



Guth Laboratories^{INC}

Model AS-2110-DR Guth Model 2100



Model 2100

ALCOHOL BREATH TEST SIMULATOR

Digital Readout - Microprocessor Controlled

The Guth Model 2100 was designed using a microcontroller, eliminating broad range mercury-in-glass thermostats. All components are chrome plated or stainless steel within the wet chamber area of the instrument. The all metal top housing is chrome plated brass, preventing rust and corrosion and provides for uniform headspace heating and mechanical security for all fasteners. The simulator utilizes a graduated laboratory glass container. The simulator has external fuse protection. The circuit boards have plug-in connectors. A calibration port is provided for insertion of a National Institute of Standards and Technology (NIST) reference mercury-in-glass thermometer to verify the proper operating temperature.

NHTSA APPROVED

PERFORMANCE

Temperature stability: $\pm .02^{\circ}\text{C}$

Accuracy of reading: $\pm .05^{\circ}\text{C}$

Warm-up time: <10 minutes*

Recovery time from test: <2 seconds

Liquid level 500 ml

*Ambient @20°C

SPECIFICATIONS

Construction: All metal, chrome plated

Weight: 5 lbs



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Readout: Bright LED digital display
Sensor: Electronic Solid State
Power Input: 120 VAC, 60 cycle
220 - 240 VAC, 50 cycle
72 Watts

RS-232, 9600 Baud Digital Serial output of temperature & instrument status (polled)

IDLE MODE SHUTDOWN - Heater & motor turned off, idle mode displayed, controlled via RS-232 port

FEATURES Delivery tube heated for ethanol temperature stability Eight bit microprocessor control High stability internal voltage reference 12 bit digital accuracy from A/D converter Internal AC power transformer with AC connections isolated Software coded serial number Visual indication of system operation during warm-up (dot scan) Visual indication of heater activity via dot display Visual indication of system malfunction (Malfunction is displayed as an error number) Audible alarm indication of malfunction RFI protected

SYSTEM SHUTDOWN UNDER THE FOLLOWING CONDITIONS No solution in container Motor stops No output from shorted or open temperature sensor No change in solution temperature after initial 15 min. startup Temperature of solution $<33.8^{\circ}\text{C}$ / $>34.2^{\circ}\text{C}$ RFI present No reading from internal A/D converter

ERROR STATUS CODES

Error 1 = No solution or motor has stopped
Error 2 = Sensor shorted
Error 3 = Sensor open
Error 4 = Temperature $>34.2^{\circ}\text{C}$
Error 5 = RFI present
Error 6 = Heater inoperative
Error 7 = Temperature $<33.8^{\circ}\text{C}$
Error 8 = RS-232 error
Error 9 = Memory error

WARRANTY

One year, parts and labor