ABSORPTION TESTER

This absorbency testing system is ideal for research and development as well as quality control applications. Its small size and rugged design make it suitable for both the laboratory and the production floor.

It is a table top instrument that measures the absorption-desorption rate and total capacity of absorbent materials in real-time.
Absorption is measured based on time and the amount of fluid displaced from a fluid reservoir.
The desorption test can be run after the absorption test and measures the amount of fluid that is removed from the sample.
Specific applications include paper products, tissue, napkins, sanitary products, super absorbers, non-wovens, textiles and diapers.

Operation

A sample is placed on the test table which is connected to a liquid reservoir by a tube. A highly accurate and reliable optical sensor checks and zeros the fluid level at the beginning of a test to ensure accuracy. The optical system also monitors the fluid reservoir during a test and maintains a constant fluid level at a preset differential head ensuring high sample throughput and virtually limitless absorption capacity.

Once the fluid level is zeroed, a small pulse of fluid is emitted through the tube and is absorbed by the sample.
The test cycle may be given a time limit or terminated when a preset rate of absorption is reached. Operator introduced variations are eliminated with this system as everything is fully automated.

Model ATS-600

Features

- Powerful software :
  designed for easy operation - intuitive Windows 98/NT® interface to define test parameters and run tests. During the test, the data is clearly displayed and stored and can be downloaded to a computer for storage and analysis.
  Integrated data analysis is automatically calculated and the raw data can be exported to other spreadsheets. A test result summary page is provided on each test that gives a total view of a test at a glance.

- Absorption and desorption rate and capacity measurements

- Fully automatic operation

- Results available in absolute grams, grams / gram or grams / m^2

- High sample throughput

- Modular, self-contained design

Physical specifications

Dimensions
46 x 38 x 41 cm (WxDxH)

Net Weight
12 kg

Options

- **Directional flow rate - orientation system** :
  this optional enhancement provides directional absorption rate, sheet orientation information and MD/CMD index measurement. This information provides a total picture of the sheet absorption properties and structure.
  Directional absorption rate is determined by measuring the time required for a fluid to travel from the introduction point to the 8 equally spaced electrodes positioned every 45° around the center.

- **Static/dynamic pressure testing** :
  provides absorption rate and capacity measurements under static or dynamic pressure.
  The operator has total control over the amount of pressure applied to the sample at all times.
  This option requires compressed air and can be combined with the “directional flow rate-orientation system” to provide directional absorption/sample orientation information under pressure.
  Originally developed for battery separators, it has several applications in other industries including sanitary products.

Performance data

Test types
Timed and programmable slope

Time range
51 to 999 seconds

Absorption slope range
0.005 gms/1 second to 0.005 gms/53 minutes

Maximum sample absorption capacity
Virtually unlimited

Weight sensitivity
0.005 grams

Power Supply
120 V, 60 Hz - 220 V, 50 Hz - 2 A

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