



**PRESCOTT
INSTRUMENTS LTD**

Rheo-Line Moving Die

Prescott Instruments Rheo-Line has been developed to meet the needs of a modern testing Laboratory, providing fast and accurate data making it ideally suited to both the production environment and for use in the development of elastometric compounds.

The samples can be tested prior to the curing process and their properties measured allowing accurate prediction of product or material durability.

At the heart of the Rheo-Line system is a rotor-less Biconical Die assembly with heat being applied to upper and lower dies producing precise accurate temperature control. The lower die oscillates at 1.67HZ at an amplitude of 0.5, 1.0, or 3.0 degrees whilst the top die remains fixed and accurately measures the reaction torque.

Rheo-Line is available with various options including sealing or non sealing die cavities, pressure transducer for measuring the axial load exerted by the sample and variable die temperature while the test is in progress.

The Rheo-Line equipment is interfaced to a personal computer running Windows Software designed to carry out tests in accordance with international standards.

The test results are performed and displayed as plotted curves on a graph. The information can be printed out as and when required or stored on the computer's hard disk for future reference. (In addition Rheo-Line can be interfaced with internationally recognised SPC packages to generate control charts and carry out full statistical analysis of test data, or indeed any external quality control package.)



Cost saving through efficiency

Moving Die technology is a well proven process that can significantly reduce your traditional testing/analysis times. A rotor-less biconical die assembly with an internal cavity capacity of only 2.8cm³, applies quick, accurate temperature control to provide precise repeatable data in a wide range of testing environments.

Pass and fail tests automatically

Rheo-Line software has been developed to automatically pass or fail samples based on predetermined test limits for each of the compound types tested. The test limits can be calculated on results from previous data, with adjustments to suit your particular conditions.

Application and information available

- Elastic Modulus
- Viscous Modulus
- Tan Delta
- Pressure (Optional)
- Cure Rate

Data Calculations

- Initial
- Minimum
- Maximum
- Scorch Points
- Percentage Cure Points
- Reversion
- Cure Rate
- Delta Cure
- Quality Control Pass/Fail

TECHNICAL SPECIFICATIONS

Design Spec.	ISO No. 6502 / ASTM D5289
Electrical	Single Phase 220/240V 50HZ, 110v 60HZ.
Pneumatics	Filtered air, 4.2 Kg/cm, (60 Psi)
Die Configuration	Sealed, Non Sealed
Oscillation Frequency	1.67 HZ.
Oscillation Amplitude	0.5, 1.0, 3.0 degrees. (0.5 Standard, 1 and 3 Optional)
Temperature Control	Digital PID.
Temperature Range	35 to 250 degrees C.
Units of Measurement	Torque In lb, dNm. Temp. Celsius, Fahrenheit. Pressure Lb/sqin., Kg/sqcm. (Optional) Time Min /Sec, Min/Decimal, Seconds
Output Type	Real time display of:- Elastic Modulus. Viscous Modulus. Tangent Delta. Cure Rate. Pressure in cavity (Optional).
Data Format	All data stored in Access database with full export functionality.
PC Specification	Pentium Processor, networkable.
These options are available:	Programmable temperature zones Additional oscillation eccentric Pressure transducer Auto loading module (see brochure). Volumetric sample cutter



It is strongly recommended that samples are prepared with an automatic volumetric cutter which is available from Prescott Instruments Ltd. Please see our brochure for full specification.

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