

High Temperature Parallel-Plate Viscometers for 1100°C and 1600°C: Rheotronic® III



Introduction

Used for measurements of medium viscosity glasses and fused silica. Only a small specimen is required, typically 8 mm in diameter and 6 mm high. The specimen is deformed between two plates as a function of temperature and applied load. The viscosity is calculated from the time/deformation and load data.

Mainframe

The cabinet (1.1) houses the temperature programmer and signal conditioner. Measuring Stand (1.2), 30" high, supports furnace, measuring head and pedestal plate.

Measuring Sensor

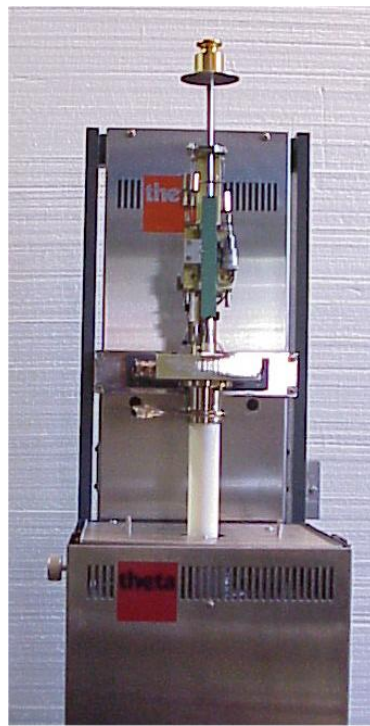
is the heart of the instrument. The patented parallel-plate viscometer sensor consists of a linear variable differential transformer with a 10 mm range. Loads

up to 1.2 kg can be applied. A built-in micrometer permits easy calibration. Specimen holder assembly consists of alumina or fused silica, load rod, parallel plates, differential push rod for displacement measurements and a thermocouple.

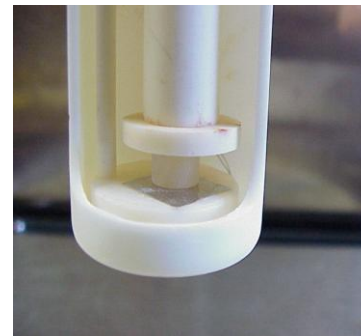
Furnace, Controller and Signal Processor work in conjunction with PC and our Rheosoft Software. NBS reference materials allows calibration at high temperature



Measuring Stand in loading Position



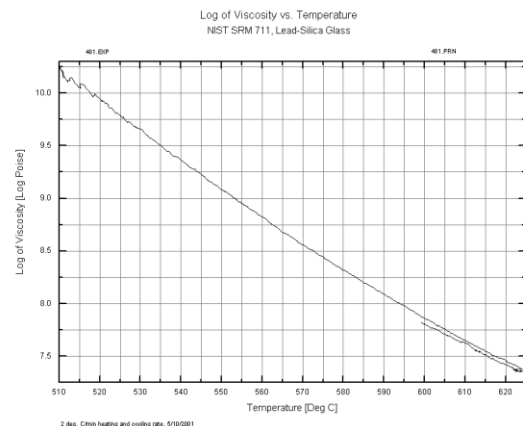
Measuring Head (cover removed) in measuring Position



Specimen Holder



Specimen (original and pressed)



Graph Viscosity vs. Temperature