

HEATED AIR BATHS for FOAM TESTING

- Meet the Requirements of ASTM D892 and D6082 for Foaming Characteristics
- Temperature Stability of $\pm 0.5^{\circ}\text{C}$
- Operating Temperatures of 24° , 93.5° , and 150°C
- Digital Indicating PID Temperature Controller
- Rapid Sample Heat Up
- Eliminates Liquid Bath Medium for Improved Safety and Cleanliness
- Two Channel, Automated Mass Flow Control of Air Flow
- Automatic Two Channel Event Sequencer
- Two Channel Exit Air Totalizer

Model 323 is a four test position heated AIR bath for measuring the foaming tendencies of lubricating oils in the temperature range of $+24^{\circ}$ to $+150^{\circ}\text{C}$. The use of heated air for heating test samples improves the overall safety by eliminating the use of the potentially unsafe, smoking, dripping, flammable, hot liquid bath medium. Conventional bath fluids darken and require frequent replacement. Use of silicone oils (strong defoamers) is not recommended.

Model 323 uses a digital indicating (0.1°C resolution) PID controller for controlling the air temperature in the chamber, with a stability of better than $\pm 0.5^{\circ}\text{C}$ over the operating range. Novel, sophisticated heating system and control allows the sample to reach test temperature in less than the 60 minutes as specified by the ASTM D6082 method. Sixteen inch long temperature probes are provided for each of the 4 test positions for digital display and precise control of sample temperature.

For improved consistency of results, two digital indicating mass air flow controllers are used for precisely measuring and controlling the amount and rate of air delivered to the air diffuser. The air flow is controlled at either a rate of 94 (for ASTM D892) or 200 ± 5 mL/min. (for ASTM D6082).

An automated, two channel sequencer automatically starts the air flow after the 5 minutes diffuser soak time, after 5 minutes stops the air flow and sounds an alarm, and again sounds an alarm after the 10 minutes settling period.

A touch screen allows the operator selection and full adjustment of all test parameters. All key test parameters are displayed during the test. Also displayed is the time remaining to the next test event requiring operator attention.

A multipane insulated window allows full view of the test cylinder for observation of the foam.

Also for Methods:

ASTM	D892, D6082
IP	146
DIN	51-566
NF	T60-129
FTM	791-3213



▲ **Model 323**

An assembly with a pair of fans is available as an option to accelerate cooling of the air bath to the next lower test temperature. A chilled water/glycol mixture is required to maintain 24°C (75°F) in the air chamber for ASTM D892 Sequence I and III testing. The chilled mixture is also helpful for rapid cool down of the air chamber for the next test.

Model FM-16 refrigerated chiller suitable for this task is also available.

Model 323-H is identical to Model 323 with the exception that its operating temperature is only 93.5° and 150°C . It is suitable for ASTM D892 Sequence II only, and D6082 test method.

Model 399-4 is similar to Model 323 but is designed to operate at only 24°C . An internal, fluid free refrigeration system maintains 24°C even in a warm laboratory environment.