Wallace
www.wallaceinstruments.com

Viscosity

Mooney Viscometer Mk III

Calibration Kits

Wallace offer calibration kits to regularly verify the operation of the Mooney Viscometer as part of good laboratory practice. This requires the verification of both torque and temperature.

The Torque Calibration Kit consists of:

- Weights to simulate torque
- Frame to suspend weights
- Drum rotor to attach weights

The Temperature Calibration Kit consists of:

- Custom temperature sensor to measure both platens
- Dual channel digital thermometer

Principles of Operation

Torque

In normal operation the rotor is rotated within a sample, the sample has resistance and so the rotation of the rotor generates torque. This torque is measured and the result is expressed in Mooney units. To calibrate the instrument the sample resistance is simulated using weights. These are suspended on a frame using wire cables attached to a spool. The spool is located in place of the rotor. When the motor is started, the spool winds in the weights and they simulate 100 Mooney units.

Temperature

The temperature block is placed between the platens and the platens are closed. The temperature of the platens is displayed on the digital thermometer.

Mooney Viscometer Mk III Calibration Kit

Specifications

Torque

Calibration Kit	
Part Number	WAV3/CAL KIT
Kit Box Dimensions (mm)	180(h) x 600(w) x 500(d)
Kit Weight	38kg

Included	
Calibration Weight	2 off
Pulley Assembly	1 off
Rotor Height Gauge	1 off
Calibration Frame	1 off

Temperature

Calibration Kit	
Part Number	W9-320
Kit Box Dimensions (mm)	55(h) x 235(w) x 200(d)
Kit Weight	740g

Included	
Temperature Sensor Unit	1 off
Dual Input Thermometer	1 off

Standards

ISO 289-1, ASTM D1646

Productivity Reliability Repeatability Traceability

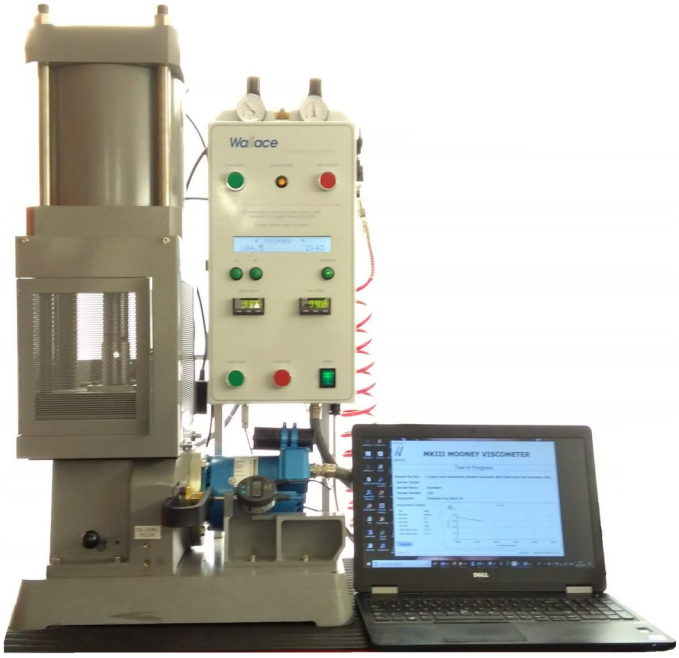
Viscosity

Mooney Viscometer Mk III

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

Features

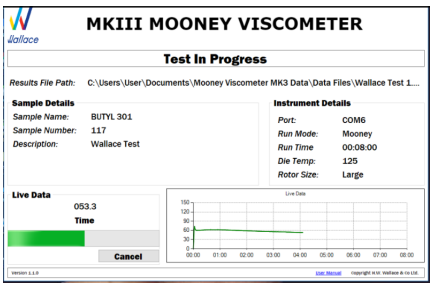
- **Simple and robust mechanical system producing reliable results**
- **Precise digital temperature control**
- **All digital versions come PC enabled as standard**

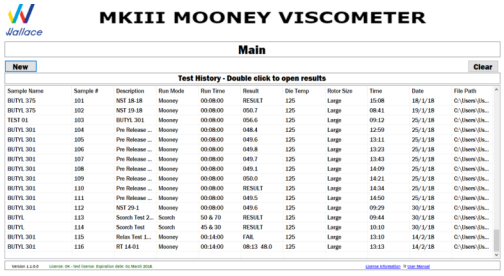


Principle of Operation

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 digital dial gauge 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 workhorse for many laboratories.





Our Software

- Allows you to follow test results live on screen
- Save all results for future reference
- Compare results on screen
- Print results with one click

Accessories

Standard Accessories:

- Large rotor
- Small rotor
- Tool set

Optional Accessories:

- V3/Cal calibration kit
- S6/15 Mooney sample cutter
- Software
- Printer

FM12340 FM12340

www.wallaceinstruments.com *info@wallaceinstruments.com* *+ 44 (0)1306 885 816*

Mooney Viscometer Mk III

Digital models available - versions as specified below:

Digital Model - Standard Version, WAV3/2

- PC interface (RS 232)

Digital Model - Printer Version, WAV3/3

- Same specification as WAV3/2 plus
- Compact printer with high speed print capability
- 24 character column print output

Specifications

Mooney Viscometer Mk III	
Part Number	WAV3/2, WAV3/3
Dimensions (mm)	810 (h) x 510 (w) x 460 (d)
Weight	127 kg
Maximum Power Requirements	1700 VA
LED screen	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	0.0 - 0.5˝range. 0.0005˝resolution.
Pressure controls	Twin controls for platen closure and test routine
Operating Temperature	10 to 40°C; Altitude 2000m maximum
Humidity Range	10 to 80% RH non-condensing
X20 Printer (V3/3 Model only)	
Weight	500g + PSU 200g
Dimensions (mm)	95 (h) x 125 (w) x 195 (d)

Standards

ASTM D1646, ISO 289-1