

# Gurley Precision Instruments

Since 1845

ISO9001-2000



# Company Overview

## □ Gurley Precision Instruments

- Established in 1845
- Products include:  
optical encoders,  
optographics, hydrological  
equipment and dro's  
for machine tools
- Achieved ISO 9001  
accreditation in  
February 1996



# Physical Test Equipment

- ❑ **Bending resistance/stiffness testers:** flat-sheet materials and medical tubing
- ❑ **Cobb testers:** water absorption
- ❑ **Air-permeability testers:** wovens and non-wovens
- ❑ **Densometers....**



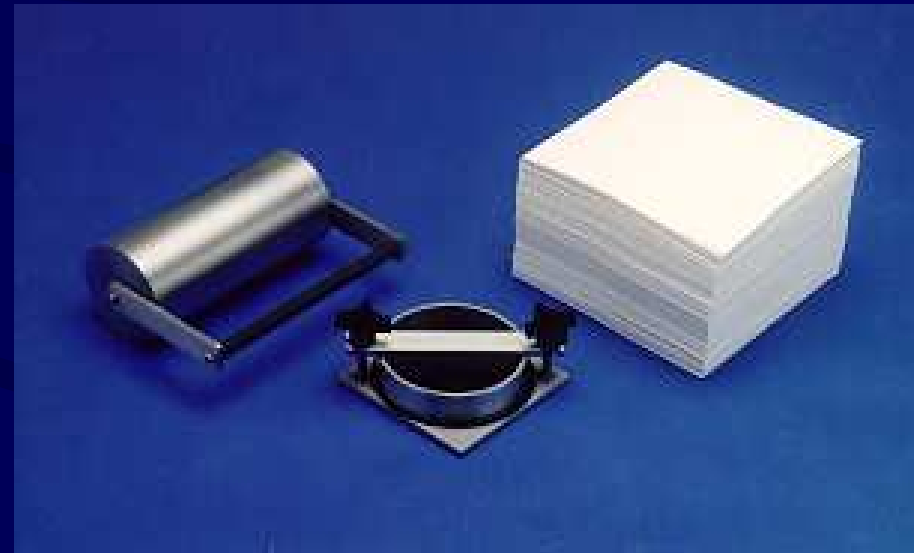
# GURLEY STIFFNESS TESTERS

- Measuring flexibility/ stiffness in materials such as packaging, playing cards, fabrics, films and more.
- Digital removes user error and conversion tables
- RS-232 Communications
- Conversion to Taber units available
- Tubing adapter available



# GURLEY COBB TESTERS

- Determine liquid (water, oil, chemical etc.) absorption or resistance of treated and untreated papers, boards, fabrics and other materials
- Inexpensive
- easy to use



# Gurley Densometers: History & Benefits

## □ History:

- Originated in 1923
- International standards for porosity and air-resistance

## □ Benefits:

- Simple
- Durable
- Inexpensive
- Recognized



# Gurley Densometers

## ❑ Low-pressure: Model 4118

- Designed for materials of high permeability (tissue, wovens and some non-wovens)
- 1.22" W.C. (0.30 kPa) pressure drop
- Less than 6 Gurley seconds



# Gurley Densometers

## □ Standard: Model 4110

- Designed for materials of normal permeability (uncoated paper, board and some non-wovens)
- 4.88" W.C. (1.22 kPa) pressure drop
- 0 - 600 Gurley seconds





# Gurley Densometers

## ❑ High-pressure: Model 4150

- Designed for materials of low permeability (coated paper, board, battery separators)
- 12.33" W.C. (3.07 kPa) pressure drop
- 600 - 50,000 Gurley seconds



# Gurley Densometers

Low Pressure Gurley		Standard Pressure Gurley			High Pressure Gurley		
Volume (cc)							
300	100	100	100	100	10		
Or if Ice Size (square inches)							
0.10		0.10	0.25	1.0	0.10	0.25	1.0
Equivalent Gurley Seconds							
.188	.0625	.0156	.00625	.00156	.000625	.00025	.0000625
1	.333	.033	.0333	.00833	.00333	.00132	.000333
3	1	.25	.1	.025	.01	.004	.001
7.5	2.5	.625	.25	.0625	.025	.01	.0025
12	4	1	.4	.10	.04	.016	.004
30	10	2.5	1	.25	.1	.04	.01
120	40	10	4	1	.4	.16	.04
3000	1000	250	100	25	10	4	1

# What is so important about the 'Gurley Master Units'?

- ❑ Every Densometer in existence is traceable to the units located at our lab in Troy, NY
- ❑ Only Gurley has the units that the whole industry adheres to (even so called 'copy cat' units)
- ❑ Used to establish the conversions for the Model 4340 Automatic Densometer for porosity

# The GENUINE GURLEY™ Model 4340 Automatic Densometer

- Porosity and Smoothness Tests
- Automatic and manual test modes
- output in 20 seconds or less regardless of normal test time
- wide selection of outputs/units
- interchangeable orifices
- User programmable
- RS-232 communications
- Conforms to TAPPI - T460, T-536, T-490 and others.



# Overview: Features

## □ Benefits:

- Range: 0 - 50,000 Gurley seconds
- Consistent clamping
- Auto-drive mechanism
- Calculates mean and standard deviation automatically
- User programmable to any manual setup
- No oil required
- Traceable to the Gurley Master Units

# Some Current Customers

- Republic Paperboard
- National Gypsum
- Philip Morris
- Hoechst Celanese
- International Paper
- Nylco/Worthern
- Stone Container
- Reemay
- Lydall
- Rexam
- Abbott Labs
- Hong Kong Graphic Arts
- Varta Battery