

Distributed by:

**cntech**  
Analysis & Testing Instruments



# Differential Pressure Method Gas Permeability Analyzer N530L

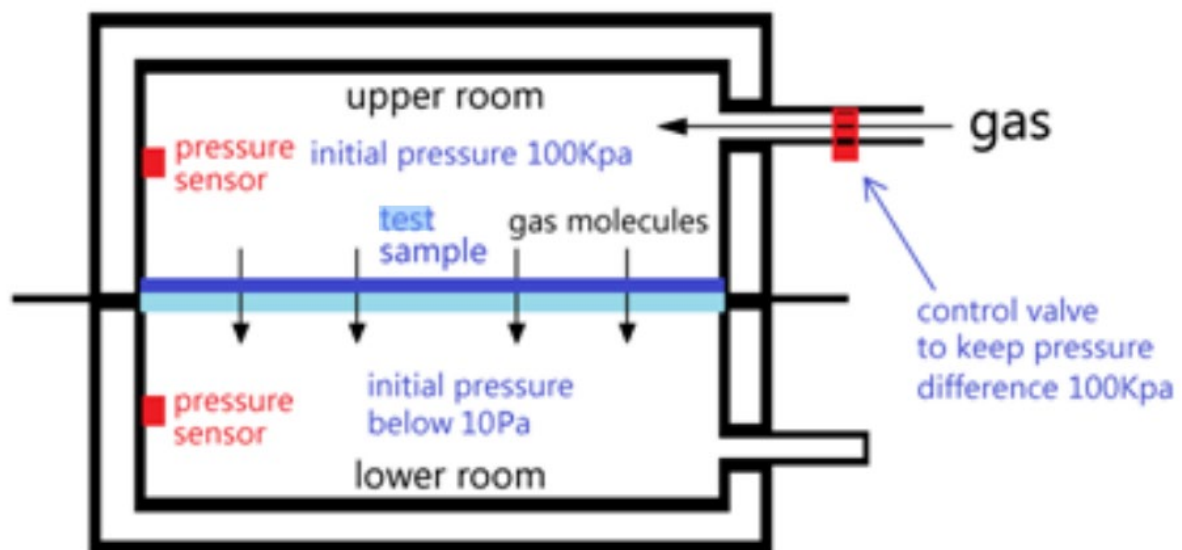


## Product introduction

This product is based on the test principle of the differential pressure method, and is designed and manufactured with reference to GB/T 1038, ISO 2556 and other standards. Using high-precision pressure sensor and automatic differential pressure maintaining technology, the test accuracy is high. It is suitable for the gas permeability test of films, sheets, paper, packaging and related materials in the fields of food, medicine, medical equipment, daily chemicals, photovoltaic electronics, etc. It provides a wide range of high, medium and low gas barrier materials. , High-efficiency gas transmission rate detection.

## Test principle

The N530L gas permeability tester adopts the principle of differential pressure method. Place the processed sample between the upper and lower chambers, use a vacuum pump to evacuate the entire gas circuit system, and then add an atmospheric pressure experimental gas to the upper chamber to form a constant pressure difference between the upper and lower chambers. Under the action of the pressure gradient, the gas permeates from the upper cavity to the lower cavity through the film, and the system can calculate the barrier performance parameters such as the gas permeability of the sample through the pressure change of the lower cavity.



Schematic diagram of differential pressure method

## Standard

ISO 2556, ISO 15105-1, ASTM D1434, JIS K7126-1, YBB 00082003, GB/T 1038

## Technical Parameter

Item	Technical parameters
Testing range	0.05~50000 cm <sup>3</sup> /(m <sup>2</sup> ·24 h·0.1 MPa)
Resolution	0.0001 cm <sup>3</sup> /(m <sup>2</sup> ·24 h·0.1 MPa)
Temperature control range	15~60°C
Temperature control	±0.2°C
Degree of vacuum	20 Pa
Vacuum resolution	0.01 Pa
Test pressure	0.1 MPa
Test gas	O <sub>2</sub> CO <sub>2</sub> N <sub>2</sub> Etc
Test area	50.24 cm <sup>2</sup>
Sample size	Φ110 mm
Sample thickness	≤2 mm
Sample Number	3 PCS
Power	750 W
Power supply	AC 220 V 50 Hz
Size	690*620*390mm

## Features

### ◆ Patented core technology, efficient and accurate testing

The patented automatic differential pressure maintaining technology automatically maintains the pressure difference on both sides of the sample (the differential pressure

maintaining pressure can be adjusted arbitrarily). The built-in high-precision pressure sensor has a resolution of 0.01 Pa, good stability and low failure rate.

Water-cooled temperature control technology, imported temperature sensor, automatically adjust the test temperature, high measurement accuracy, the temperature is accurate to 0.2 °C.

The original imported vacuum pump, the ultimate pressure can reach 0.1 Pa, the vacuum pumping efficiency is high, and the noise is low.

#### ◆ **Meet the test requirements of wide range and high applicability**

The instrument is equipped with a single cavity, with a measurement accuracy of 0.0001 cm<sup>3</sup>/(m<sup>2</sup>· 24 h· 0.1 MPa).

With the addition of matching accessories, it can measure the gas permeation of bottles, bags, bowls and other packaging. At the same time, it supports the permeability test of different gases such as oxygen, carbon dioxide, nitrogen, and air.

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

The product is artistically designed from the perspective of ergonomics and technical aesthetics, with exquisite 3D printed shell, smooth lines, fashionable and beautiful, novel and unique.

Fully automatic operation, one-key test, automatic judgment, automatic shutdown.

Real-time display of five sets of curves of transmittance-time, temperature-time, upper chamber pressure-time, lower chamber pressure-time, differential pressure change-time, and the curve supports preview and hide function.

#### ◆ **Intelligent 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,

and support electronic signature and online audit report functions.

Global strength certification, Chinese and English language settings can be performed on demand

◆ **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) 130541 / GBW(E) 130542); 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 field

	Film	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.) gas permeability test of film-like materials such as
	Sheet	Gas permeability test of solid pharmaceutical hard sheet (PP/PVC/PTP, etc.), metal composite sheet, rubber sheet and other sheet materials

	paper and cardboard	Gas permeability test for coated paper, carbon paper, silicone paper, aluminized paper, paper aluminum-plastic composite sheet etc
	Medicinal stickers, warm stickers	Gas permeability test of medical plaster therapeutic patch, warm patch, menstrual pain patch
	Hygiene Products	Gas permeability test of sanitary napkins, pads and other sanitary products
	Package	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 , gas permeability test of bags, cans, boxes, barrels
	Many Different Gases	It is suitable for gas permeability test of various gases, such as oxygen, carbon dioxide, nitrogen, air, helium, etc.

## Configuration List

The standard configuration	Power cord, communication line, special wrench, sampler, rubber hose, 1/8 gas pipe joint; 1/4 gas pipe joint, sealing grease, qualitative filter paper, Phillips screwdriver, standard membrane, threaded joint, sealing ring, mouse
choose and buy	Computer, measurement certificate, air compressor, vacuum pump
User-provided	1. Laboratory requirements: general laboratory; 2. Power requirements: 220V three-hole three-position switch socket, 10A; 3. Computer requirements: standard configuration (Windows10, with a nine-pin serial port.);

<p>4. Experimenter requirements: 1-3 test operators, technical secondary school or above, certain computer knowledge; 5. Drying dish (all samples need to be dehydrated and degassed for 24 hours);</p> <p>6. Other accessories: used for calibration: a bottle of oxygen (purity above 99.999%), other gases are customized.</p>
---

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



**Distributed by:**

CN Technical Services Limited  
Call +44 (0)1354 699899  
[www.cntech.co.uk](http://www.cntech.co.uk)