Tearing resistance is often used as a component for predicting web breaks, and it is also an important property for sack paper. L&W Tearing Tester measures tearing resistance according to the Elmendorf method. Menu-based setup, pneumatic clamping of the test pieces, and automatic calculations of measured values, ensure stable and accurate test results.

L&W Tearing Tester uses the tearing principle according to the Elmendorf method, which is the classical method to measure tearing resistance in paper. L&W Tearing Tester is easy to use, because of its many advanced functions. An easy-to-read display, a simple keypad and interactive, menu-based set-up are a few of the features that have made this instrument a bestseller. The pneumatic clamping and pendulum release, contribute in making results stable and correct, regardless of operator.

Calculations, calibrations, internal tests, alarm functions, zero-setting, pendulum release and reporting of results are all handled by the built-in microprocessor. No correction for pendulum factor is necessary. The serial output can be used to link the tearing tester to a PC for further statistical analysis of measured values.

Benefits
• Built in compensation of pendulum friction and belt resistance
• Easy to calibrate using the check weights which are included in delivery
• Pneumatic clamps
• The built-in microcomputer handles all calculations and set-up functions
• Measured values presented in mN, gf or scale parts
• Easily interchangeable pendulums

DEFINITION
The mean force required to continue the tearing of an initial cut in a single sheet of paper is expressed as the internal tearing resistance. If the initial slit is made in the machine direction, the result is given as machine direction tearing resistance and similarly for the cross machine direction (ISO 1974).
Technical specifications – L&W Tearing Tester, code 009

Inclusive
Pendulum with two check weights

Measurement
Units mN, gram force (gf) or scale parts
Capacity see table below

Results
Measurement values
- individual tearing resistance

Statistics
- mean value
- standard deviation
- coefficient of variation
- maximum and minimum approved values of the series

Connections
Data RS232C
- connectable to L&W Autoline Data Acquisition Workstation

Installation requirements
Power 25 W
Instrument air 0.5–0.6 MPa (70–90 psi)

Options
Alternative pendulum A, B or C (according to the table).
Calibration weights 15–2 130 g, in 64 steps

Dimensions
0.5 × 0.2 × 0.4 m
20 × 8 × 16 in
Volume 0.15 m³
5.3 ft³
Net weight 11 kg
24 lb
Gross weight 23 kg
35 lb

Applicable standards and sample length

<table>
<thead>
<tr>
<th>Standard</th>
<th>Max. tearing capacity</th>
<th>Medium B</th>
<th>Heavy C</th>
<th>Torn test pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPITA/AS 1301.400S</td>
<td>8000 mN (800 gf)</td>
<td>16000 mN (1600 gf)</td>
<td>32000 mN (32000 gf)</td>
<td>1</td>
</tr>
<tr>
<td>BS 4468</td>
<td>800–1600 mN</td>
<td>1600–3200 mN</td>
<td>3200–6400 mN</td>
<td>4</td>
</tr>
<tr>
<td>PAPTAC D.9</td>
<td>0–1500 mN</td>
<td>600–3000 mN</td>
<td>2000–8000 mN</td>
<td>4</td>
</tr>
<tr>
<td>DIN 53128</td>
<td>400–1600 mN</td>
<td>800–3200 mN</td>
<td>1600–6400 mN</td>
<td>4</td>
</tr>
<tr>
<td>ISO 1974</td>
<td>400–1600 mN</td>
<td>800–3200 mN</td>
<td>1600–6400 mN</td>
<td>4</td>
</tr>
</tbody>
</table>

The average amount of work consumed to tear the sheets divided by the total tearing length, is the internal tearing resistance.

The various capacities according to the different standard methods depend on the number of test pieces to be torn simultaneously, as well as on the recommended scale range.