

# Gurley Densometers

## Standard & High Pressure

Densometers are the accepted standard for measuring the porosity, air-permeability or air resistance of sheet-like materials such as papers, wovens, plastics and membranes. There are several models available for testing a wide range of materials.

### Standard Pressure Densometers

The densometer test measures the time required for a given volume of air to flow through a standard area of material under uniform light pressure. The air pressure is supplied by an inner cylinder of specific diameter and standardized weight, floating freely within an outer cylinder partly filled with oil to act as an air-seal. The sample material is held between clamping plates having a circular orifice area of 1.0 (standard), 0.25 or 0.1 square inch (optional).

### High Pressure Densometers

The high pressure densometers operate similarly to the Standard Pressure Densometers but are as great as twenty-five times faster. The increased speed is due to higher air pressure (12.20 inches H<sub>2</sub>O) and air volumes are much smaller (2.5cc to 30 cc).

### Model 4320 Digital Timing Attachment

The Model 4320 works with all Gurley Densometers to provide automatic & manual program options, a built-in calibration program and calculation of mean & standard deviation. These features ensure an increased accuracy and productivity of the densometers. It has both RS-232 and Centronics output for interfacing with printers and PC's.

*Specifications subject to change without notice.*



▲ A wide range of densometers are available for measuring porosity, air permeability and smoothness.

## APPLICATIONS

- Test Filters, porous bags & materials where controlled porosity is essential.
- Test insulating materials for air resistance.
- Control the selection of materials with the correct degree of liquid absorption (ink, varnish, sizing).



**Model 4110** includes a 20 oz. cylinder and 1.0 square inch orifice lower clamp plate and upper adapter. The 20 oz. cylinder is graduated to 25cc for the first two spaces and 50cc for each space thereafter, for a total of 300cc. Typical of all new-style densometers, clamping pressure is supplied by turning a knob which raises and locks the lower lifting assembly and clamp plate. Both the automatic timer and instrument base are recommended with these densometers and are ordered separately.

**Model 4118** is a Model 4110 with a 5 oz. cylinder in place of the 20 oz. inner cylinder and 0.1 sq. in. clamp and adapter plates instead of the 1.0. It is used to test fabrics and other more permeable materials for porosity, permeability and air-resistance.

**Model 4140N** is identical in function to Model 4110 and includes the weighted arm assembly found on 4190. Uniform dead-weight clamping pressure for tests is supplied by the unweighted lever arm or by the addition of either 0.34 lb. (optional) or 2.0 lb. (standard) weights. These combinations produce clamping pressures of 3.2 psi, 9.6 psi and 40.5 psi respectively. With the addition of several test plates, a paper punch, 0.34 lb. weight and storage box, the 4140 becomes a 4190. Order the digital timer and base separately.

**Model 4190N** is identical in function to 4110 and includes the weighted arm assembly found on 4190. Uniform dead-weight clamping pressure for tests is supplied by the unweighted lever arm or by the addition of either 0.34 lb. (optional) or 2.0 lb. (standard) weights. These combinations produce clamping pressures of 3.2 psi, 9.6 psi and 40.5 psi respectively. With the addition of several test plates, a paper punch, 0.34 lb. weight and storage box, the 4140 becomes a 4190. Order the digital timer and base separately.

**Model 4150N – High Pressure Densometer**, this model measures porosity and air-permeability of materials. It includes a 1.0 square inch clamping plate, adapter and porosity calibration plate. The inner cylinder is graduated to 2.5cc for the first two spaces and thereafter each 5cc for a total of 30cc. Clamping pressure is supplied by turning a knob which raises and locks the lower clamping plate. Order the automatic digital timing attachment and instrument leveling base separately.

**Model 4250N – H-P-S Tester** was originally developed to test the printing quality of paper. In more recent years, its use has spread to other industries in testing or checking other material surfaces for smoothness or porosity. In dealing with the printability of paper, it has been found that smoothness is the most important factor in printing quality. The Gurley 4250 H-P-S Tester measures a given air flow through the sample for porosity tests and leakage across its surface(s) for smoothness tests. This is accomplished by changing a variety of adapter and clamping plates. This model is identical to the 4150 and 4240 for porosity tests and their components. Additionally, it includes a 0.34 lb. weight, smoothness test clamping plate, punch and accessory storage box. Both the automatic digital timer and instrument base are recommended and should be ordered separately.

**Model 4240N – High Pressure Densometer with Weighted Arm Assembly**, is identical in function to 4150 and includes the weighted arm assembly found on 4250. Uniform dead-weight clamping pressure for tests is supplied by the unweighted lever arm or by the addition of either 0.34 lb. (optional) or 2.0 lb. (standard) weights. These combinations produce clamping pressures of 3.2 psi, 9.6 psi and 40.5 psi respectively. With the addition of the smoothness test plate, a paper punch, 0.34 lb. weight and storage box, the 4240 becomes a 4250. Order the digital timer and base separately.