Gurley Model 4340N Automatic Densometer & Smoothness Tester

Since 1923, Gurley Densometers have been the industry standard for testing the porosity and smoothness of paper, paperboard and other flat-sheet materials. With the introduction of the Model 4340 Automatic Densometer, Gurley continues this tradition by combining the abilities of our textile, standard and high pressure Densometers, S-P-S Testers as well as our programmable digital timers and provides a reading in seconds, thus reducing the time required to test a material. At Gurley, we are committed to serving the needs of the industry.

Applications include:

- In manufacturing and printing, to control the selection of materials affording the appropriate degree of liquid (ink, varnish, sizing) absorption.
- Testing filters, porous bags & materials where controlled porosity is essential.
- Testing insulating materials for air resistance.
- As a supplement to other physical tests enabling regulation or strength of manufacturing process to give the desired formation, appearance or strength since there is a close correlation in a given material between air permeability and these other properties.

Overview

The Model 4340 differs from the traditional manual Densometers in several ways. First, the Model 4340 utilizes the latest mass flow and servo-regulator technology to provide a quick, accurate test that is oil-free. Second, pneumatic cylinders insure both a consistent clamping pressure as well as an automatic test feature; which allows the user to test a sample several times without constantly opening and closing the test area by hand. Third, with the addition of an auto-drive mechanism, the user can program the number of tests as well as the span they are tested over. Therefore, a sheet or strip of paper can be analyzed automatically, with output in either Gurley seconds, Sheffield, Bendsten or Bekk equivalent seconds.

By utilizing several state-of-the-art mass flowmeters, in addition to a servo-regulator, the Model 4340 can accurately test both low and high flow materials that have traditionally tested between 0 and 50,000 ‘Gurley Seconds’. A typical test involves the Model 4340 automatically choosing the optimum test pressure (called ‘AUTO-SELECT’) based on the amount of flow recorded on the corresponding flowmeter and then displaying the test time. At the end of each manual test, the user can toggle between either Gurley units, Bendsten, Sheffield or Bekk equivalent units. If an automatic test was chosen, the user can toggle between alternate equivalent units, after the mean and standard deviation has been calculated and displayed.

If desired, the user can predetermine the units they want displayed (called ‘USER-DEFINED’). This feature allows the user to directly compare his or her older manual unit with the results achieved with the Model 4340, even though their particular material would typically test at a different pressure and provide different Gurley values (e.g. standard ‘Gurley Seconds’ vs. high pressure seconds). Please refer to ‘TEST TYPE SETTINGS’ for more information.

Requirements

In order for the Model 4340 Automatic Densometer to work properly, one needs the following:

- ‘Shop-air’ or an air-compressor with a minimum of 60 PSI output.
- A filter/regulator/desiccant combo which cleans, controls and dries the air so not to damage the instrument (made available by Gurley.)
- 110 or 220 VAC power source (Note: A universal power supply is standard in every Model 4340.)

Options

- Compressor and air filter/regulator/dryer combo
- Printer, dot matrix, roll feed
- Interchangeable orifices (1.0 standard, 0.25 and 0.10 sq in optional)

Specifications

- Dimensions: 15.75” long x 12.5” high x 9.25” wide
- Weight: 60# (27kg)
- Internal power supply (110-220 VAC)
- Requires at least 60 PSI