

Mooney Viscometer



The Vluchem’s Mooney Viscometer (MV-10) which measures the Mooney viscosity is defined as the shearing torque resisting rotation of a rotor embedded in rubber within a cylindrical cavity. At the end of a Mooney viscosity test, the rotation of the rotor is suddenly stopped and the rate of decrease of torque is monitored as a function of time. This is called stress relaxation. Characteristics of uncompounded or compounded rubbers and measured according to ASTM D 1646, ISO 289, KS M ISO 289-1, 2 and 4. The instrument is equipped with the highest torque measurement, reliability, along with stiff hardware, superior heater, temperature sensor, temperature controller and Vluchem’s own designed data acquisition device and software.

Mooney Viscosity
Mooney Scorch
Stress Relaxation

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|---|--|
| Model | MV-10 |
| International Standard | ASTM D 1646 ISO 289 KS M ISO 289-1, 2 and 4. |
| Motor | Induction Motor |
| Rotor | Disk-shaped rotor Large and small |
| Rotor Speed | 2 rpm |
| Protection for operator Temp. shield screen moving | Before test chamber closing |
| Test chamber moving | By Pneumatic |
| Motor Platen operation | available by hardware & software |
| Temperature control | available by hardware & software |
| Temperature range | microprocessor controlled RT ~ 220°C |
| Temp. Sensor Type | PT 100 Ω |

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|---------------------|---|
| Temperature control | available by hardware & software |
| Temperature range | microprocessor controlled RT ~ 220°C |
| Temp. Sensor Type | PT 100 Ω |
| Torque range | 0~ 200 MU |
| Test modes | viscosity scorch stress relaxation Stop T5 and T3 mode |
| Calibration | Weight and software |
| Data | Initial viscosity, ML[S]1+4[N] Scorch viscosity and cure times T5(3), T35(18) and T30(15), Tmin [Multi] Stress relaxation Data files convert to excel files. Trend graphs Tolerance limits box by time and torque Average, S-Dev,ERP system upload |
| Pneumatics | min 4.5 bar/60 Psi |
| Electrical | 200~230V, 3A, single phase |
| Emergency Button | |
| Dimension | W615 X D685 X H1643 mm |
| Weight | 125 kgs |

Mooney Viscometer (ASTM D 1646, ISO 289)

Model: MV-10

Vluchem Ind introduces a complete line of new instruments for the measurement of physical properties of polymers, and rubber compounds at all classes of manufacture.

The polymer testing instruments include Oscillating Disk Rheometer, Moving Die Rheometer [Automatic], C-set, Mooney Viscometer, Aging Chamber, Automated Lab Press, Universal Testing Machine and Automatic IRHD Hardness Tester.

Vluchem Instruments polymer testing systems are manufactured to exacting mechanical standards and with the latest measurement technology for the most accurate, reliable and reproducible data available.

The Vluchem's MV -10, Mooney Viscometer measure the latest measurement technology for the traditional Mooney viscosity, Mooney scorch, and stress relaxation measurement in the rubber industry.

⊙ **Instrument Characteristics**

1. Digital temperature display on instrument front panel
2. Motor, Platen physical switch on instrument front panel
3. Set to the desired temperatures to test and automatic control system regulates and maintains the set point temperatures.
4. Easy testing and maintenance.
5. Operator safety by Thermal Shield
6. Direct test chamber heating controlled by PID microprocessor
7. Test chamber in compliance with international standards.
8. Heat efficient platens
9. The hole on the top of the instrument for the fume ejection system
10. Calibration with weight incorporated in the instrument

⊙ **Control Software System**

1. Friendly use Windows 10/8/7 based program
2. Management of test results, multi graphical presentation, Tolerance, Test results displays as acceptance and false function, Average and Standard deviation, Stress Relaxation, export Data results to MS-Excel Program.
3. Display test results as acceptance and false using tolerance
4. Saving of data and test curves recall function
5. Fixing tolerance for each significant point for each compounds and test procedure

with graphic display and various color results for each test.

6. Tolerance limits can be entered manually
7. Graphic analyses of curves and tolerance (Quality Control Box)
8. Automatic Platen off function after finishing test and alarm function
9. Automatic motor on and off function after finishing test
10. Trend graph – ML[S]1+4, T5[3], T35[18], T30[15] – Selectable Max 2 items.
11. Stress relaxation test function
12. ERP [main server computer] system by real time uploading [Option]

⊙ **Specification for Instrument**

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|---|---|
| 1. Standards the instrument complies with | : ASTM D 1646 ISO 289 |
| 2. Power | : 220V, 50/60Hz, 3A Single Phase |
| 3. Rotational speed | : 2 rpm |
| 4. Rotor | : Large and Small |
| 5. Temperature Range | : Max. 200 °C |
| 6. Temperature Tolerance | : 0.1 °C |
| 7. Temperature Control | : PID control |
| 8. Temperature Probe | : Pt 100 Ω |
| 9. Air Pressure | : 4.2kgf/cm ² (60psi) |
| 10 Operating System | : Computer |
| 11. Operating Program For Windows | |
| 12. Data Report | : Init, Tmin, ML(S)1+4, T5(3), T35(18) Stress relaxation, Quality results, date, torque, Temperature Average, S-Deviation |
| 13. Statistics | : Data files for excel |
| 14. Dimension | : 615W x685D x 1643H |
| 15. Weight | : 120kg –Net |