

## GURLEY Smoothness tester and densometer



This unit measures the air permeability and smoothness of all kind of sheet materials. It combines the abilities of textile, standard and high pressure densometers, S-P-S testers as well as programmable digital timers.

### Applications

- » 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 the other properties.

### Features

- » Air permeability and smoothness testing with one instrument
- » Automatic and manual tests are possible
- » Reading in seconds
- » Automatic sample transport
- » RS-232 interface and printer connection
- » Statistical analysis of results - possible results
  - » Air permeability
    - Standard Gurley (corresponding Model 4110, 4190)
    - Low pressure Gurley (corresponding Model 4118)
    - High pressure Gurley (corresponding Model 4150, 4250)
    - Calculated Sheffield-units
    - Calculated Bendtsen-units
  - » Smoothness
    - Standard Gurley
    - Calculated Sheffield-units
    - Calculated Bendtsen-units
    - Calculated Bekk-units

## Overview

The Model 4340 differs from the traditional manual densometers in several ways. First, the Model 4340 utilises 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 tests as well as the span they are tested over. Therefore, a sheet or strip of paper can be analysed automatically, with output in either Gurley seconds, Sheffield, Bendsten or Bekk equivalent seconds.

By utilising 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 'AUTOSELECT') 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 calculated 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').

## Technical specifications

- » Power Requirements 220 V, 50Hz
- » Air supply Requires at Least 4.5 bar

## Physical specifications

- » Dimensions 23.5 x 40 x 32 cm (WxLxH)
- » Net Weight 13 kg

## Standards

ISO 5636/5, BS 5926, CPPA D-14, SCAN P19, P53, APPITA/ AS 1301-420, TAPPI T-460, T-490, T-536-88, ASTM D726-5, D202-77

## 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
- » 4.5 bar output.
- » A filter/regulator/desiccant combo which cleans, controls and dries the air so not to damage the instrument (made available by Gurley)
- » 220 V power source
- » (Note: A universal power supply is standard)

## 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)