

**Portable Air Permeability Tester  
FX 3360 PORTAIR**



## SCOPE

The Portable Air Permeability Tester FX 3360 PORTAIR is a unique, state-of-the-art device for determination of the air permeability (or the pressure drop at a selectable air velocity) plus the thickness of fabrics, non-wovens, felts, films and paper machine clothing.

The instrument is suitable for both, spot tests and profile measurements at stationary or moving webs directly in

the production machine, finishing machine, or at the inspection table, provided the material is under tension.

The PORTAIR is battery operated, small and light-weight, and thus suitable for single-handed operation. If necessary, measurements can be taken overhead, for example to check paper machine clothing inside the paper machine.

## FUNCTION

A powerful vacuum pump draws air through a circular opening and through the test specimen. By means of an exchangeable, calibrated orifice plate the instrument *continuously* determines the air permeability of the test specimen at the selected test pressure or the pressure drop at the selected air velocity, respectively. In addition, the thickness of the test specimen is being measured.

For spot testing, the instrument is placed onto the test specimen, and the test is started. For profile measurements, the instrument is manually moved across the test specimen during the test. The test results are sampled in regular intervals, and the high-resolution profile is displayed in real time.

The position of suspicious areas in the test specimen can be marked in the profile with a push-button. This greatly facilitates the subsequent error analysis.

When not in use, the PORTAIR may be placed in the storage and carrying box, supplied with the instrument. A built-in re-charger automatically re-charges the battery of the instrument.

By means of a calibration check plate, the proper function and calibration of the instrument can be checked in a matter of seconds.

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

## PRESENTATION OF THE TEST RESULTS

The instrument continuously displays the test results, both graphically and numerically. Due to the permanent comparison with the control range of the test specimen, any deviation becomes immediately obvious.

By means of a fast Fourier transformation ("FFT") any periodic variations of the test results can easily be determined and evaluated.

A meaningful statistical analysis summarizes the large amount of data in an easy-to-read way.

The test results can be transferred to a PC for documentation, storage and long-term evaluation. The necessary PC program is supplied together with the instrument.

The PC generates a comprehensive test report (see attached pictures).

Both, the instrument and the PC software, handle five languages: English, German, French, Italian, and Spanish.

## REQUIREMENTS FOR THE PC

- Computer:
- RAM:
- Hard disk:
- Drive:
- Data ports:
- Operating system:
- Monitor:

<b>Minimum</b>	<b>Recommended</b>
Desktop or Laptop	Desktop or Laptop
64 MB	> 128 MB
100 MB available	> 1 GB available
CD-ROM	CD-ROM
USB	USB, Ethernet
Windows 95	Windows 98 or later
800 x 600 pixels	1,024 x 768 pixels
256 colors	16 mio colors.

## TECHNICAL SPECIFICATIONS

- **Air permeability:**  
Measuring range: approx. 2 through 5,000 l/m<sup>2</sup>/s (0.4 through 1,000 cfm)  
Measuring accuracy: ± 3 % of the displayed value  
Test pressure: 98 through 500 Pa  
Test area: 20 cm<sup>2</sup>  
Units of measure: mm/s, l/m<sup>2</sup>/s, l/dm<sup>2</sup>/min, cm<sup>3</sup>/cm<sup>2</sup>/s, m<sup>3</sup>/m<sup>2</sup>/s, m<sup>3</sup>/m<sup>2</sup>/min, m<sup>3</sup>/m<sup>2</sup>/h, cfm
- **Pressure drop:**  
Measuring range: 0.01 through 65,000 Pa  
Measuring accuracy: ± 3 % of the displayed value  
Air velocity: 0.001 through 10 m/s (0.003 through 30 ft/min)  
Test area: 20 cm<sup>2</sup>
- **Thickness:**  
Measuring range: 0 through 5 mm  
Measuring accuracy: ± 3 % of the displayed value  
Units of measure: mm, µm, mil
- **General technical specifications:**  
Test point pitch: 1 through 100 mm (0.04 through 4")  
Maximum measuring speed: 100 m/min at 50 mm test point pitch  
Data ports: USB, RS 232  
Operating time between battery charges: approx. 60 min  
Power requirements: 90 through 264 V, 50 through 60 Hz, 50 W  
Dimensions / weight (instrument): 35 x 21 x 15 cm / 4.5 kg  
Dimensions / weight (total): 47 x 35 x 21 cm / 12.8 kgs  
Operating temperature range: 0°C through + 45°C  
Storage temperature range: - 20 °C through + 60 °C.

The instrument is supplied with a calibration check plate, as well as an ISO conform calibration certificate. The PC

or laptop computer is not part of the scope of supply. The necessary PC software, however, is included.