

**Air Permeability Tester
FX 3300 LABOTESTER III**



SCOPE

The TEXTEST Air Permeability Tester FX 3300 LABOTESTER III is used for fast, simple, and accurate determination of the air permeability of all kinds of flat materials and of foam cubes. The measuring range covers dense papers and airbag fabrics as well as extremely open non-wovens and forming fabrics.

By means of the Evaluation Program LABODATA III the test results can be converted from "air permeability" into the "pressure drop at a given air velocity". This value,

FUNCTION

The instrument works *automatically and digitally*.

A powerful, muffled vacuum pump draws air through an interchangeable test head with a circular opening. For measurement the test head appropriate for the selected test standard is mounted to the instrument. The specimen is clamped over the test head opening by pressing down the clamping arm which automatically starts the vacuum pump. The pre-selected test pressure is automatically maintained, and after a few seconds the air permeability of the test specimen is digitally displayed in the pre-selected unit of measure. By pressing down the clamping arm a second time the test specimen is released and the vacuum pump is shut-off.

Since the vacuum pump is automatically started when the test specimen is clamped in place over the test head opening, the test pressure builds up only *after* the test specimen has been clamped. This guarantees a perfect clamping of the test specimen thus significantly improving the measuring accuracy and greatly facilitating the operation of the instrument.

The test pressure is digitally pre-selected in accordance with the test standard. It is automatically controlled and maintained by the instrument. Due to a true differential measurement the test pressure is measured accurately, even at high air flow rates.

which is important for gas filter materials, is shown both, numerically and as a curve "pressure drop versus air velocity" in double logarithmic scale.

The instrument works in accordance with AFNOR G 07-111, ASTM D 737, ASTM D 3,574, BS 5,636, DIN 53,887, EDANA 140.1, EN ISO 7,231, EN ISO 9,237, JIS L 1,096-A, TAPPI T 251, and other standards. It is suitable for laboratory use as well as for operation directly in the production area.

The air flow through the test specimen is measured with a variable orifice. The air permeability of the test specimen is determined from the pressure drop across this orifice, and is digitally displayed in the selected unit of measure for direct reading.

High stability, precision pressure sensors provide for an excellent measuring accuracy and reproducibility of the test results. The proper function and calibration of the instrument can be checked in a matter of seconds by means of a calibration check plate.

The instrument can be calibrated, and is supplied with an ISO conform calibration certificate.

The long, free projection of the clamping arm of 50 cm (20") allows the operator to take measurements from large samples without having to cut small test specimens. By means of two extensions the working surface of the instrument can be increased to 120 x 60 cm.

The instrument is not only suitable for laboratory use, but it is mobile and small enough to also be used directly in the production area. Operation of the instrument is extremely simple, so it can be operated without problem, even by inexperienced personnel.

The instrument is equipped with a RS 232 data port for data output and remote control.

EVALUATION OF THE TEST RESULTS

The simplest method for evaluation of the test results is to read the test results from the digital display, to write them down and to evaluate them manually.

In order to eliminate all reading, writing and calculating tasks and related errors, the instrument can be connected to the Strip Printer L 5130 MINIPRINT, which documents the test results, including statistical analysis, on a 57 mm (2.25") wide strip of paper (see adjacent picture).

Alternatively, the instrument can be connected to a PC or Laptop computer with the Evaluation Program L 5110 LABODATA III. The PC prints a comprehensive test report, including statistical analysis of the test results (see separate picture). In addition, it stores the test results on the hard disk and performs long-term evaluations based on various selection criteria.

Up to five different TEXTTEST instruments can be connected to the PC at the same time. The test results from these instruments can be processed *simultaneously* and documented together on the same test report. Thus, the Evaluation Program L 5110 LABODATA III turns the PC into a complete data processing system for the testing laboratory.

AIR PERMEABILITY			
ID:	_____		
Test press:	125 Pa		
Test area:	38 cm ²		
Instrument:	FX 3300-III		
S/n:	923		
Date:	23. 6. 2006		
Time:	12: 19		
Operator:	_____		
1:	42.7	cfm	
2:	53.8	cfm	
2:	~~~~~		del eted
2:	41.8	cfm	
3:	45.6	cfm	
4:	44.9	cfm	
5:	42.0	cfm	

Avg:	43.4	cfm	
Min:	41.8	cfm	
Max:	45.6	cfm	
CV :	4.0	%	

Test report, printed with the Strip Printer L 5130 MINIPRINT (original size).

TECHNICAL SPECIFICATIONS

- Measuring range:

0.4	through	750	cm ³ /cm ² /s	at	5	cm ²	test area
1	through	10,000	l/m ² /s	at	20	cm ²	test area
1	through	10,000	mm/s	at	20	cm ²	test area
0.6	through	6,000	l/dm ² /min	at	20	cm ²	test area
0.008	through	5	dm ³ /s	at	25	cm ²	test area
0.1	through	1,300	cfm	at	38	cm ²	test area
0.05	through	700	cm ³ /cm ² /s	at	38	cm ²	test area
0.03	through	400	m ³ /m ² /min	at	38	cm ²	test area
2	through	24,000	m ³ /m ² /h	at	38	cm ²	test area
0.1	through	1,600	l/dm ² /min	at	100	cm ²	test area
- Unit of measure: mm/s, cfm, cm³/cm²/s, l/m²/s, l/dm²/min, m³/m²/min, m³/m²/h and dm³/s
- Measuring accuracy: better than ± 3 % of the displayed value
- Test pressure: 98 through 2,500 Pa (0.4 through 10" w.c.)
- Test head / test area: 5, 20, 25, 38 and 100 cm² (**not included**)
- Data port: RS 232 C, asynchronous, bi-directional
- Power requirements: 230 V, 50 through 60 Hz, max. 1,100 W
- Dimensions (w x d x h): 40 through 121x 92 x 106 cm
- Table height: 77.5 cm
- Projection of clamping arm: 50 cm (20")
- Net/gross weight: 60 / 80 kgs.

The instrument is supplied with a calibration check plate, as well as an ISO conform calibration certificate. The test heads are, however, *not* included and must be ordered separately.

ACCESSORIES

For the Air Permeability Tester FX 3300 LABOTESTER III the following accessories are available:

FX 3300-XXX Test Heads for FX 3300

Test heads for various test standards, complete with clamping ring. **(Please specify the desired test head(s) when ordering):**

- Model FX 3300-5: 5 cm² (BS 5,636)
- Model FX 3300-20: 20 cm² (AFNOR G 07-111, DIN 53,887, EDANA 140.1, EN ISO 9,237)
- Model FX 3300-25: 25 cm² (ASTM D 3,574, EN ISO 7,231)
- Model FX 3300-38: 38 cm² (ASTM D 737, JIS L 1,096-A, TAPPI T 251)
- Model FX 3300-100: 100 cm² (for measurements on extremely dense samples).

FX 3300-TRA Power Transformer for FX 3300

Built-in power transformer for operation of the FX 3300 Air Permeability Tester III on a line voltage of 100 V or 115 V. **(Please specify the line voltage when ordering).**

L 5130 Strip Printer MINIPRINT

For documentation and statistical analysis of the test results from various TEXTTEST instruments on a 57 mm (2.25") wide strip of paper.

L 5110 Evaluation Program for PC LABODATA III

Program for documentation, statistical analysis, storage, and long-term evaluation of the test results from various TEXTTEST instruments by means of an IBM compatible PC.

FX 3300-LAP Mounting Kit for Laptop Computer

Mounting kit to mount a laptop computer directly to the FX 3300 Air Permeability Tester III.



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Your company name and address

Test Report no. 2006.07.03, 12.51.00.LBD

 **LBD143**

Style: CMT 4322-200
Lot: 5360-06
Piece: 12
Customer: Fabrics Ltd

Date/time: 07/03/2006, 12:51 - 07/03/2006, 12:52
Operator: J. Smith

Static Air Permeability

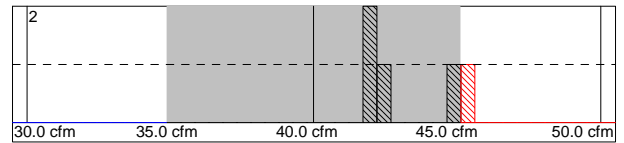
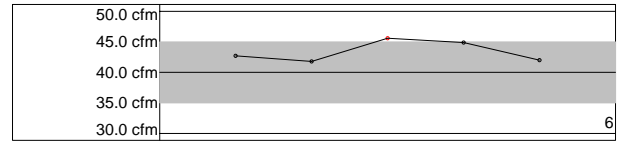
Test pressure: 125 Pa
Test area: 38 cm²

Date/time: 07/03/2006, 12:51 - 07/03/2006, 12:52
Instrument: Textest FX 3300-III, s/n: 923

1: 42.7 cfm
2: 53.8 cfm + ««« deleted crease
2: 41.8 cfm
3: 45.6 cfm +
4: 44.9 cfm
5: 42.0 cfm

Commentary:

Avg: 43.4 cfm Nominal: 40.0 cfm
Min: 41.8 cfm Min: 35.0 cfm
Max: 45.6 cfm + Max: 45.0 cfm
CV: 4.0 % Tests: 5
CI: 5.0 % CI:



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