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## Moving Die Rheometer Xgen100®

### Description:

The new Future Foundation Rotorless, *Moving Die Rheometer – Xgen100®* has been designed to meet the next generation of manufacturing technology. The Xgen100® is equipped with an On-Board 24Bit Microprocessor (MPU) providing both Stand-alone (without PC) and with PC operability. The high precision of the 24Bit MPU provides In-Situ measurement of Elastic  $S'$ , Viscous  $S''$  Modulus and Tan delta( $\delta$ ) process parameters. Touch-Pad Control Panel with backlit Digital read-out displays critical test parameters (Temperature, Time, Torque..) and can be connected to a Dot-Matrix Printer for cost-efficient reporting. The MDR Xgen100 has been Benchmarked to provide repeatability to all Global branded Rotorless Rheometers.

### Salient Features

- **Rotorless Sealed Biconical Die System** for **high Throughput and Repeatability**
- **Proprietary Polymeric Sealing System** reduces yearly maintenance requirements
- **Die mounted heater and sensor** enables faster recovery within 20-30 seconds
- In-Situ measurement of both **Elastic ( $S'$ )**, **Viscous ( $S''$ ) Modulus with Tan d ( $\delta$ )**
- **Upgradability to Rubber Process Analyzer (R.P.A.)** for Polymer Processability Studies
- Stand alone, PC less operability with **4000 Samples internal RAM memory**
- **PC Connectivity via RS-232** to “RheoMate®” software eliminates electronic noise completely
- **Bluetooth™ connectivity for wireless operation \***

## Future Foundation

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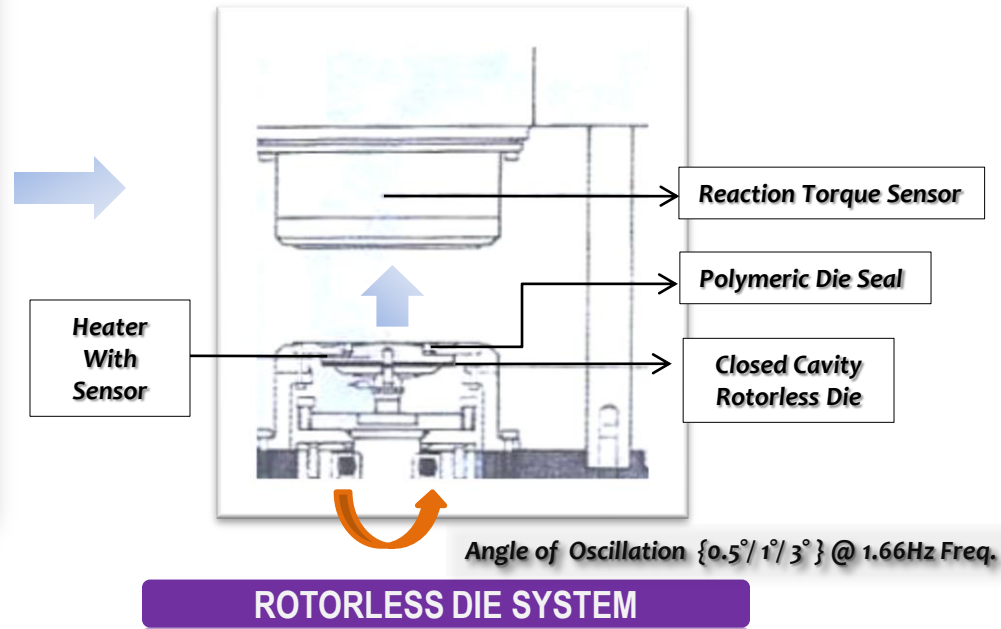
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Moving Die Rheometer Xgen100®



### Die System Highlights

- Rotorless Sealed Biconical Die System
- Proprietary Polymeric Sealing System
- Reaction Torque Sensor
- Direct inline Heater with Sensor

### Benefits

- High Throughput with low loading/Unloading effort
- Excellent Repeatability & Reproducibility
- Low Maintenance Operation with High Uptime for 100% material QC
- Rapid Temperature recovery within 20-30 seconds
- Negligible Frictional loss allows for true Elastic Modulus ( $S'$ ) measurement

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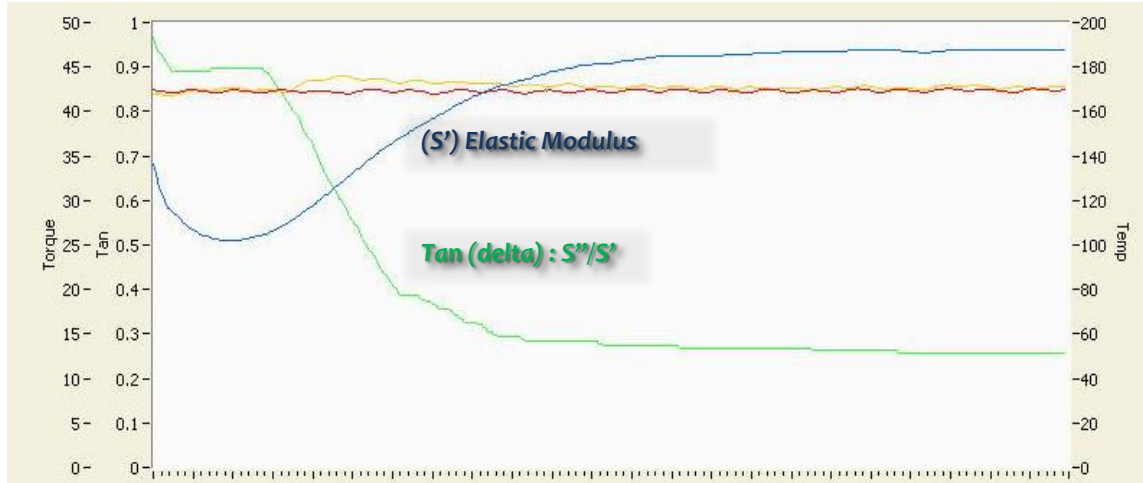
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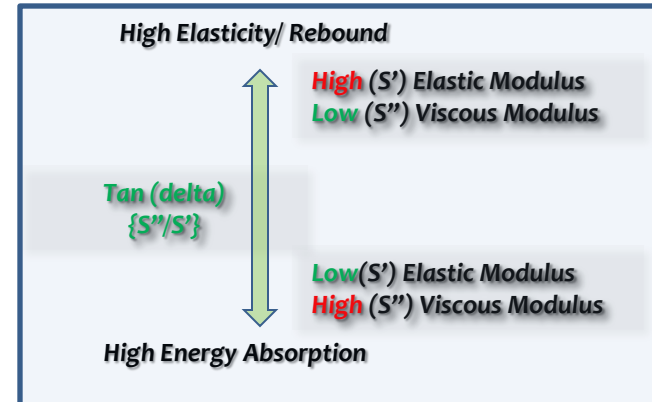
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## VISCOELASTIC CHARACTERIZATION

### Benefits

- True  $(S')$  Elastic Modulus measurement
- In-Situ Tangent delta measurement
- $S'$ ,  $S''$  and  $\tan \delta$  collection for Polymeric behavior characterization



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Moving Die Rheometer Xgen100®



Digital Matrix Backlit Display

Integrated Temperature Microcontrollers

Touch Pad Control Keyboard with EZ-Operation Keys

### TOUCH PAD CONTROL PANEL

#### Control Panel Highlights

- 24bit Microprocessor (MPU) Control Unit
- 4x20 Matrix Backlit Digital Display
- In-Built Memory (Upto 4000 Tests)
- In-Built Alphanumeric Keyboard

#### Benefits

- High Precision allows for accurate Elastic (S') & Viscous (S'') Modulus measurement
- PC Free, Stand-alone Operation for High Speed Testing
- Connectivity to Dot-Matrix Printer for Cost-effective Production testing

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**MDR Xgen100® MPU**  
24Bit Micro Processor Unit (MPU)  
System Controller



**DUAL MODE OPERATION**

Stand-alone Mode connected to  
Dot Matrix Printer

**Salient Features**

- External Computer less operations
- 4000 tests built-in Memory
- Production Mode for fast testing
- End of Run Dot Matrix Graphical Printout



Dot-Matrix Printer

**Salient Features**

- External Computer controlled operation
- Laptop/Desktop connect via RS232
- FF RheoMate® Productivity Software



PC Laptop/Desktop

PC Mode connected to Laptop/Desktop  
via "RheoMate"®

High Energy Absorption

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**Moving Die Rheometer Xgen100®**



### Specifications

- **MDR Xgen100® Standards** Complies with ASTM D 5289, ISO 6502
- **Oscillating Frequency** 100 cycles per minute (1.67Hz)
- **Oscillating Amplitude** +/- 0.5°, 1.0° & 3.0° Arc
- **Sample Volume** Approximately 4.5 cm<sup>3</sup>
- **Temperature** Microcontroller controlled, calibrated range 100-200°C
- **Graphical Output** Elastic (S'), Viscous (S''), Tand and Upper/Lower temperature
- **PC Connectivity** Internal RS232 High Speed Port
- **Electrical** 220 VAC +/- 5%, 60Hz +/- 3Hz
- **Air Pressure** 60 Psi (4.2 Kg/cm<sup>2</sup> or 414 kPa) min.
- **Dimensions** Width 60cm, Height 120cm, Depth 60cm
- **Weight** Net 250Kg (lbs) Gross 300Kg (lbs)

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