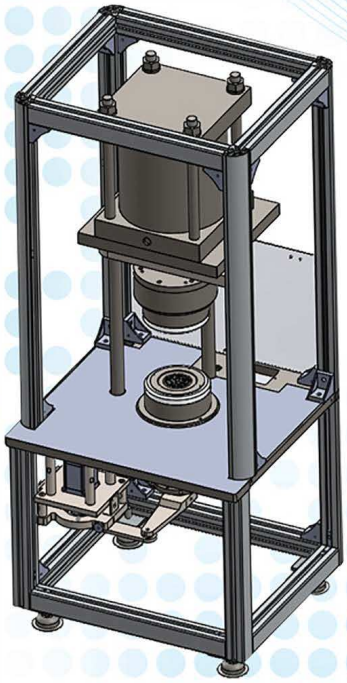
CGM Technology

Moving Die Rheometer

MDR-01



APPLICATION

The CGM Rheometer MDR-01 (Moving Die Rheometer – 01) measures the cure characteristics of compound rubber. It has a heated, sealed and rotorless moving die system. A sample is sealed in a cavity formed by directly heated dies.

The lower die moves at 1.66Hz (100cpm). The reaction torque, measured at upper Die, correlates with the degree of vulcanization as a function of cure time.

FEATURES

OPERATION

Direct Torque Measurement

High quality torque transducer and accurate torque measurement

Peak Torque Detection function – a function to automatically stop testing after highest torque value has been reached

Auto Torque Calibration

Test data stored in Touch Screen Panel up 40 samples

Flexible operations

- Standalone mode with touch screen – set test conditions, display test progress and results
- Direct connection to printer
- Can be connected to computer and controlled by software
- Can use the same data sheet as Plastimeter H-01 (Data receiver by CGM Technologies)

Certified Temperature Standard ISO17025

DESIGN

Designed for easy maintenance

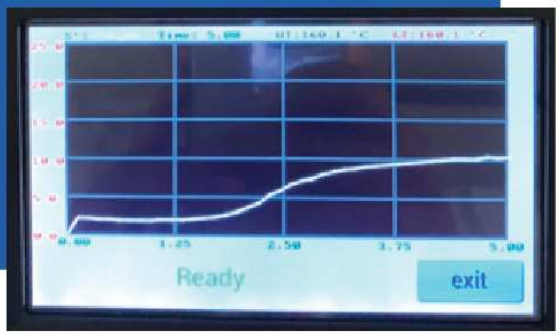
Main parts are made of strong and anti-rust materials

Die-cooling System

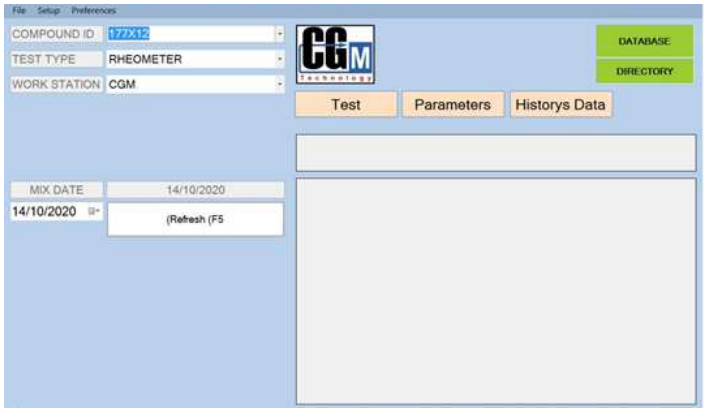
Over-heating Protection System

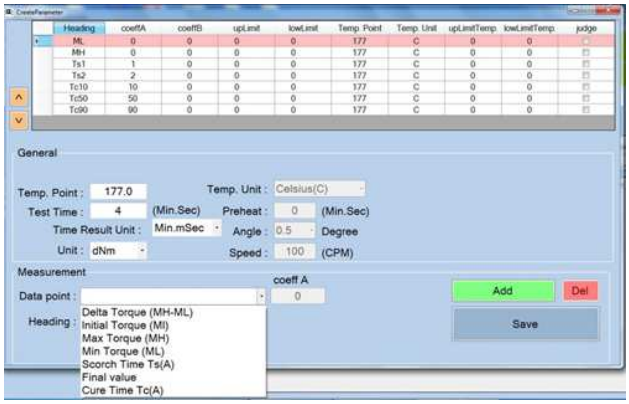
Overload protection function

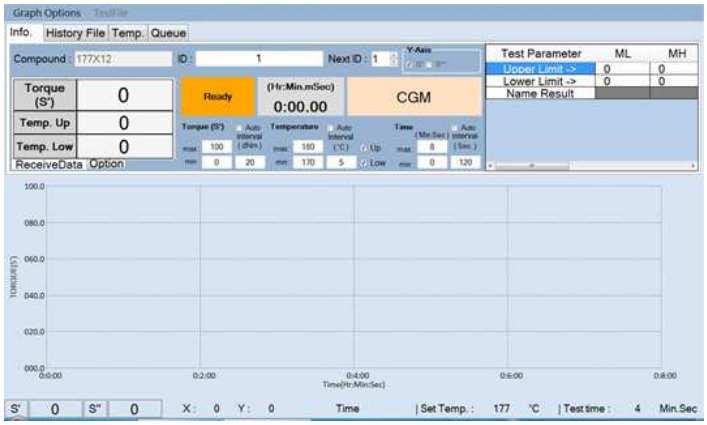
Machine only starts when door is closed

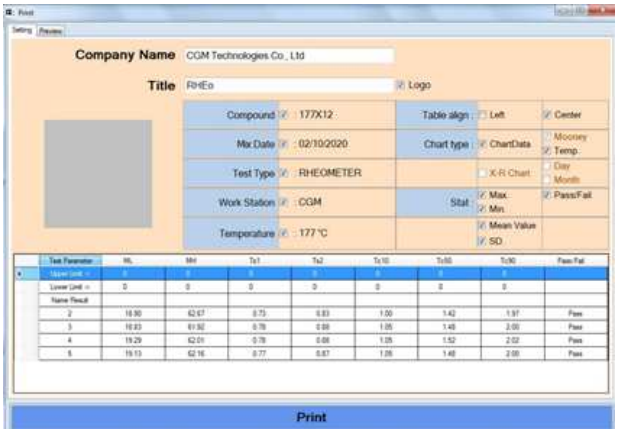


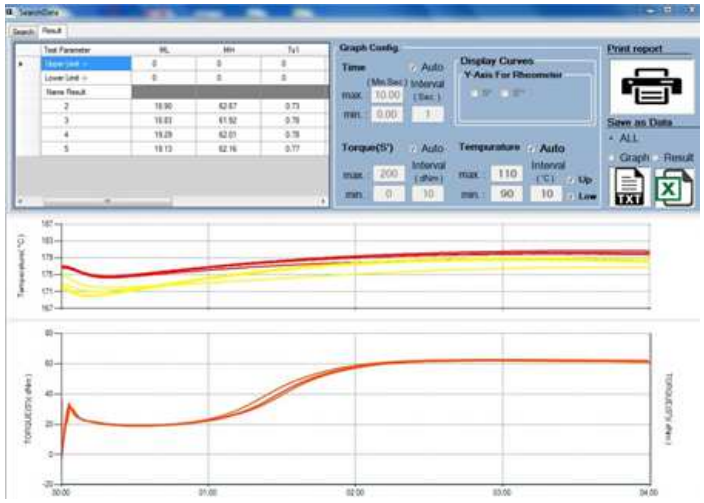
REFERENCE STANDARD	ISO 6502, ASTM D5289
TEST REPORT	ML, MH, MH-ML, Ts1, Ts2, T10, T50, T90, S" at ML, MH
MEASURED TIME	1/60 sec, 1/100 sec Unit (min-min/ min-sec/ sec)
DIE CONFIGURATION	Biconical Die, close die system, sealed
TEMPERATURE SYSTEM	PID Microprocessor Controlled Probe RTD Pt 100 Ω (Class A)
TEMPERATURE RANGE	Room Temp. (+25 °C) to 250 °C Accuracy 0.1 °C, Resolution 0.1°C Units °C/ °F
OSCILLATION FREQUENCY	100 cpm. (1.667 Hz)
OSCILLATION ANGLE	0.5°±0.03°, 1°±0.03°
DRIVE MOTOR	Servo Motor
TORQUE MEASUREMENT	Torque Transducer (Direct Torque Measurement)
TORQUE RANGE	0.01 – 250 dNm
TORQUE CALIBRATION	Standard Torque Reference value
OPERATION PANEL	Capacitive Touch Screen, 5 Inches (Standalone)
COMMUNICATION DATA	RS-232, USB
ASSOCIATED PROGRAM (OPTION)	Data Processing Software
DATA EXPORT FILE	Excel
POWER SUPPLY	220 VAC ±10 VAC, 50/60 Hz, 6 A
PRESSURE SYSTEM	Air cylinder system
AIR PRESSURE	4.0 bar to 5.0 bar
DIMENSION	Width 50.0 cm., Depth 57 cm., Height 117 cm.
WEIGHT	170 kg.

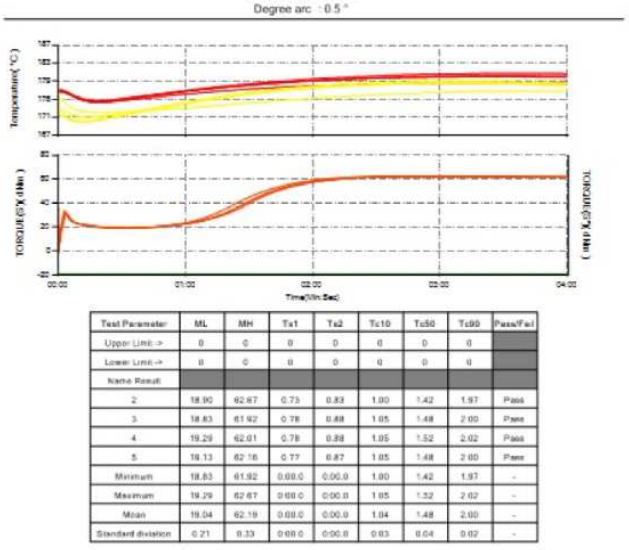












Test Parameter	ML	MH	Ts1	Ts2	Tc10	Tc50	Tc90	Pass/Fail
Upper Limit ->	0	0	0	0	0	0	0	
Lower Limit ->	0	0	0	0	0	0	0	
Name Result								
2	18.90	62.67	0.75	0.83	1.00	1.42	1.97	Pass
3	18.83	61.92	0.78	0.88	1.05	1.48	2.00	Pass
4	19.29	62.01	0.78	0.88	1.05	1.52	2.02	Pass
5	19.13	62.16	0.77	0.87	1.05	1.48	2.00	Pass
Minimum	18.83	61.92	0.00.0	0.00.0	1.00	1.42	1.97	-
Maximum	19.29	62.67	0.00.0	0.00.0	1.05	1.52	2.02	-
Mean	19.04	62.19	0.00.0	0.00.0	1.04	1.48	2.00	-
Standard division	0.21	0.33	0.00.0	0.00.0	0.03	0.04	0.02	-

End of Result