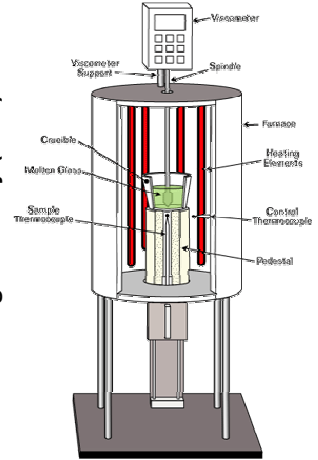
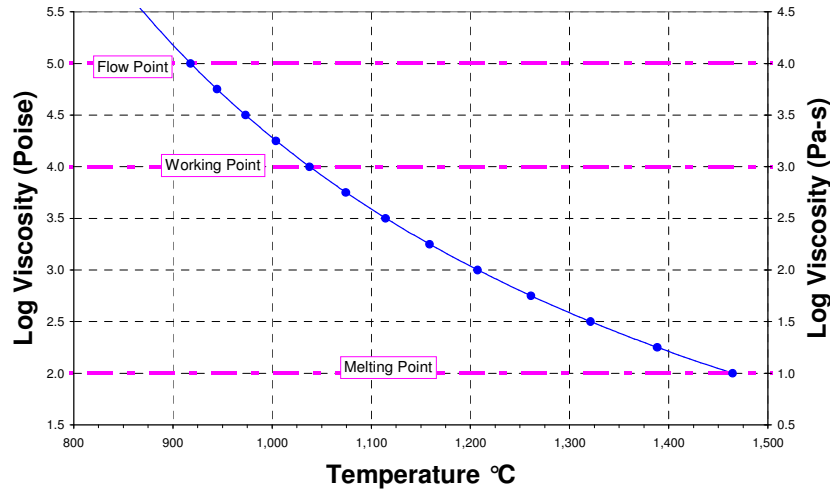


### Molten Glass Viscometer

(Rotating Spindle Viscometer – for ASTM C-965 Procedure A)

Molten Glass Viscosity as a Function of Temperature



### Orton Model RSV Series

The Orton Model RSV Viscometer is designed to measure the viscosities of molten glasses at various temperatures according to the ASTM C-965 Procedure A. The Model RSV is a rotating spindle viscometer using the constant angular velocity method to measure viscosities at specific temperatures in order to generate a curve of the visco-elastic behavior of a molten glass, as shown in the graph above. This system can also be used for testing according to ASTM C-1276 guidelines.

Orton designs the system to accommodate a platinum crucible provided by the user. The platinum crucible approximately 74mm tall with a top and bottom OD of 68mm and 41mm respectively, with capacity of approximately 200ml.

The crucible containing the glass sample is placed on a motorized lift pedestal, and is heated by a vertical, fixed position, tube furnace with molybdenum disilicide heating elements and Platinum/Rhodium control thermocouple. A process control console contains a multi-segment programmable PID controller, phase angle fired SCR, current limiting SCR power control module, ammeter, and digital temperature display, and is used to control the thermal cycle of the furnace during the various ramps and holds. The molten glass is held at a predetermined soak temperature until the thermal equilibrium is reached, and is monitored by the sample thermocouple at the base of the crucible. The spindle is manually lowered into the molten glass and the Brookfield viscometer rotates the spindle at a predetermined rotational speed. The readings on the Brookfield display are manually monitored and recorded or Automatically data-logged as a function of rotational velocity and glass temperature. This process is repeated for a variety of rotational speeds and a variety of soak temperatures. Data is compiled and the viscosities are calculated according to the ASTM C-965 Procedure A guidelines.

	Model RSV-1600	Model RSV-1700
Computer interface	Optional Ethernet	Optional Ethernet
Software	Optional PC Programming, Monitor and Analysis	Optional PC Programming, Monitor and Analysis
Process Controller	Honeywell 2 input	Honeywell 2 input
Rotational Viscometer	Brookfield Series – choice of ranges (poises): log 1.2 to 4.3, log 2.0 to 5.6, log 2.4 to 5.9, or log 3.0 to 6.5	Brookfield Series – choice of ranges (poises): log 1.2 to 4.3, log 2.0 to 5.6, log 2.4 to 5.9, or log 3 to 6.5
Power Requirements	200-240 VAC, 20 amp, 1 phase, 50/60 Hz	200-240 VAC, 30 amp, 1 Phase, 50/60 Hz
Sample Crucible	Platinum (sold separately)	Platinum (sold separately)
Viscometer Spindle	Platinum (sold separately)	Platinum (sold separately)
Temperature range	RT - 1600°C	RT - 1700°C