Rubber Process Analyzer

RPA-V2
an advanced 4-in-1 rheometer
for comprehensive rubber testing

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Rubber Process Analyzer  RPA-V2

U-CAN Rubber Process Analyzer RPA-V2 measures dynamic rheological properties of raw rubber or compound under variable testing conditions. With sealed and direct heated biconical die chamber, a high resolution direct drive motor strains test sample sinusoidally from the lower die and friction-ignorable torque transducer detects reaction torque of test sample on the static upper die. The RPA-V2 functions as an enhanced polymer analyzer, a rubber processability tester, a sophisticated curemeter, and a dynamic mechanical analyzer for complete rubber characterization.

Features :

1. Feature :
   Rubber Process Analyzer (RPA) is the most advanced rotorless rotational shear rheometer dedicated to the complete characterization of polymers, rubber and rubber compounds at all stages of manufacture.

2. Configuration :
   A. Main Rheometer System : 1 system
   B. Data System : 1 set
   C. Analysis Software : 1 set
   D. Accessories : 1 set

3. Specification :

   **A. Main Rheometer System**
   a. Frequency : 0.0016 to 50 Hz (0.06 to 3,000 cpm)
   b. Amplitude : ±0.005° to ±360° arc
   c. Strain : ±0.07% to ±5000%
   d. Torque Range : 0.01 to 22.5Nm
   e. Temperature Range : 30°C to 250°C
   f. Maximum Ramp Rate : 60°C/min (1.33°C/s)
   g. Die Type : Sealed bicone, 0.45mm gap
   h. Sample Volume : 4.5cm³
   i. Platen Sealing Pressure : 0 to 8,000 kPa
   j. Test Mode : Cure, Strain, Frequency Sweep, Stress relaxation, Advance
   k. Measured Data : Torque, Temperature, Frequency, Amplitude, Sample Pressure (Foam Pressure)
   l. Calculated Data : G', G'', G*, S', S'', S*, tan δ, h', h'', h*, LAOS Lissajous curves, non-linearities in stress and strain, process parameters including tc,0 to tc,100, S' min, S' max, scorch time, cure rate.
m. Standards: ASTM D5289, D6048, D6204, D6601, D7050, D7605, D7750; ISO 6502, 13145; DIN 53529
n. Auto sampler: Consists of a 10 sample carousel with a suction and film transfer system or more
o. Max Shear Rate(l/s): 80
p. The most advanced design for testing flexibility and unmatched data precision and accuracy
q. High resolution variable direct drive motor for absolute strain control
r. Proprietary high stiffness, wide torque range transducer with high sensitivity for noise free data
s. Extremely rigid test frame for accurate compliance-free data
t. Fully programmable testing parameters and methods including: strain, frequency, temperature, time, and sealing pressure
u. Widest range and combination of tests and testing conditions available
v. Available auto sampler for unattended operation
w. Pneumatic locking cylinders with adjustable platen closing force and pressure sensor
x. User calibration and user replaceable seals
y. One Instrument for standard QC (cure curve) and enhanced QC (strain sweep, frequency sweep) for Polymer and Compound characterization

B. Data System
a. Computer Specification:
   (1) Hardware: Core i5/2.0 Ghz or more
   (2) Operating system: Windows 7 Professional or equivalent
   (3) Installed RAM: 4 GB or more
   (4) Hard Disk Storage: 1T or more Hard drives
   (5) Monitor: LCD 17” Color display or more

C. Analysis Software
a. Data collection software

D. Accessories
a. Sample Cutter
   (1) Greatly improves experimental precision
   (2) Standard closing pressure of 6 bar
   (3) Optional closing pressure booster to 8 bar
   (4) User adjustable closing pressure and sample volume
   (5) Two handed operation and lateral guards guarantee safe operation
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Specifications and other contents mentioned above may be changed subject to the improvement requirement without advance notice.