

Bostwick Consistometer - Instructions

1. INTRODUCTION

The CONSISTOMETER is an instrument used to determine the consistency of viscous materials by measuring the distance that the material flows under its own weight in a given time interval. The instrument allows producers of such viscous products as jellies, preserves, sauces, etc. to predetermine formulas for their product and to standardize production lots.

2. DESCRIPTION

The CONSISTOMETER is made of stain-resistant metal. It consists of a trough divided into two sections by a gate. The smaller section serves as a reservoir for the material to be tested. The larger section is graduated along the bottom in one-half centimeter divisions beginning at the gate. The gate is spring-operated and is held by a trigger that permits instantaneous release. In operation, the gate slides vertically in the grooves of two posts extending upward from the sides of the trough. The L-shaped trigger release hooks over the top of the gate to hold it in a closed position. Two leveling screws are located at the reservoir end of the trough and a circular spirit level is located at the other end of the trough.

3. SETTING UP

- Place the CONSISTOMETER on a LEVEL surface and adjust the leveling screws until the bubble in the circular level is centered. Check the level by placing another spirit level, on the bottom of the trough about midway along the length of the graduated section. The two levels should agree. (If they do not, then proceed as follows: Adjust the leveling screws until the bubble of the level in the trough is centered. Then, bend the pointed, vertical lip of the CONSISTOMETER slightly until the two levels agree. Do not bend the horizontal part of the lip as this may prevent proper leveling of the instrument.)
- Once the CONSISTOMETER is level close the gate and hook the trigger release over the top.

4. OPERATION

- Fill the reservoir with the material to be tested and level off the top with a spatula or other straight-edge. (The material to be tested should be at a consistent temperature, usually 20 degrees centigrade or 68 degrees Fahrenheit and should be a uniform temperature throughout.)
- Press down on the trigger to open the gate and, at the same time, start a stopwatch. At the end of the selected time period, determine how far the material has flowed along the trough. Take the maximum reading at the center of the trough and the minimum reading at the edge of the trough, and average the values. The average value is then compared against a previously determined standard.
- When using the CONSISTOMETER, make certain that the gate is fully closed before filling the reservoir. The reservoir should always be filled completely to the top and levelled off.
- A material should always be tested as quickly as possible after being removed from the constant temperature oven or bath to prevent any consistency changes caused by temperature change or exposure to air.

5. MAINTENANCE

No maintenance should be necessary except occasional checking of the level (as explained in Section 3) and cleaning of the troughs after each test. Should any difficulty occur, contact CR Instruments Ltd for further instructions.

Important:

When cleaning the Consistometer make sure the water temperature is not greater than 55 degrees centigrade.

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Included with your CR Instruments Bostwick Consistometer is an extra spirit level, this can be used as an extra check to ensure the unit is level.

It is recommended to carry out regular checks as the fixed spirit level at the end of the Bostwick Consistometer can get out of alignment due to the spirit level mounting getting bent.



Our Bostwick Consistometers are manufactured in accordance with ASTM Standard, Designation: F1080 – 93 (Reapproved 2008).

It's important to understand that the gate in front of the reservoir is not a waterproof seal when closed, therefore it is possible that certain types of samples under test can leak from the bottom and sides of the gate.

This will have no effect on the results of a test, if there is a small leakage from the gate it's recommended to load the sample into the reservoir then immediately start the test.

As all Bostwick Consistometers are manufactured to a tolerance range, the amount of leakage may vary slightly from instrument to instrument.