

Air Permeability Tester

TEST INSTRUMENTS




SDL ATLAS
TEXTILE TESTING SOLUTIONS

Air Permeability Tester

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

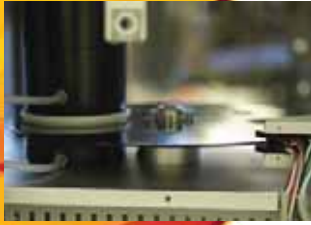
Air permeability is a critical performance feature of air bags, active wear, parachutes, sails, tents and awnings, gas filter and vacuum cleaner bags. In garments it contributes to comfort, influencing breathability and the weather resistance of rainproof fabrics. In specialty, industrial and military 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 Accommodating Table and Arm

The long arm and large table of the Air Permeability Tester allows large samples to be evaluated in multiple areas without 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 cm² head performs a host of typical tests and comes standard with the Air Permeability Tester. 5 cm², 25 cm², 38 cm², 50 cm², and 100 cm² heads are also available.



THE AIR PERMEABILITY TESTER

STANDARD CONFIGURATION

M021A - Air Permeability Tester 220V/110V
 M021A/020 - 20 cm² Test Head
 S021A019 - 20 cm² Calibration Check Plate

OPTIONAL HEADS

M021A/005 - 5 cm² Test Head
 M021A/025 - 25 cm² Test Head
 M021A/038 - 38 cm² Test Head
 M021A/050 - 50 cm² Test Head
 M021A/100 - 100 cm² Test Head

CONSUMABLES

S021A021 - Dust Filter
 S021A022 - O-Ring for Air Seal (pack of 5)

OPTIONAL SOFTWARE

M021A/F - Software Disk with 9 pin data cable (1pc)

SPECIFICATIONS

Test Mode	Automatic	Test Head / Area	20 cm ² (standard) 5cm ² , 25cm ² , 38cm ² , 50 cm ² , 100cm ²
Test Pressure	98 - 2500 Pa	Sample Thickness	Up to 8 mm
Air Flow	0.1 - 40,000 mm/s (5cm ²)	Clamp Separation	8 mm maximum
Rise time	5-50 (sec)	Clamping Force	50±5N
Fall time	3 (sec)	Calibration Check Plate	For 20 cm ² (Standard)
Total measuring time	10-58 (sec)	Display	LCD (size : 80 x 28mm)
Start pressure 1	0 Pa	Displayed test results	average dynamic air permeability and exponent of the air permeability curve in the selected test pressure range
Lower pressure limit	10 Pa	Data Output	RS232 connect to PC (with software - optional)
Upper pressure limit	2500 Pa	Dimensions (W x D x H)	59 x 90 x 100 cm
Accuracy	+/- 3%	Net Weight	80 kg
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		

M021A TESTING DEVICE	STANDARD PART	PARTS/ACCESSORIES				
	M021A/020 20 CM ² Test Head	M021A/005 5 CM ² Test Head	M021A/025 25 CM ² Test Head	M021A/038 38 CM ² Test Head	M021A/050 50 CM ² Test Head	M021A/100 100 CM ² 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, crock-meter 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 sample—Logging 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.

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 standard.

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.

