

## XDR Curemeters

by CCSi



The Mooney Shearing Disk Viscometer and the Oscillating Disk Rheometer (ODR) have similar operating principals ... the Mooney rotates, while the Rheometer oscillates, a rotor embedded in the test sample ... as well as many common mechanical and electrical components.

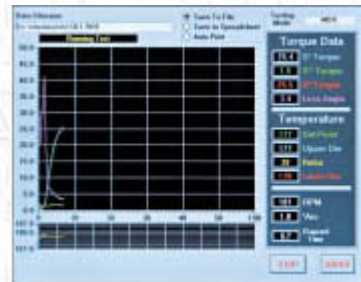
It followed that an innovative and inventive company would develop an instrument that performs both tests. It also follows that a creative and logical outgrowth of such inventiveness and innovation would be an instrument that not only performed both the function of an Oscillating Disk Rheometer and a Mooney Viscometer ... but a Moving Die Rheometer (MDR) as well ... THREE instruments in ONE!

Such innovative creativity and inventiveness resides within the CCSi organization, and they have developed such an instrument!

The XDR®, developed by CCSi, performs the individual functions of an Oscillating Disk Rheometer, Mooney Viscometer and a Moving Die Rheometer, quite uniquely, using a series of interchangeable modules.

The unique “heated rotor” design of the XDR® in the Oscillating Disk Rheometer configuration provides test results that are, in many ways, similar to those achieved with many of the Moving Die Rheometers in use today! This gives R&D the capability of comparing Oscillating Disk Rheometer “heated rotor” results to those of the standard Oscillating Disk Rheometer “cold rotor” at the flip of a switch!

These results can then be compared to Mooney Viscometer results or Moving Die Rheometer results ... ON THE SAME INSTRUMENT ... by simply exchanging the applicable modules!



The individual modules, and their interchangeability, are discussed, in brief, on the other XDR® pages, and at length in the article “[Innovations](#)”.

### XDR®: Features

- Modular component system reduces maintenance cost and improves serviceability;
- Exchangeable die and rotor systems;
- Patented ODR “Heated Rotor” design;
- One Instrument, Three Configurations greatly reduces initial investment;
- Computerized data acquisition & analysis meets [ASTM E1579](#);
- Viscometer Module complies with [ASTM D1646](#), ISO R289, & BSI 1673;
- Rheometer Module complies with [ASTM D2084](#), ISO 3417, & BSI 1673;
- MDR Module is compatible with [ASTM D5289](#);
- Microsoft® Windows Operating System;
- Pentium® Processor & Intel® chipset;
- Raw data stored for easy retrieval or transfer;
- Standard and User defined test parameters;
- Real time display of test data and parameters;
- Operator selectable presentation of data in printed, graphed or overlay formats;
- Computerized PID temperature management systems;
- Automatic system calibration;
- Hi-Tech torque measurement system;
- Computerized calibration and verification (no mechanical adjustments necessary);
- Automatic mechanical deflection corrections;
- Superior ability to detect differences in compounds and raw polymers;
- Tabletop design conserves precious laboratory space!

## XDR®: General Specifications

- Torque:
  - 0.1 to 200 lb/in
  - 0.1 to 200 Mooney Units
- Selectable Test Times:
  - 0.0 to 99 minutes
- Selectable Temperature Range:
  - Ambient to 225 C°
- Angular Displacement:
  - $\pm 0.5^\circ$ ,  $1^\circ$ ,  $3^\circ$ ,  $6^\circ$  (ODR/MDR)
  - 360° Rotation (Viscometer)
- Weight:
  - 160 kg (352.8 lb.)
- Space Requirements:
  - Instrument: 610 x 610 x 1220 mm (24 x 24 x 48 in.)
  - Computer: 300 x 610 x 710 mm (varies) (12 x 24 x 27 in.)
  - Monitor: 410 x 410 x 410 mm (varies) (16 x 16 x 16 in.)



 Please visit the individual [MDR](#), [ODR](#) and [Viscometer](#) pages for brief technical descriptions. The detailed technical aspects of the XDR® are examined at length in the article titled "[Innovations](#)".

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