safer operation.

Intelligent Control, Convenient & Reliable

- 12 inch tablet of Windows system is installed for more convenient control.
- Embedded unique high-end Labthink industrial computer eliminates system failures caused by computer viruses and ensures operation reliability and data storage security.
- Core sensor and pneumatic control system are from world-renowned manufacturers, with low failure rate and long service life.
- Automatic detection of temperature and humidity of test environment; automatic record of the test conditions.
- The instrument supports multi unit display, such as s/100 mL and um/(Pa·s), which is applicable to the detection requirements of different standards.

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- Software has functions such as multi-level authority management and audit tracking (Optional).

Test Principle

In the test temperature, humidity and atmospheric pressure, the instrument tests the time required for 100mL air passing through the diaphragm with an area of 6.45cm^2 under the pressure of 1.21kPa.

Reference Standards Note 1

ISO 5636, TAPPI T460, GB/T 36363-2018, GB/T 458-2008, GB/T 23227, GB/T 12655

Applications Note 1

Basic Applications	It is suitable for testing the gas permeability of various materials such as battery diaphragms, breathable membranes and related polymer products
Extended Applications	It is suitable for testing the gas permeability of cigarette paper and other paper (customized)

Technical Parameters

Table 1: Test Parameters Notes 2

Parameters\Model		C190H
Test Scope	**s/100 mL**	30 ~ 1500
	um/(Pa ▪ s)	0.1 ~ 4
Volume Resolution	**mL**	0.001
Volume Accuracy	**mL**	1%
Pressure Range	**kPa**	0 ~ 2
Pressure Accuracy	**kPa**	0.01
Extended Functions	**GMP Computer System Requirements**	Optional
	DataShield™ Data Shield Note 3	Optional
	CFR21Part11	Optional

Table 2: Technical Specifications

No. of Test Cells	3 sets
Specimen Size	≥2” x 2” (6cm×6cm)

Specimen Thickness	≤120 Mil (3mm)
Test Area	1” (6.4cm^2)
Gas Specifications	Dry air (air source is provided by the user)
Air Source Pressure	87PSI / 600kPa
Interface Size	Φ6mm Polyurethane Pipe
Dimensions	23.6” H x 19.6” W x 27.5” D (25cm× 44cm× 35cm)
Power	120VAC±10% 60Hz / 220VAC±10% 50Hz (either-or)
Net Weight	24kg

Table 3: Product Configuration

Standard Configuration	Instrument mainframe, tablet, professional software, and Φ6 mm polyurethane pipe
Options	Air compressor, CFR21Part11, GMP Computer System Requirements, DataShield™ Data Shield[Note 3]
Notes	Compressed air inlet of the instrument is Φ6 mm polyurethane pipe (with pressure of 87PSI/600 kPa); air source is provided by the user.

Note 1: the Reference Standards, Applications and Product Features are subject to the specific information in the "Technical Parameters". "Reference Standards" means that the test method is basically consistent with the method(s) described in the standards.

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

Note 3: DataShield™ Data Shield system provides safe and reliable data application support. The system can be shared by multiple Labthink products. Please purchase it separately according to the use situation.

Note: Labthink is always committed to the innovation and improvement of product performance and functions. For this reason, the product technical specifications and appearance will change accordingly without notice. The company reserves the right of modification and final interpretation.