

# PREMIER™ RPA

Rubber Process Analyzer

◀ Measures dynamic properties of raw elastomers or mixed rubber before, during and/or after cure. Performs cure, temperature sweep, frequency sweep, and stress relaxation tests.



▶ The Premier™ RPA brings enhanced data sampling and processing along with improved frequency and strain sweeps to provide better testing accuracy and repeatability.

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Rubber Process Analyzer



## Performance

The Premier™ RPA is Alpha's flagship instrument. It utilizes an engineered housing plate that contains sealed biconical dies and tailored formulated seals that used together reduce slippage to produce benchmark repeatability and reproducibility. Advanced Fourier Transform Rheology testing will ensure the most accurate data based on true harmonic analysis. The Premier™ RPA can test up to 80 unique sub tests within a single test configuration which allows for an extensive and careful analysis of a polymer or rubber compound. Once the data is created, the Premier™ Enterprise™ software organizes data into reports and can perform analysis that allow the user to statistically control the manufacturing process. The Premier™ RPA places the user at the forefront of leading-edge testing capabilities such as Large Amplitude Oscillatory Shear (LAOS) which allow in-depth analysis of a polymer structure and long chain

## Features

Pressure transducer standard

Advanced pre-strain settings

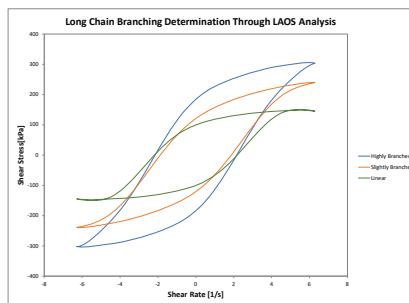
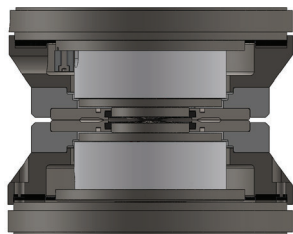
Cure Kinetics

## Benefits

To provide pressure measurements in addition to torque

Improved frequency and strain sweeps

Provides a test method for determining reaction kinetic data including: activation energy, reaction rate constants, incubation time, and reaction order.



## Specifications

Frequency:	0.1 to 3000 cpm (0.0016 to 50 Hz)	Reports and Export Files:	Numerous formats including text and Microsoft Excel © files
Temperature Range:	Ambient to 446°F (230°C)	Electrical:	100/110/120/130 VAC ±10%, 60 ±3 Hz, 20 amp single phase
Max Ramp Rate:	1.8°F/s (1°C/s)		200/220/240/160 VAC ±10%, 50 ±3 Hz, 10 amp single phase
Max Cool Rate:	0.9°F/s (0.5°C/s)	Air Pressure:	80 psi (5.6 kg/cm 550 kPa) minimum
Strain:	±0.07% to ±1255% (±0.005 to ±90 degrees)	Dimensions:	W: 22 in (56 cm), D: 25 in (64 cm), H: 45 in (122 cm)
Measured Data:	Torque, temperature, frequency, strain, pressure, and angle	Weight:	Net 346 lb (157 kg), gross 547 lb (248 kg)
Calculated Data:	G', G'', J', J'', J*, S', S*, tanδ, η', η'', and η*		
Testing Standards:	Meets ASTM D5289, D6048, D6204, D6601, D7050, D7605, and D8059		