FX 3000 HydroTester IV
Automatic Hydrostatic Head Tester
FX 3000 HydroTester IV with many benefits

The fourth generation of the Hydrostatic Head Tester convinces by its versatility, its user-friendliness and its wide measuring range. The instrument measures in compliance with AATCC 127, ASTM F 1670, BS 2823, DIN 53886, EN 1734, EN 20811, FZ/T 01004, GB/T 4744, GB 19082, ISO 811, JIS L 1092 A, JIS L 1092 B-a+b, WSP 80.6 and many other national and international test standards.

Benefit thanks to a wide measuring range
The FX 3000 HydroTester IV allows measurements up to 7 bar (70 m water column). Different models with different pressure maximums meet every customer requirement.

Benefit thanks to high accuracy
High-precision pressure sensors provide not only for highly accurate results, but also for precise and stable pressure gradients, even in the lower pressure ranges.

Benefit thanks to Automatic Drop Detector
The optional Automatic Drop Detector eliminates the need for an operator to observe the sample and to manually terminate the test. When the preset number of water drops has penetrated the sample, the test is automatically stopped and the result is displayed.

Benefit thanks to Automatic Level Control
The optional Automatic Level Control fills the water tank and compensates for any water loss in between two measurements – reliably and at the push of a button.
**Benefits at a Glance**

- Wide measuring range
- High accuracy
- Automatic Drop Detector
- Automatic Level Control
- High clamping force
- Evaluation and printing options

**Basic data**
- **Style:** 4711
- **Reference:** 29.01.2019
- **Date:** 29.01.2019
- **Time:** 11:58:56
- **Instrument:** FX 3000-4H
- **Serial Number:** 100

**Settings**
- **Program name:** DYNAMIC TEST 60 mbar-min
- **Program number:** 1
- **Program part 1:** Dynamict test 60.0 mbar/min End of Test
- **Drop criterion:** 3rd drop
- **Test area:** 100 cm²
- **Nom / Min / Max:** 4500 / 4050 / 4950 mbar
- **Unit:** mbar

**Statistical analysis**

<table>
<thead>
<tr>
<th></th>
<th>1st drop</th>
<th>3rd drop</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average</strong></td>
<td>4413 mbar</td>
<td>4498 mbar</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>4309 mbar</td>
<td>4403 mbar</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>4507 mbar</td>
<td>4573 mbar</td>
</tr>
<tr>
<td><strong>CV</strong></td>
<td>2.3 %</td>
<td>1.9 %</td>
</tr>
</tbody>
</table>

**Test result**

1: 4309 mbar 4403 mbar
2: 4507 mbar 4573 mbar
3: 4424 mbar 4518 mbar

**Test 1**

4403 mbar

**Test 2**

4573 mbar

**Test 3**

4518 mbar

Test report generated with FX 3300-IV EVA

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**Benefit thanks to a high clamping force**

A manual clamping mechanism, depending on the model supported by a pneumatic cylinder, provides an even clamping force and effectively prevents lateral water leakage.

**Benefit thanks to evaluation and printing options**

The instrument can be connected to a network by ethernet cable or Wi-Fi. With the optional evaluation module, test reports in PDF or XML formats can then be downloaded from the instrument’s web server. Alternatively, an integrated strip printer is available.

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**Image from the Automatic Drop Detector with three drops**

**Touch display for operation of the instrument**
**Technical Specifications FX 3000 HydroTester IV**

**Measuring range:**
- Model FX 3000-4L-PUM: 0 … 500 mbar (5 m water column)
- Model FX 3000-4M: 0 … 2,000 mbar (20 m water column)
- Model FX 3000-4H: 0 … 5,000 mbar (50 m water column)
- Model FX 3000-4H+: 0 … 7,000 mbar (70 m water column)

**Dynamic Test Method:**
- Model FX 3000-4L-PUM: Pressure gradient: 1 … 500 mbar/min
- Models FX 3000-4M and -4H: Pressure gradient: 1 … 1,000 mbar/min
- Model FX 3000-4H+: Pressure gradient: 10 … 4,000 mbar/min

**Static Test Method:**
- Models FX 3000-4L-PUM, -4M and -4H: Test pressure: 10 mbar … max. test pressure, depending on model
- Model FX 3000-4H+: Test pressure: 100 mbar … 7,000 mbar

**Program Test Method:** Freely programmable time-pressure-sequences

**Measuring accuracy:** ± 0.5 % of the displayed value ± 1 mbar

**Unit of measure for test pressure:** mbar, bar, mm w.c., cm w.c., m w.c., kPa, psi

**Test area:** 100 cm² (10 cm², 26 cm² and 28 cm² as options)

**Sample thickness:** 0 … 5 mm

**Clamping force:**
- Model FX 3000-4L-PUM: Approx. 2,000 N (manual)
- Model FX 3000-4M: Max. 8,000 N (manual, supported by pneumatic cylinder)
- Model FX 3000-4H: Max. 20,000 N (manual, supported by pneumatic cylinder)
- Model FX 3000-4H+: Max. 25,000 N (manual, supported by pneumatic cylinder)

**Data ports:** USB 2/3, Ethernet and Wi-Fi as options

**User interface:** Touch display

**Power requirements:** 90 … 240 V, 50 … 60 Hz, 200 W

**Compressed air requirements:**
- Model FX 3000-4L-PUM: No compressed air required, internal pump
- Model FX 3000-4M: 4 … 8 bar, clean and dry, approx. 5 Nl / test cycle
- Model FX 3000-4H: 6 … 8 bar, clean and dry, approx. 10 Nl / test cycle
- Model FX 3000-4H+: 10 … 15 bar, clean and dry, approx. 10 Nl / test cycle

**Dimensions (w x d x h):** 40 x 65 x 71 cm

**Weight:** Approx. 70 kg

The scope of supply includes an ISO conform calibration certificate, a hand switch, a drain hose and a skimmer.

**Subject to change**

**Accessories**
- FX 3000-IV AUT Automatic Drop Detector
- FX 3000-IV ALC Automatic Level Control
- FX 3000-IV 10, -26, -28: 10 cm², 26 cm² and 28 cm² test heads
- FX 3000-903 Penetration cell according to ASTM F 1670
- FX 3000-NWH, -NWE, -NWZ Protective sleeves 100 cm², 26/28 cm² and 10 cm² for fine nonwovens
- FX 3000-IV EVA Evaluation module for downloading of test reports
- FX 3000-IV STP Integrated Strip Printer for printing of a basic test protocol
- FX 3000-IV PRI Combination of FX 3000-IV EVA and -STP
- FX 3000-IV WLN 2 Wi-Fi module for connecting the instrument to the network via Wi-Fi.