Air Permeability Tester

TEST INSTRUMENT

SDL ATLAS
TEXTILE TESTING SOLUTIONS

Air Permeability Tester

INNOVATIVE INSTRUMENT

air permeability, n — the velocity of air flow passing through a known area under a prescribed air pressure.

Air permeability is a critical performance feature of air bags, active wear, parachutes, sails, tents and awnings, gas filter and vacuum cleaner bags. In garments it contributes to comfort, influencing breathability and the weather resistance of rainproof fabrics. In specialty, industrial and military applications, it can play a vital role in protection.

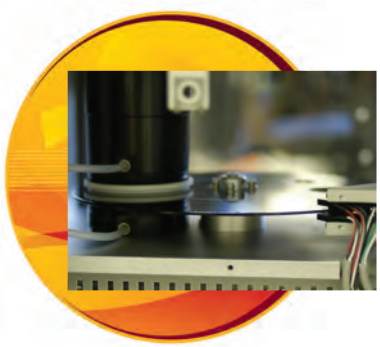
In every market, satisfying the demands of consumers and producers requires ways to accurately and repeatably test material air flow. SDL Atlas offers the most versatile, accurate and reliable air permeability tester on the market, allowing manufacturers to control production processes and validate their performance claims.

M021A

Air Permeability Tester

The SDL Atlas Air Permeability Tester automatically measures the flow of air through a given area of a fabric under a set of controlled variables: a selected orifice, specific pressure drop, and designated test area. The tester is suitable for most fabrics including woven, nonwoven, air bag fabrics, blankets, napped fabrics, knitted fabrics, layered, and pile fabrics. These fabrics may be untreated, heavily sized, coated, resin treated, or otherwise treated.

The mobile Air Permeability Tester offers compact and solid design, and a table and arm that will accommodate larger samples. Its pressure system determines air pressure range automatically, detecting and calibrating to the head that has been installed, reporting data on a large, brightly lit LED display, or transferring test results to your PC (optional software).



ONE
Automatic Pressure Range Sensor

The tester features an automatic ranging system that detects the size of the installed head and predetermines the appropriate pressure range required for accurate testing of a sample. The instrument's sensor eliminates the need for operator pretesting and manual adjustments.

TWO
Accomodating Table and Arm

The long arm and large table of the Air Permeability Tester allows large samples to be evaluated in multiple areas wtihout cutting. Pressing the arm against the sample begins the test and unclamping the arm ends it.

THREE
Easy-View Display

The Air Permeability Tester's display is very intuitive and easy to use. Results are reported from the start of testing. LCD features black character against a white background for legibility. Optional software allows transfer and analysis on a PC.

FOUR
Mobility and Compact Design

Heavy-duty casters and a self contained design make the tester easy to transport from the laboratory to the production floor for on site testing or off site storage.

FIVE
Powerful Vacuum

The vacuum is both powerful and quiet. It accommodates a variety of test plates to suit every application and features easy calibration for daily checks. The 20 cm^2 head performs a host of typical tests and comes standard with the Air Permeability Tester. 5 cm^2, 25 cm^2, 38 cm^2, 50 cm^2, and 100 cm^2 heads are also available.

THE AIR PERMEABILITY TESTER

STANDARD CONFIGURATION

M021A – Air Permeability Tester 220V/110V
100201 – 20 cm^2 Test Head
S021A019 – 20 cm^2 Calibration Check Plate

Rubber Plate
Mains Leads with multi-pin plugs
CD for Instruction Manual
Fuse

OPTIONAL HEADS

100200 – 5 cm^2 Test Head
100201 – 20cm^2 Test Head
100202 – 25 cm^2 Test Head
100203 – 38 cm^2 Test Head
100204 – 50 cm^2 Test Head
100205 – 100 cm^2 Test Head

OPTIONAL SOFTWARE

100208 – CD for PC installation software with data cable

SPECIFICATIONS

Test Mode	Automatic
Test Pressure	98 - 2500 Pa
Air Flow	0.1 - 40,000 mm/s (5cm^2)
Rise time	5-50 (sec)
Fall time	3 (sec)
Total measuring time	10-58 (sec)
Start pressure	10 Pa
Lower pressure limit	10 Pa
Upper pressure limit	2500 Pa
Accuracy	+/- 3%
Test Units	mm/s, cfm, $cm^3/cm^2/s$, $l/m^2/s$, $l/dm^2/min$, $m^3/m^2/min$, $m^3/m^2/h$, dm^3/s

Test Head / Area	20 cm^2 (standard) , 5cm^2, 25cm^2, 38cm^2, 50 cm^2,100cm^2
Sample Thickness	Up to 8 mm
Clamp Separation	8 mm maximum
Clamping Force	50±5N
Calibration Check Plate	For 20 cm^2 (Standard)
Display	LCD (size : 80 x 28mm)
Displayed test results	average dynamic air permeability and exponent of the air permeability curve in the selected test pressure range
Data Output	RS232 connect to PC (with software - optional)
Dimensions(W x D x H)	59 x 90 x 100 cm
Net Weight	80 kg

M021A TESTING DEVICE	STANDARD PART	PARTS/ACCESSORIES				
	100201 20CM² Test Head	100200 5CM² Test Head	100202 25CM² Test Head	100203 38CM² Test Head	100204 50CM² Test Head	100205 100CM² Test Head
TESTING STANDARD						
ASTM D737		●		●		●
JIS L1096–A				●		
TAPPI T 251				●		
ASTM D3574			●			
EN ISO 7231			●			
BS 5636		●				
EN ISO 9237	●	●			●	●
DIN 53887	●					
AFNOR	●			●	●	
G07–111	●			●	●	
EDANA 140.1	●				●	

The Complete Source for Textile Testing Consumables

Today, standardized consumable materials play a critical role in many textile testing applications. Whether you need fabric, detergent or custom-prepared testing material, you can rely on the SDL Atlas testing and consumables divisions to provide a single source solution. Beyond consumables fulfillment, we offer technical expertise to help make your testing efficient, precise and compliant.

- Textile Innovators consumables including: multi-fiber, laundering, crockmeter accessories, bulk testing fabrics and wash ballast
- SDC consumables including: multi-fiber fabrics, detergents and rating and grading scales
- AATCC consumables including: multi-fiber fabrics, detergents and rating and grading scales
- WFK consumables including: soil fabrics, detergents and laundry testing
- SDL Atlas consumables including: Martindale testing accessories and cork liners

Our extensive inventory of consumables meet all of the accepted test methods and standards so a lab can be assured of a high quality and steady supply of all the consumables they need from a globally recognized source. We assure consistency by archiving every tested sampleLogging and documenting every lot.

Testing and Calibration

Every SDL Atlas product is subjected to complete testing and calibration to ensure highest possible performance and full compliance to international standards. In addition, UKAS accredited calibration services are available from the SDL Atlas TecNet, our technical solutions team. With accredited service engineers in three continents, we offer the best service available in the market. TecNet operates a working laboratory, offers presale product demonstrations and participates in standards development.

RELATED TEST PRODUCTS

Complete support: products, installation, consumables, training, and service

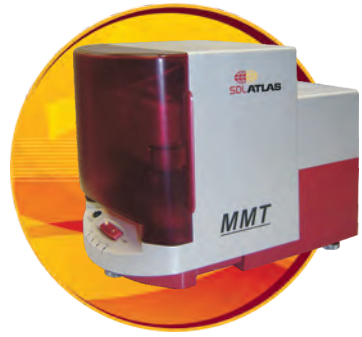
SDL Atlas offers a full line of laboratory testing equipment, products and consumables, backed by the support of a cross disciplined team of textile technologists, hardware and software engineers, mechanical and instrumentation engineers, calibration experts and installation and maintenance technicians.

Sweating Guarded Hotplate

The Sweating Guarded Hotplate measures thermal and water vapour resistance, simulating the heat and mass transfer processes of human skin. The specimen to be tested is placed on an electronically heated porous plate with conditioned air ducted to flow across and parallel to its upper surface. Housed in a conditioned cabinet, the instrument operates with user-friendly Windows software and prints out standard test reports. This test conforms to ISO 11092 standards.

Moisture Management Tester (MMT)

Beyond traditional absorbency and wicking evaluations, SDL's Moisture Management Tester (MMT) dynamically measures moisture transfer across knit and woven apparel materials. The instrument calculates the moisture absorbing rate of a fabric's inner and outer surfaces, one-way transportation capability from inner to outer surface and the moisture spreading rate.



Hydrostatic Head Tester

The Hydrostatic Head Tester measures the resistance of a fabric to penetration by water under hydrostatic pressure. This new instrument is applicable to all types of woven, knitted, and nonwoven fabrics, including those with water repellent and waterproof finishes and complies with AATCC, ISO and BS testing standards. Specimens are subjected to increasing (dynamic) or static hydrostatic pressure, until 3 points of leakage occur. After a minimum of three specimens are tested, calculation of the average maximum hydrostatic pressure is reported in mBars or cm H2O, to rate the fabric. This new Hydrostatic Head Tester offers increased capacities in both hydrostatic pressure and fabric thickness, greater efficiency through end-of-test alarms and auto head refills, preloaded test standards, and downloadable results.

SDL ATLAS
TEXTILE TESTING SOLUTIONS

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Wherever people test textiles, you'll find SDL Atlas!