bareiss®
PRÜFGERÄTEBAU GMBH

RPA Ultra

EN

ISO 13145 | ISO 6502 | ASTM D5289 | ASTM D6204 | ASTM D6601 | ASTM D6048 | ASTM D7050 | ASTM D7605 | DIN 53529

The First Rotational Closed Cavity Rheometer

The world's first rotational closed cavity cavity rheometer with unlimited oscillation strain.

The UltraCurve is an unconventional closed cavity rheometer with both upper and lower rotational dies providing unrestricted oscillation strain and a frequency breakthrough of up to 150 Hz. The instrument is designed to measure dynamic and static properties of raw elastomers in all stages of a curing process.

Another technology breakthrough is the extended range of shear rate going from 0.001 to 500 1/s. The high shear rate can be unutilized to simulate the extrusion process in a real production scenario. The UltraCurve can excel in measurement repeatability and reproducibility thanks to the unique engineering on the sealed biconical dies which can greatly reduce slippage during a testing process. The new BareissOne™ software is a great complement to the UltraCurve making your testing process much easier to handle and results much more comprehensible.

TEST METHODS

Isothermal	Shear rate Sweep
Non-Isothermal	Relaxation
Timed	Hystersis
Temperature Sweep	Tension tests
Strain Sweep	LAOS
Frequency Sweep	

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MAIN CHARACTERISTICS

A
12“ touch display for easy user interface providing a clearly defined set of menus to navigate through all the available functions.

B Film cartridge for continuous feeding to the test cavity.

C With both the upper and lower dies being able to rotate, there is no more limitation on the strain.

D Retractable casters for easy mobility.

E Solid construction with high grade sheet metal.

F Multiple samples tray with optional automatic loading system.

Fully rotational upper and lower dies providing unrestricted oscillation strain.

Optional automatic sample loading system to increase your testing capacity.

A film catridge for easy and convinent reload of a new roll. Automatic dispensing after each test is completed.

coming

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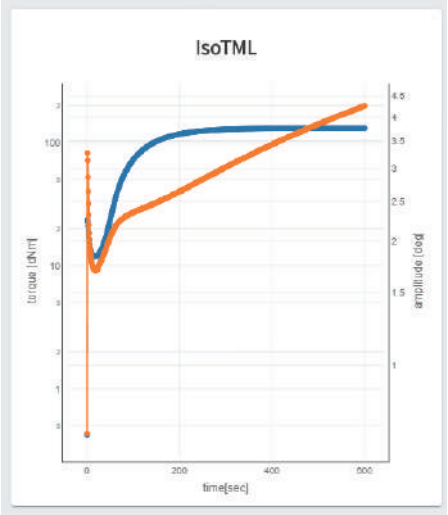
BareissOne is a modularized software that is aimed to provide a common platform with integration of different test categories.

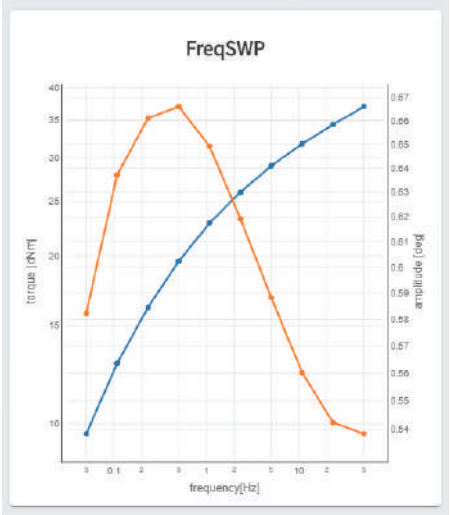
Whether it is a standard test for one single measurement or a series of tests that requires a complex test sequence editing, BareissOne is designed to offer all levels of user's demands.

Features such as user authorization, system log, project management, version control and custom report are all at your fingertips.

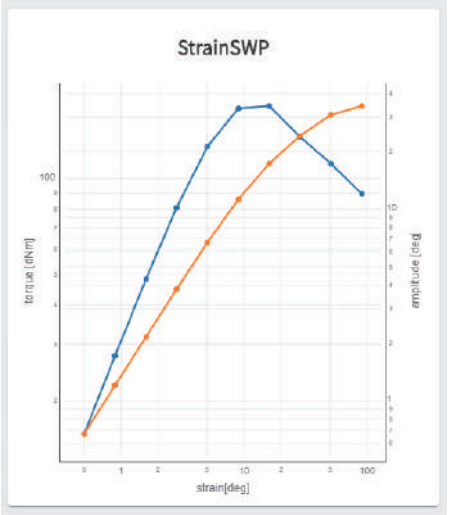
BareissOne has made software use easier than it ever was before.



RPA Ultra provides precise data for IsoTML cure tests which are critical data for rubber processing.



A FreqSWP as shown can indicate the average molecular weight and molecular weight distribution.



StrainSWP are powerful too for characterizing fluid systems. RPA Ultra is a strain controlled PRA.

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Max shear rate in rotation:	500 1/s
Max shear rate in Oscilation:	? 1/s
Max Ramp Rate:	1.33°C/s -> 80°C/min
Max Cool Rate:	0.5°C/s
Die Config:	Sealed die, biconical and plate-plate
Drive system:	High dynamic torque motor, High resolution controler
Oscillation frequency:	0.001 to 150 Hz
Oscillation strain:	+/- 0.001° to unlimited, '+/- 0.014% to unlimited -> rotational
Temperature range:	Ambient to 235°C
Measured data:	Torque, temperature, frequency, strain; Optional: Normal force, die pressure
Caculated data:	S', S", S*, G', G", G*, tan δ, phase angle, cure speed, η', η", η*, ...
Die gap:	0.45 mm nominal
Sample volume:	4.5 cm^2
Closing system:	Soft closing to prevent foil rips and damage of test samples, optionally variable closing force.
Torque range:	0.0001 to 250 dNm
Normal force / Pressure (opt.):	up to 10 kN
Subroutines:	Isothermal, Non-Isothermal, Timed, Temperature Sweep, Strain Sweep, Frequency Sweep, Shear rate Sweep, Relaxation, Hysteresis, Tension tests, LAOS, ...
Data Interface:	Ethernet
Data points:	Over 3500 data points available for each static subtest Including S' Min, S' Max, TS 1, TS 2, TC 10, TC 30, TC 50, TC 90 Integrated, automatic reporting features for dynamic tests
Pneumatics:	min. 4.5 Bar / 60 psi
Electrical:	400V/16A

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ACCESSORIES

Automatic test stand, type BSA
The automatic test stand guarantees the standard-compliant lowering and the precise 90° support of the handheld hardness tester.

Manual test stand, type BS 61
The test stand with manual lowering guarantees the precise 90° support of the handheld hardness tester.

Control device for checking the spring force A/D
The control device can be used to check the spring force of the handheld hardness tester.

Prisms Ø 4 – 10 mm or Ø 40 – 100 mm
The prism stabilizes the handheld hardness tester when placed on cylindrical test specimens.

DAkkS
Deutsche Akkreditierungsstelle
D-K-15206-01-00

DAkkS calibration certificate The calibration takes place according to DIN EN ISO/IEC 17025, being confirmed with a DAkkS calibration certificate.

Control rings with DAkkS calibration certificate
The measuring path of the hardness tester, within the defined hardness range, is monitored with the help of the control rings.

Reference elastomer blocks with DAkkS calibration certificate, single set/set of 3 or 6
Reference elastomer blocks can be used to check the indenter and measuring path of the hardness tester according to DIN ISO 48.

Temperature calibration certificate (HPE III)

„Hardtest“ Software
The software controls the hardness and hysteresis measurement processes undertaken with Bareiss testing devices.

REFERENCE
The HPE III is equipped for hardness measuring on plane-parallel specimens, either according to Shore A or Shore D. Our modular digi test II with flexibly exchangeable measuring devices represents an alternative to the frequent changing of measuring methods or sample geometries.

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MEASUREMENT METHOD	MATERIALS	STANDARDS	MAT. THICKNESS MIN. [MM]
Shore A	Soft rubber, elastomers, natural rubber products, neoprene, cast resin, polyester, soft PVC, leather, pressure rollers, etc.	DIN EN ISO 868	4
		ISO 48-4 (former DIN ISO 7619), ASTM D 2240, JIS K 7312	6
Shore D	Hard rubber, plastics, acrylic glass, polysty-rene, rigid thermoplastics, formica, printing rollers, vinyl plates, cellulose acetate, etc.	DIN EN ISO 868	4
		ISO 48-4 (former DIN ISO 7619), ASTM D 2240, JIS K 7312	6
Shore 00	Cellular rubber, foam rubber, silicone	ASTM D 2240	6
Fff	Consistency of flesh		
Asker C	Soft rubber, elastomers, natural rubber products, neoprene, cast resin, polyester, soft PVC, leather, pressure rollers, etc.	SRIS 0101	6
Shore L/c	Foam, soft elastic materials, uphol-stery, steering wheels	ISO 48-4 (former DIN ISO 7619), ASTM D 2240	6
Shore 000S	Cellular rubber, foam rubber, silicone	ASTM D 2240	6
Shore L	Foam, soft elastic materials, uphol-stery, steering wheels	ISO 48-4 (former DIN ISO 7619), ASTM D 2240	6
Shore C	Plastics, medium hard rubber	ASTM D 2240	6
Shore AM	Soft rubber, elastomers, natural rubber products, neoprene, cast resin, polyester, soft PVC, leather, pressure rollers, etc.	ISO 48-4 (former DIN ISO 7619)	1,25
Shore M	Soft rubber, elastomers, natural rubber products, neoprene, cast resin, polyester, soft PVC, leather, pressure rollers, etc.	ASTM D 2240	1,5

MADE IN GERMANY SINCE 1954.

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ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-K-15206-01-00

The accreditation is valid for the scope listed in certificate D-K-15206-01-00 (mechanical measurands in the range of hardness).