

Viscosity

Mooney Viscometer Mk III

The Mk III Mooney Viscometer (formally Negretti) measures and records the viscosity of natural, synthetic or compounded rubber.

Features

- Simple and robust mechanical system producing reliable results
- Precise digital temperature control
- Four models to suit differing requirements & budget
- Automatic operation and data recording

New:

Software for the V3/4 model which allows two-way communication with a PC via a RS 232 interface.



Principle of Operation

Conforming to international standards, the Mk III is a shearing-disc viscometer in which the rubber sample is compressed pneumatically in a cylindrical chamber formed by cavities in 2 opposing dies.

The viscosity is determined by measuring the torque required to turn the rotor inside the chamber which is heated to a set temperature. As the rotor shears the sample, a torque reaction is transmitted through a worm shaft, which deflects a torsion beam. A dial gauge (analogue or digital) measures the beam's displacement.

With its simple mechanical drive system and well-proven design, the Mk III has been in use for many years and has become the benchmark viscometer for many laboratories.

In May 2000 Wallace purchased the exclusive rights from Negretti Automation to manufacture the Mark III Viscometer. Wallace have since developed an upgraded Mark III Viscometer, featuring modern control electronics, a safety guard and new PID temperature controllers with digital displays. The well-proven electromechanical features of the original Mark III design remain unchanged.

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Four versions available:

Mooney Viscometer - Analogue Model, V3/1

- Similar to Negretti with analogue dial gauge
- Uses additional digital temperature controllers and updated components

Mooney Viscometer - Digital Basic Model, V3/2

- Uses digital dial gauge
- With new electronic control system to automate timing of data collection
- Fast temperature control of the dies

Mooney Viscometer - PC Model V3/4

- Same specification as V3/2 plus:
- PC interface (RS 232) for 2 way communication to PC
- Mooney V3/4 Software available as extra

Mooney Viscometer - Printer Model, V3/3

- Same specification as V3/2 plus:
- Compact printer with high speed print capability
- 24 character column print output
- Date and time recorder
- Traceability of aborted tests

Standard Accessories:

Large and small rotor, Tool set

Optional Accessories:

V3/Cal calibration kit, S6/15 Mooney sample cutter, Upgrade kits, Mooney V3/4 Software for PC version

Specifications

Mooney Viscometer	
Weight	127 Kg
Dimensions	510 x 460 x 810mm (w x d x h)
LED screen, (excl. V3/1)	2 line, 20 character back-lit display housed in control panel
Controls	3 sealed switches with integral LED indicators
Die heating Temp. range	By elements to upper and lower platens. 700W per element 80 - 150°C (±0.1°C)
Max. torque	Cut out at 200 Mooney points
Die closure	Using Pneumatic cylinder
Air line pressure	80 psi or 5 bar maximum
Gauge, (excl. V3/1)	0.0 - 0.5" range. 0.0005" resolution.
Pressure controls	Twin controls for platen closure and test routine
Standards	BS 903 Pt.A58, ASTM D1646, ISO 89, NFT 43 005, DIN 53 523, JIS K6300
X20 Printer (V3/3 Model only)	
Weight	500g + PSU 200g
Dimensions	95mm (h) x 125mm (w) x 195mm(d)