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Instruction Manual:
Consistometer

Code	Length	Material
VBOS-355-75	240mm	Stainless Steel
VBOS-355-80	300mm	Stainless Steel
VBOS-355-90	500mm	Stainless Steel

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 viscous products such as jellies, preserves, sauces, etc., to predetermine formulas for their product and to standardize production lots.

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 levelling screws are located at the reservoir end of the trough and a circular spirit level is located at the other end of the trough.

Setting Up the Instrument

To ensure accurate measurements with the consistometer, follow these steps:

1. Place the consistometer on a flat surface and use the leveling screws to center the bubble in the circular level.
2. Confirm the level by putting another spirit level on the trough's bottom, roughly midway along the graduated section. Make sure both levels match.
3. If they don't match, do the following:
    a. Adjust the leveling screws until the bubble in the trough's level is centered.
    b. Slightly bend the pointed, vertical lip of the consistometer until both levels align. Be careful not to bend the horizontal part of the lip, as it may affect the instrument's leveling.
4. Close the gate and hook the trigger release over the top.
5. Prepare the material to be tested by maintaining it at a constant temperature, typically around 20°C (68°F), for several hours to ensure uniform temperature throughout.

Operation

1. Fill the reservoir with the material you want to test and level it off using a spatula or a straight-edge.
2. Press the trigger to open the gate while simultaneously starting a stopwatch.
3. After the specified time, measure how far the material has flowed along the trough
4. Record the maximum reading at the center of the trough and the minimum reading at the edge of the trough.

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5. Calculate the average of these two values.
6. Compare the average value to a previously established standard.

Additional tips:

- **Ensure the gate is fully closed before filling the reservoir.**
- **Always fill the reservoir to the top.**
- **Test the material as quickly as possible after removing it from a constant temperature oven or bath to prevent consistency changes due to temperature fluctuations or exposure to air.**

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 Klipspringer Ltd for further instructions.

Additional Instructions

It is recommended to carry out regular checks using a spirit level in the centre of the trough as the bubble level at the end of the Bostwick Consistometer can get out of alignment due to the 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.

Important:

When cleaning the Consistometer make sure the water temperature is not greater than 50 degrees centigrade. Be careful when cleaning as the bubble level is the only part that is not made from stainless steel.

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