Qualitest also offers an extensive range of testing solutions for plastics, foam, paper & cardboard, textiles, cement & concrete, and metals.

Our plastics testing technologies include:

- Universal Tensile/Compression Testing Machines
- Izod/Charpy Impact Testers
- Sample Notchers
- Melt Flow Indexers
- Durometers
- Drop Dart & Gardner Impact Testers
- Specimen Molds
- Sample Preparation Machines
- Capillary Rheometers
- Laboratory Mixing Extruders
- Laboratory Mixing Molders
- Limiting Oxygen Index Chambers
- HDT/VOAT Heat Deflection Testers
- Gloss Meters
- Light Booths
- Coefficient of Friction (COF) Testers
- Hot Tack Heat Seal Testers
- Elmendorf Tear Strength Testers
- Opacity Meters
- Film Thickness Gauges
- Gradient Tester for Minimum Film Forming Measurement
- Gas & Water Vapor Permeability Testers
- much more

Qualitest Locations:

USA: Plantation, Florida
Buffalo, New York
California

Canada: Richmond Hill, Ontario

UAE: Dubai

Asia: Hong Kong

Mexico: Mexico City

India: Mumbai

Contact Information:

Toll free 1.877.884.8378
Fax: 954.697.8211
Email: info@qualitest-inc.com

www.WorldofTest.com
About Qualitest

QUALITEST, together with the WorldofTest.com network, is a global supplier of testing technologies that help customers improve their design, development and manufacturing processes. Our mission is to help our customers design, develop and produce their products faster, with higher quality and at a lower cost. A leader in offering the widest range of precision plastics & rubber testing technologies on the market, Qualitest leverages extensive industry experience to provide products that determine the mechanical properties of polymers including rubber, plastics and other elastomers. These solutions include portable and kiss-in-hardness testers as well as bench-top and sophisticated systems to meet your highest demands.

Qualitest offers direct after sales service/calibration support or through our authorized and nationwide A2LA accredited and ISO 17025 certified service centers.

With rapidly growing presence in North America and worldwide, Qualitest maintains offices in USA, Canada, UAE and Asia with a wide network of sales and service partners. This global presence ensures service, support and consulting services to realize optimal return on their testing solution investments.

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15 Flex Testers
16 Specific Gravity Testers - Densimeters
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More Rubber Testing Instruments

Fogging Tester EB 03
www.WorldofTest.com/foggingtester.htm
For determination of windshield fogging according to ISO, DIN, ASTM and other automotive standards. The equipment has a compact design with the heating bath and cooling bath integrated in one casing. For cooling the water bath, the instrument is normally connected to tap water of max 18°C. If the tap water is too warm, a model EB 03C can be supplied with a built in cooling system with Peltier elements.

Resistivity Tester EE 01
www.WorldofTest.com/resistivity.htm
For determination of volume resistivity on conductive and semi-conductive rubber materials, according to ISO 1853.

The instrument has an integrated differential voltmeter, built into the head of the electrodes and a very sensitive ammeter, together with a very high input resistance for the voltmeter.

Optical Sorting Machine - Automatic Sorting System
www.WorldofTest.com/optical-sorting.htm
Qualitest offers a line of optical sorting machines that can also be used to do automatic sorting. The optical sorting machine product line offers users flexibility over a wide range of parameters that can be measured as well as sorting machines that are designed specifically for certain objects such as screws, nuts or bolts. One sorting system from the optical sorting machine product line is designed to discriminate metallic objects based on hardness. Each optical sorting machine offers powerful technology to any production line.

Shoe Dielectric Resistance Tester
www.WorldofTest.com/shoedielectricresistancetester.htm
The Shoe Dielectric Resistance Tester is designed to test the dielectric resistance of safety or other ways insulated footwear. The Shoe Dielectric Resistance Tester applies a power [line] frequency voltage between the inner and outer electrodes of the shoe (specimen) being tested. If the test specimen does not fail, the current in mA displayed on the ammeter is the leakage current, the voltage in kV indicated by the voltmeter is the withstanding voltage. It adopts HMI, so operation is smart and visible.

Shoe Bending Waterproof Tester
www.WorldofTest.com/shoebendingwaterprooftester.htm
The Shoe Bending Waterproof Tester determines the water resistance and durability of footwear with the specimen being tested. If the test specimen does not fail, the current in mA displayed on the ammeter is the leakage current, the voltage in kV indicated by the voltmeter is the withstanding voltage. It adopts HMI, so operation is smart and visible.

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Rubber & Elastomers

Rubber compounds are one of the most complex and universally used materials and the flexibility of the compounds and their ability to absorb particle filler like carbon black, silica, and clay in amounts more than their own weight results in a wide range of properties, possible to achieve. Quite often, rubber and elastomer compounds are used where resistance to impact, or toughness is desired. Where elasticity during stretching and recoil are needed, rubber and elastomers are ideal materials. An elastomer can be stretched to many times its original length yet bounce back without permanent deformation.

Some rubber and elastomer products are quite economical. One of the popular elastomers for many consumer products, such as toys has been plasticized PVC. To minimize the cost of a low performance rubber product, the compound can be heavily filled with clay. On the higher end of the price range, specialty elastomers made of exotic compounds are used for aerospace applications and possess critical properties for high temperature environments. As a rule of thumb, higher performance and higher temperature usage specifications mean higher cost products and more careful and complex testing is required.

General Applications

Tires are a typical example of a product made from optimized compounds consisting of several natural and synthetic rubber compounds along with numerous reactive agents and carbon and other particles. The complex rubber compounds used in tires have taken many years to optimize and still intense formulating and testing continues on improving their consistency and performance.

Rubber compounds used for shoe soles, tires, gaskets, belts, and pulleys are optimized formulations, utilizing precise amounts of many different components. This complexity makes testing functions, a huge responsibility within any organization whose products include other polymers enables these compounds to achieve an expansive range of properties. Tires, hockey pucks, drive belts, running shoe soles, exercise mats are all examples of rubber compounds optimized.

Polyamide based elastomers provide some of the highest strength and toughness properties known and are used in top of the line clothing and sports gear.

One of the higher performance elastomers used in applications requiring durability is considered to be Polyurethane. Where molding of many small parts require to be inexpensive, Thermoplastic rubber (TPR) is a common choice.
Use of Universal Testing Machines in the Plastics Industry

Tensile testing is the most basic and common plastics test method, which provides data on ultimate strength, modulus, elongation, toughness and yield strength as per various North American or international standards such as ASTM D638. Testing the bonding and flexural properties of plastics are also quite common for the plastics as per ASTM D790 and other international test methods and the standard test fixtures are 3 point or 4 point types used to test rigid and semi-rigid plastics. Also compression tests are very important for many molded parts as per ASTM D695 and other similar international standards. Compression test is commonly used on foams and packaging materials.

Q-Series Advanced Universal Testing Machines

The Q-Series Universal Tensile/Compression Testing Machines, with a stylish look and state-of-the-art design, meet the highest demands of quality-testing professionals and test applications in the plastics industry. The Q-Series UTMs’ high resolution and the capability to extend the load cell user field to 1/500 allows users to perform accurate tests at very low loads, enabling the widest range of coverage with a single load cell.

Other advantages of the new Q-Series tensile testers starting from Q5 and up include a minimum test speed of 0.0005 mm/min., a stroke reading of 0.5 μm and a two-year warranty.

Programming tests and monitoring results can be performed through the powerful and intelligent GraphWork test software, which allows complete and accurate data management, in accordance with North American and international test standards. The advanced, modular software comes with a comprehensive library of test standards in accordance with American Society for Testing and Materials (ASTM) and international norms—included at no extra cost.

The low-cost single column UTM model Q2.5 also comes with an integrated control console with high definition touch display and can optionally be supplied with the advanced GraphWork software.

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<table>
<thead>
<tr>
<th>Models</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2.5 Single Column</td>
<td>2.5 kN / 550 lbf / 250 kgf</td>
</tr>
<tr>
<td>Q2 Single Column</td>
<td>5 kN / 1,100 lbf / 500 kgf</td>
</tr>
<tr>
<td>Q10 Double Column</td>
<td>10 kN / 2,200 lbf / 1,000 kgf</td>
</tr>
<tr>
<td>Q20 Double Column</td>
<td>20 kN / 4,500 lbf / 2,000 kgf</td>
</tr>
<tr>
<td>Q50 Double Column</td>
<td>50 kN / 11,000 lbf / 5,000 kgf</td>
</tr>
<tr>
<td>Q100 Double Column</td>
<td>100 kN / 22,000 lbf / 10,000 kgf</td>
</tr>
</tbody>
</table>

Table-top Q-Series Universal Testing Machines

<table>
<thead>
<tr>
<th>Models</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>QM2</td>
<td>2 kN / 450 lbf / 200 kgf</td>
</tr>
<tr>
<td>QM5</td>
<td>5 kN / 1,100 lbf / 500 kgf</td>
</tr>
<tr>
<td>QM10</td>
<td>10 kN / 2,200 lbf / 1,000 kgf</td>
</tr>
<tr>
<td>QM20</td>
<td>20 kN / 4,500 lbf / 2,000 kgf</td>
</tr>
<tr>
<td>QM50</td>
<td>50 kN / 11,000 lbf / 5,000 kgf</td>
</tr>
<tr>
<td>QM100</td>
<td>100 kN / 22,000 lbf / 10,000 kgf</td>
</tr>
</tbody>
</table>

QM-Series Universal Testing Machines

Specimen Dies & Clicker Presses

Our molds are made of P20 tool steel that is hardened, ground, and polished, then chrome-plated with the option of teflon coating. Typical molds here are to four cavities. Various sizes are available. Test specimens are cut to uniform thickness. All of the molds meet many national and international standards such as ASTM, DIN, and ISO.

Manual Test Sample Clicker Press

These units operate well in stand-alone cutting situations, and also compliment a Hydraulic press for smaller operations. With the single lever rotation and compressing action, its operating speed exceeds industry standards and costs a fraction of the price of a hydraulic press.

Auto-Pneumatic Clicker Press

This low-cost and high-quality Pneumatic clicker press only requires air to operate and is widely used in the rubber and plastics industry for accurately cutting rubber, leather, and plastics specimens. The Auto-Pneumatic clicker press is available in 3 or 5 ton capacities, which can be used to cut rubber samples with thickness up to 10 or 15mm. This unit is a compact and cost-effective solution for any testing laboratory.

Model SE-Series Laboratory Sized Swing Arm Clicker Press

The SE-8 hydraulic Mini-Clicker cuts exact (dumbells, etc.) samples from split-layered materials. The SE-8 automatically adjusts the stroke to the proper cutting height. With eight ton cutting pressures, this useful laboratory tool requires a minimum of floor space and is highly recommended for medium to high specimen cutting needs.

- Cutting Surface: 12" x 24"
- Cutting Arm: 10" x 14"
- Floor Space: 24" x 25"
- Tonnage: 8 Tons (Optionally 20, 22 , and 25 Tons available)
Specific Gravity Testers - Densimeters

Electronic Densimeter EW-300SG

- Only 10 seconds to measure density and volume, just putting the sample in the water, ideal machine for the internal testing of production line.
- Features:
  - Minimum density and volume resolution 0.01g/cm³.
  - Maximum measuring range ±500g.
  - Result judgments with Comparator Mode is available.

Electronic Densimeter MD-300S

- Popular model with resolution 0.001g/cm³ which upgraded from previous model MD-200S. Compact body and Easy density measurement of not only solid, and liquid sample.
- Features:
  - Minimum density and volume resolution 0.001g/cm³.
  - Maximum measuring range ±300g.
  - Smooth and easy operation with redesigned Container and chemical resistant Styrol Water Tank.

Densimeter SD-200L

- Top precision model with density resolution at 4 decimal places for both Solid and Liquid. Easy operation, as same as the other models.
- Features:
  - New function of powder density substituted with weight up to 3kg can be measured.
  - Features:
  - Maximum measuring range ±300g.
  - Smoother and easier operation with redesigned

Densimeter MDS-300

- Easy density measurement of not only solid, and liquid sample density, but also new function of power density measurement added with resolution of 0.001g/cm³ and reference value of 0.001g/cm³.
- New designed Sensor and Auto-weighing function improve accuracy and working efficiency.
- Features:
  - Higher accuracy with resolution of 0.001g/cm³, and reference value of 0.001g/cm³ can be displayed.
  - No need to open and close the lid with new designed Sensor. Smaller size lid brings less error value, and less operation time.
  - Improves working efficiency and repeatability with Auto-weighing function. (Semi-automatic measurement)

Densimeter MDS-3000

- MDS-3000 can measure maximum capacity up to 3kg. Wide measuring capacity enables to measure the sample without cutting, and it gives the whole sample average once. Compact and Water tank, size can be customized depending on the sample size. Easy and convenient “Auto-weighing Function” is a standard feature.
- Features:
  - Bigger sample which could not fit in previous models, with weight up to 3kg can be measured.
  - Minimum resolution of 0.01g/cm³ and reference value of 0.01g/cm³ can be displayed.
  - Improves working efficiency and repeatability with Auto-weighing function. (Semi-automatic measurement)
  - New function of powder density substituted measurement.

Densimeter MDS-3000

- Minimum density and volume resolution 0.001g/cm³.
- Maximum measuring range ±300g.
- Result judgments with Comparator Mode is available.

QM Series Universal Testing Machines

The QM-Series Universal Testing Machine can satisfy requirements for many kinds of material tests. It has a highly rigid construction and precision servo motor drive components. Using specialized testing software, the unit can handle many kinds of material tests. The QM-Series has a two column design for better stability and rigidity. The elongation factor can be as high as 800% with successful tests, depending on the material. The QM-Series Universal Testing Machine is loaded with technical features, ergonomic design and is produced with high quality as a benchmark. This instrument is suitable to be used in production line, where the operator has to do fast and efficient, and accurately control the test. Testing lab-environments, where using the advanced software, the users can analyze the test data, have full control on processing, filing, and test management.

Universal Testing Machines

www.WorkofTest.com/utm.htm

For plastics and polymer industry, capacities up to 100kN load frames are normally used, however the Q-Series UTMs are available with capacities up to 2,000 kN (440,000 lbf) in electro-mechanical design used for higher strength materials such as metals and composites. Quality also offers extended height or width load frames for higher elongation materials or oversized samples.

We offer a wide range of tensile grips such as pneumatic, wedge, eccentric roller, pincer and squeezer grips with various jaw inserts to guarantee the optimum performance and test results. In addition to tensile grips, fixture for other applications such as compression, 3 or 4 point flexure, CDH, peel, shear, ISO tests, as well as extensions, temperature chambers, load cells and flexo testing/finishing plans are all available upon request.

As of the line solution for high volume and in-line testing, Qualtest offers fully automated testing systems featuring Compact Line as lower cost alternative for low to medium testing requirements or the Multi-Line for the highest and most efficient automation requirements in the most demanding and highest volume testing environments.
**Durometers: Shore & IRHD Hardness Testers**

Our range of HP Durometers is suitable for accurate hardness measurement of natural and synthetic rubber products, plastics, acrylic glass, coatings, resin, polyester, thermoplastics, PVC, epoxies, hardboard, wood, leather, and even fruits. These tests can determine whether samples are within the Shore A, D, B, O, OO, OO, C, DO scales.

These durometers are the highest precision models on the market with very fast binding. HP Durometers can be used as portable instruments and as benchtop units. All of our analog durometers have an antiglare scale with graduation between 0-100. The most important advantage of these handy analog durometers is the precise indication of their measured values, due to the unique design of the sensing mechanism.

Our durometer line is optionally available with a maximum load of 9,8 N or an indicating pointer. This feature makes the maximum value easier to read and allows the determination of the flow characteristics of the material after a certain load time. The Type A durometer, combined with the screw-on loading weight according to ASTM D 2240 and DIN 53505, guarantees a constant measurement result. The B 61 Test Stand is an ideal accessory to be used with our HP Durometers for higher volume batch monitoring. The pick-up device allows a quick and easy mounting of the durometer. The built-in loading device for hardness tests within Shore A range guarantees a constant pressure as prescribed in DIN 53505 and ASTM D 2240. The hardness results can be measured without subjective influences because of this constant load.

**Portable Models**

HP-III Analog Durometer
- www.WorldofTest.com/hpe.htm
- HPE II Series Durometers are high-end hardness testers for accurate and repeatable hardness measurement of rubber, plastics, and other elastomers within the Shore A, D, B, O, OO, OO, C, DO scales.
- The new generation of HPF offers an extended range of applications as well as a new innovative radiocommunication feature, which makes the HPF Series the most technologically advanced digital durometers on the market at a reasonable price.
- HPF II can be conveniently used for any vertical or horizontal testing, and can also access hard-to-reach areas. This unit can be used with the optional test stand as a benchtop laboratory instrument.
- Its patented pressure mechanism ensures a constant contact pressure according to international standards, eliminating measuring inaccuracies caused by sliding or slip contact. The measuring time can be adjusted to test a sample for 0-99 seconds. The measured value will be stored on the display until the next measurement, and subsequently the measured value can be transferred to PC or printer via the RS232 interface.

**Digital Models**
- Digital Shore Hardness Tester HPF III
  - Qualitest offers Digital Hardness Tester HPF III which provides significant test data for the use in laboratory or field.
  - Companies that develop or use the products made of soft elastomers, plastics, and other elastomers within the Shore A, D, B, O, OO, OO, C, DO scales.

PKJ Plastometer
- www.WorldofTest.com/pujayapinthes.htm
- Our top-of-the-line Pujay & Jones PKJ hardness tester (Plastometer) is the most popular model on the market for determining the penetration depth on rubber and elastomer materials such as rubber rollers, standard blocks made of rubber, and paper rollers.
- The electronic dial gauge is integrated in the instrument and shows the indentation depth to an accuracy of 3 decimal places (0.000 mm). With the help of a vertical spindle which is integrated on the back of instrument, the dial gauge can be moved up to perform tests conveniently and precisely.
- The maximum load of 9.8 N is applied by lowering the loading lever on the right side. The test result can be reached in only 60 seconds. With the user-friendly design of our PKJ hardness tester, you can perform easy, quick, and repeatable measurements under heavy loads.

HPE - Digital Baron Hardness Tester
- www.WorldofTest.com/baron.htm
- Available in both analog and digital models, this Baron Hardness Tester accurately analyzes aluminum, glass-reinforced plastics, duro plastics, hard thermo plastics, semirigid and milled products. These models are highly portable hardness testers. Compliant with the National Fire Protection Association (NFPA 1203), the Baron hardness test is a proven service for field testing of fire ladders after being exposed to high temperatures.

**HPE II Digital Durometers**
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**Flex Testers**

**Goodrich Flexometer**
- In Collaboration with Doli, Qualitest offers standard or fully automatic flexometers, commonly known as “Goodrich Flexometer” which have been manufactured since 1945.
- The automatic Flexometer system features height measurement and cooling stations, an automatic temperature chamber including preheating station and a specimen slot for 20 samples can be tested simultaneously.

**Ultimate Flexometer**
- At the time the Goodrich Flexometer was defined, it was hard to imagine that a load could be controlled electronically. The control was done via a balance and weights. The Ultimate Flexometer is a multiprocessor system, which distributes the controlling jobs among the actuators. Since all jobs and controls can be defined via software, manual actions like changing stroke, load on weights, etc., aren’t necessary. Each specimen (max. 58) in the specimen storage of the Ultimate Flexometer can be defined with completely different parameters to the prior one. Testing as well as specimen handling are fully automatic.

**Ultimate Flexometer**
- Rotary Flexometers conforming to ISO 4866/2 1982 are fully digital systems with one motor for the axial deformation of the specimen. One motor is for the transverse deformation of the specimen. Both driving axes can measure load and position and can go in position and load control for each axis. This advantage enables the system to change all parameters with each specimen by software. A dead weight as used in standard gooseneck-type flexometers is not needed. The Ultimate Flexometer system features height measurement and cooling stations, an automatic temperature chamber including preheating station and a specimen slot for 20 samples can be tested simultaneously.

**Ross Flexing Tester**
- www.WorldofTest.com/rossflex.htm
- The Ross Rubber Flexing Machine is designed to determine “resistance of vulcanized or synthetic elastomers to cut growth. It conforms to ASTM Method D1052, as well as ISO-4663. This model can test 12 samples simultaneously.

**DeMattia Flex Fatigue Testers**
- www.WorldofTest.com/deMattia.htm
- Our advanced DeMattia Flexing Tester Conforms to ASTM D-430 method “B” and ASTM D-813 standards to measure the ability of soft rubber compounds, leather and similar materials to resist dynamic fatigue. This DeMattia Flexing apparatus is used to determine the crack growth of vulcanized rubber, leather, etc. when subjected to repeated bending strain or flexing and to measure the resistance to dynamic fatigue of vulcanized rubber and elastomers test specimen when subjected to repeated bending and extension.

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**Moving Die Rheometer (MDR)**
www.WorldofTest.com/moving_die-rheometer-mdr

The Moving Die Rheometer MDR 3000 measures the change in stiffness of a rubber sample. The sample is compressed between two heated platen and by an applied oscillation from the lower die system. The degree of vulcanization determines the cure characteristics of the sample as it is heated and compressed. Our Moving Die Rheometer offers affordable testing and stunning results. We offer sealed die and unsealed die type configurations to satisfy your application. The Servo driven system provides extremely steady oscillation frequencies as well as low noise to ensure test accuracy.

**Mooney Viscometer**
www.WorldofTest.com/mooneyviscometer.htm

The Mooney Viscometer measures the change in a rubber and plastic elastomer properties over time, from uncured to scorched state. The specimen is physically deformed by a rotating platen which will determine changing viscosity at preset temperatures. When the test is completed, the die will automatically reset and allow for removal of the specimen. With the PID temperature controller you can assure that smooth and accurate data will be taken throughout the test.

**Rubber Process Analyzer 9000 (RPA)**
www.WorldofTest.com/rpa.htm

The RPA-9000 is a rotorless rotational shear system with closed test chamber type system according to ASTM, ISO, and DIN. This instrument works with extreme fast frequencies as well as low noise to ensure test accuracy. The measuring compound. For this the test sample would be deformed by an oscillation from the lower die system. The measuring results, the torque viscous and elastic module as well as temperature of the upper and lower die are displayed on the pc screen and also stored on the hard disk of the PC.

**Foam Pressure Rheometer**
www.WorldofTest.com/foampressurerheometer.htm

The foam pressure rheometer is for the determination of compression characteristics of different foam rubber compounds. This series is divided into two machines, the QT-M3000F and the QT-M3000FA.
The QT-M3000F machine is able to precisely adjust the gap between upper and lower die freely.
The QT-M3000FA machine is able to isolate the die’s opening and frame by the sealed ring. This upper and lower die can be totally sealed.

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**Rubber Process Analyzer 9000 (RPA)**
www.WorldofTest.com/rpa.htm

The RPA-9000 is a rotorless rotational shear system with closed test chamber type system according to ASTM, ISO, and DIN. This instrument works with extreme fast frequencies as well as low noise to ensure test accuracy. The measuring compound. For this the test sample would be deformed by an oscillation from the lower die system. The measuring results, the torque viscous and elastic module as well as temperature of the upper and lower die are displayed on the pc screen and also stored on the hard disk of the PC.

**Foam Pressure Rheometer**
www.WorldofTest.com/foampressurerheometer.htm

The foam pressure rheometer is for the determination of compression characteristics of different foam rubber compounds. This series is divided into two machines, the QT-M3000F and the QT-M3000FA.
The QT-M3000F machine is able to precisely adjust the gap between upper and lower die freely.
The QT-M3000FA machine is able to isolate the die’s opening and frame by the sealed ring. This upper and lower die can be totally sealed.

**Moving Die Rheometer (MDR)**
www.WorldofTest.com/moving_die-rheometer-mdr

The Moving Die Rheometer MDR 3000 measures the change in stiffness of a rubber sample. The sample is compressed between two heated platen and by an applied oscillation from the lower die system. The degree of vulcanization determines the cure characteristics of the sample as it is heated and compressed. Our Moving Die Rheometer offers affordable testing and stunning results. We offer sealed die and unsealed die type configurations to satisfy your application. The Servo driven system provides extremely steady oscillation frequencies as well as low noise to ensure test accuracy.

**Mooney Viscometer**
www.WorldofTest.com/mooneyviscometer.htm

The Mooney Viscometer measures the change in a rubber and plastic elastomer properties over time, from uncured to scorched state. The specimen is physically deformed by a rotating platen which will determine changing viscosity at preset temperatures. When the test is completed, the die will automatically reset and allow for removal of the specimen. With the PID temperature controller you can assure that smooth and accurate data will be taken throughout the test.

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**Moving Die Rheometer (MDR)**
www.WorldofTest.com/moving_die-rheometer-mdr

The Moving Die Rheometer MDR 3000 measures the change in stiffness of a rubber sample. The sample is compressed between two heated platen and by an applied oscillation from the lower die system. The degree of vulcanization determines the cure characteristics of the sample as it is heated and compressed. Our Moving Die Rheometer offers affordable testing and stunning results. We offer sealed die and unsealed die type configurations to satisfy your application. The Servo driven system provides extremely steady oscillation frequencies as well as low noise to ensure test accuracy.
Abrasion Testers

**DIN Abrasion Tester**

www.WorldofTest.com/dinabrasion.htm

Our DIN Abrasion tester, which is the original product, is designed to conform to the DIN 53516, DIN ISO 4194. This top quality and highly precise abrasion test determines the abrasion resistance of elastomers in regard to the frictional loss on rubber products, such as tires, conveyor belts, hoses, footwear, floor covering etc. Since wear is always a result of abrasion, different test methods have been developed for the simulation of long term wear.

**Rotary Abrasion Tester**

www.WorldofTest.com/rotaryabrasion.htm

Rotary Abrasion Tester (comparing to Taber-type Abrasion Tester) is a cost-effective and high quality instrument used to determine the abrasion for rubber, leather, plastic, fabric, paper, point, dynojet, tile, glass, etc. and is built in conformance to ASTM D4157, DIN 53754/53799/53109/52347, and TAPPI T476. For this method of abrasion, a four inch diameter sand is mounted on a rotating turntable. Abrasive wheels are applied to the test or a fixed weight for a specific number of cycles. The abrasive wheels wear away the sample. Usually, two or more samples are tested. The result is calculated by measuring the weight loss per thousand cycles of abrasion. Averaged weights are commonly made of eroded clay, and they come in a several levels of coarseness. The test procedure is to abrade specimens against a pair of grinding wheels under a specified pressure. The Rotary Abrasion Tester is supplied with Vacuum units and optionally a trimming machine may be obtained.

**NBS Abrasion Tester**

www.WorldofTest.com/nbsabrader.htm

NBS Abrasion Tester is used commonly in the footwear industry, often to compare materials versus rubber. In the test, three elastomer samples are abraded across the surface of a rotating, abrasive drum until 1/10" of the sample is abraded. A metal standard is tested and after the test. An NBS index is then calculated based on the cycles to abrade the sample and the rubber standard. The results are indexed to the rubber standard, which is generally of low to medium abrasion resistance. For example, if the tested sample took twice the number of cycles to abrade 1/10", the NBS abrasion resistance would be reported as 200. In this test, higher numbers indicate higher resistance to abrasion. Our NBS Abrasion Tester meets ASTM D-1630 Test Method.

**Martindale Abrasion Tester**

www.WorldofTest.com/martindale.htm

Martindale Abrasion Tester model MAT 1000 is an ideal and advanced instrument to be used for determination of the abrasion resistance of textile fabrics. Fabric of all types may be tested by this unit, including woven, non-woven, and knit apparel fabrics; household fabrics; industrial fabric, and foor covering, with fabric pile depth of less than 2mm. The resistance of textile materials to abrasion as measured on a testing machine in the laboratory is generally only one of several factors contributing to wear performance or durability as experienced in the actual use of the material. While “abrasion resistance” and “durability” frequently are related, the relationship varies with different fibers, and different factors may be necessary in any calculation when trying to predict durability based on findings from specific abrasion tests.

Brittleness & Environmental Testers

**ET-05 (Advanced Model) Brittleness Point Temperature Tester**

www.WorldofTest.com/brittleness.htm

The ET-05 Brittleness Point Temperature Tester is used for the automatic determination of Brittleness point according to ISO 812, ISO 974, ASTM D746 and ASTM D2137. The test rig is raised by pneumatic cylinders, which require an air supply of 8 Bar. The brittleness tester is designed as a falling weight tester, where the speed is set by the height and the energy by the attached weights. The computer controls the temperature rise and measures the temperature at impact. The result from each stroke is averaged by typing the result in the software. The speed is measured after the impact, to verify the speed loss during impact.

**QT-BPT Series Brittleness Point Temperature Tester**

www.WorldofTest.com/brittleness.htm

The Brittleness Point Temperature Tester - QT-BPT Series Brittleness Tester covers the determination of the temperature at which rubber, plastics and elastomers exhibit brittle failure under specified impact conditions. Samples to be housed in a thermostatic bath based on the reference standards ASTM D746, ISO 812, as well as other international standards. The cooling medium is dry ice and Nitrogen. The working temperature is from -70°C to +30°C. With this test method the test specimens are mounted onto cantilever grips and then immersed into the low temperature bath for 3 minutes (rubber), or 2.5 minutes (other materials). The specimen is then struck with the tip of the hammers dart at a linear speed of 2 ± 0.2m/s at a lowest temperature of no occurrence of brittle failure. The sample is then checked for cracks, crevasses, small holes and fragments.

**Elastometer - EF-02**

www.WorldofTest.com/elastometer.htm

Elastometer - EF-02 is used for Compression Tests on profiles & for Discontinuities stress relaxation tests. The test jigs for stress relaxation are simple in design but made with very high accuracy regarding surface finish and parallelism of the platens. The discontinuous stress relaxation system has an economical advantage when many materials are to be tested during very long times. The instrument is a specialized compression tester controlled by a PC. The software permits several types of tests to be performed, such as:

- Discontinuous stress relaxation tests according to ISO 3384 Method B.
- Standard compression tests to measure modulus, such as in ISO 7743
- One of several factors contributing to wear performance or durability as experienced in the actual use of the material. While “abrasion resistance” and “durability” frequently are related, the relationship varies with different fibers, and different factors may be necessary in any calculation when trying to predict durability based on findings from specific abrasion tests.
Low Temperature Tester - Combo TR Gehman Brittleness Compression Set Test System


The TR-Teste, Gehman Teste and Brittleness Teste can be combined using the same base unit and a rig changing system. The combined test rig consists of a test unit with a cooling bath and the electronics. The three different test rigs are then mounted on a carousel. No ring is necessary when switching from one method to another. An automatic computerized Low Temperature Tester increases the precision up to 5 times. The capacity will also increase with about 50 % and not last the labour time will decrease about 30 %.

Gehman Tester - ET-02 - Relative Stiffness Characteristics Determination

www.WorldofTest.com/gehman.htm

Gehman Tester - ET-02 - Relative Stiffness Characteristics Determination for determination of the relative stiffness characteristics of vulcanized or thermoplastic rubbers, also called the Gehman procedure. The test is done according to ISO 1432, ASTM D 1053, or technical equivalents standards.

The Gehman Tester has 6 test stations and is completely computerized and performs tests automatically. The computer controls both the temperature rise and measures the torsion angle of the samples. The results are displayed in a graph and RM1, RM10, RM100, RM501, RM500 and RM1000 values are calculated. The results can be presented as a table. An automatic computerized Low Temperature Tester increases the precision up to 5 times. The capacity will also increase with about 50 % and not least the labour time will decrease about 30 %.

TR Tester - ET-01 - Low Temperature Retraction Tester

www.WorldofTest.com/trtester.htm

The TR-Teste TR-01 is a Low Temperature Retraction Tester is primarily used to determine low temperature characteristics by the temperature retraction procedure according to ISO 2921 and ASTM D-1329.

This tester has 6 test stations, is computerized and performs the test automatically after the cooling media has been cooled down and the samples have been mounted. An automatic release of the samples is initiated after the pre-cooling period has been completed. The computer controls both the temperature rise and measures the length change of the samples.

Low Temperature Compression Set Rig - EV-09

www.WorldofTest.com/compressionsetrig.htm

Low Temperature Compression Set Rig - EV-09 performs compression set at low temperatures without having to open the deep-freezer and influence the compression set result has always been a problem.

By using our EV-09 compression rig in combination with a deep-freezer with a special lift, the test can be performed without touching the test piece. All adjustments of height and releasing the compression are made outside the freezer; thus, improving the accuracy of the test results.

The EV-09 rig has a digital gauge (0,001 mm), the piston is made of titanium and the test weight is simply mounted on to the titanium piston. The sample can remain in the test rig for the whole test period and during the recovery time. A test function allows the control of the prescribed double swinging according to standards.

The Rebound Resilience Elasticity Tester - Digitest II is a digital apparatus. Determination of the resilience elasticity of elastomers, soft elastic foams and similar during shock loading calculation of median value. The median value is calculated and indicated on the display and sent to the PC afterwards. A test function allows the control of the prescribed double swinging according to standards.

The tube oven ES14 / Carbon Black content analyzer can be used for the following and similar test methods:

- ISO 247 Rubber - Determination of Ash
- ISO 1438 Rubber - Determination of carbon black content
- ASTM D 297 Rubber - Determination of carbon black and ash content

The vertical rebound tester also known as resiliometer measures resilience of elastomers by dropping a plunger of controlled weight and geometry from a fixed height on the rubber test specimen. It is especially useful in developing compounds to absorb vibration. The lower the resilience, the less vibration can be transferred. The vertical rebound tester complements durometers in the testing labs and conforms to ASTM D 2632.

Carbon Black Dispersion Tester

www.WorldofTest.com/carbonblackdispersion.htm

This test is to ensure uniform dispersion of carbon black in the polymer substrate, which influences the product characteristics and is therefore vital to check. Our Tester is packed with features at a very reasonable price. The main features include: Pixel and dispersion analysis, based on methods A and B of ASTM D-2663 to carry out the calculation and analysis the count of particles, diameter, distribution, and area etc., as well as Philips 10-grade automatic judgment, where you can save the Philips 10-grade images and data as the standard for comparison, and display the grade of the testing results.

Users can have 1000 file groups and can set their own standard pictures for automatic comparison and grade judgment, and via the advanced software the users can generate comprehensive reports.
Aging Ovens

http://www.worldoftest.com/blockoven.htm

Aging Ovens

- Solid state relay for safe control.
- Temperature controller with 0.1°C set point.
- Paint in bluegreen colour.
- ISO1817 (EB 11, EB 14).

Common specifications:
- According to ASTM D 471 and ISO 1817 "Effect of Deterioration by Heating in Air (Test Tube Enclosure)."
- For aging tests according to ASTM D 865 Rubber-Cell Aging Oven - EB Series

The Cell Aging Oven - EB Series are designed for aging tests according to ASTM D 865 Rubber-Deterioration by Heating in air Test Tube Enclosure. The tests can also be used for testing in liquids according to ASTM D 471: Effect of liquids. Cell ovens and cabinet ovens perform well inside the apparatus according to ISO 1818, IEC 811 and other relevant standards.

Qual test manufactures a range of aging ovens for precision aging of rubbers and plastics under controlled conditions. The ovens are designed to give very low temperature variations in time and space, low air speed and controlled air exchange rate. This is achieved by using an inner chamber with a controlled air flow.

Cabinet Ovens are ideal for aging finished products and large test pieces which are unsuitable for cell ovens. Both shelves and rods are supplied with the oven for accommodating most types of samples.

Test Tube Aging Oven - EB Series

The Test Tube Aging Oven - EB Series are designated for aging tests according to ASTM D 865 Rubber-Deterioration by Heating in air Test Tube Enclosure. The tests can also be used for testing in liquids according to ASTM D 471 and ISO 1811. Effect of liquids. Glass tubes for both standards are included.

Common specifications:
- The oven performs well inside the apparatus requirements in ASTM D471, ASTM D471 and ISO1817 (EB 11, EB 14).
- The using consists of steel, painted with a powder paint in bluegreen colour.
- Temperature controller with 0.1°C set point.
- Temperature indicator with sensor in one test tube (EB 11), three test tubes (EB 14).

Monitoring oven temperatures.
- EC 11 is a data monitoring software monitoring instruments such as oven and laboratories for monitoring oven temperatures and humidity. In the software it is possible to set alarm limits. The software has screen windows, one to see actual temperature values and corresponding curve, one for comparing historical data and one for setting the communication with the amplifiers.

Stress Relaxation Tester - EB-02

www.worldoftest.com/stressrelaxation.htm

Stress Relaxation Tester - EB-02 for continuous measurement in either compression or torsion. Meets the requirements in ISO 3384, ISO 6914 and ASTM D6147. The relaxation rig is used in combination with the cell aging ovens EB 01 or EB 05 or our new range of aging ovens when testing at elevated temperature.

Hot Set Tester EB-16II

www.worldoftest.com/eb-16ii-hot-set-tester.htm

EB 16 II is made for hot set testing of cable material according to ISO 3103-2, 3103-2-1, 3103-2-2 and ISO 16770. The hot set tester is used for determining the useful working life of the sample at high temperatures. The test rig is built into a plastic cabinet made of polycarbonate and aluminium profile. The cabinet is covered by Petter elements which keep a constant room temperature around the test stations. The system includes three test stations for testing of stress relaxation or creep in compression or torsion, according to ISO 3384 and ISO 6914. A load cell 1000 N, PT 100 sensors and displacement sensors are included. The instrument can be extended up to 6 test stations.

Creep Testers & More

The Full Notch Creep Tester - EB-15 For Testing of Plastics (EB-15) is a data monitoring software monitoring instruments such as oven and laboratories for monitoringoven temperatures and humidity. In the software it is possible to set alarm limits. The software has screen windows, one to see actual temperature values and corresponding curve, one for comparing historical data and one for setting the communication with the amplifiers.

Full Notch Creep Tester QT-FNCT-6 Series

www.worldoftest.com/fullnotchcreep.htm

FNCT is used to determine the stress cracking resistance of polyethylene material in any environment. A test specimen in the form of a square-section bar with coplanar notches in each face at the center. It is subjected to a static tensile load in a temperature-controlled environment, for example air, water, or vacuum. The stress can be increased by increased oxidation at higher air speeds, by increased evaporation of softeners and antioxidants and by increased oxidation at higher air speeds. Qual test manufactures a range of aging ovens for precision aging of rubbers and plastics under controlled conditions. The ovens are designed to give very low temperature variations in time and space, low air speed and controlled air exchange rate. This is achieved by using an inner chamber with a controlled air flow.

The instrument is offered in multiple configurations of test stations and load ranges (the Boxeis unit has 10 test stations) and is available for testing in liquids according to ISO 16770 (Full Notch Creep Test) or in air according to ISO 3384. For ISO 3384 the test stations are built into a precision aging oven for tight control of conditions for long term testing. Creep can be measured by dip- or extensometers on dumbbells or by the motor encoder when testing strip specimens. Results are presented in graphical and table formats as absolute creep or creep index. In order to study the actual sample failure the data logging rate is increased just before a break occurs.

Software to load the data into an Excel template, template included. This means the data is fed into an Excel template by pressing a button on the measuring scale. The test result is then calculated by the Excel template.
- PC computer with office software included.
- 10 Sets of grips to attach to the test pieces, together with weights.
- 1,3 kg and 2,3 kg.
- Customizable to test samples in a water tank during creep test surfactant solution. The geometry of the specimen is such that plane strain conditions are obtained and brittle failure occurs under appropriate tensile load and temperature conditions. The time for this brittle failure to occur after loading is recorded.

Film Creep Tester EB-20

www.worldoftest.com/filmcreep.htm

Film Creep Tester based on our Ageing Ovens EB 10. It is a digital ruler gauge including a linear laser pointer for manually measuring the creep. The ruler is connected to a computer and the values are fed into an Excel template which calculates the result and presents the graph.

- Controlled air flow, 14 air changes per hour.
- Window, 4 x 4 (700 x 500) mm.
- Hooks to hang test pieces 25 to 100 mm.
- Measuring system with laser pointer, 0,01 mm resolution, to measure elongation, range 300 mm.

Automatic Creep and Stress Relaxation Tester - EB-18

www.worldoftest.com/automaticcreepstressrelaxationtesters.htm

With the Automatic Creep and Stress Relaxation Tester - EB-18 for testing of Rubber - tests can be done. The instrument is based on our triple temperature oven EB 07, which means that each test station can run with an independent temperature. The last rig is based on our relaxation rig EB 02, but lowering and raising of the rig is motor driven. The compression or tension of the samples is also motor driven with a servo motor.

- Software to load the data into an Excel template, template included.

Stress Relaxation Tester - EB-02

www.worldoftest.com/stressrelaxation.htm

Stress Relaxation Tester - EB-02 for continuous measurement in either compression or torsion. Meets the requirements in ISO 3384 and ISO 6914. A load cell 1000 N, PT 100 sensors and displacement sensors are included. The instrument can be extended up to 6 test stations.

Creep Testers & More

New Cell Ovens for Stress Relaxation. We have now constructed special versions for use in relaxation testing. The height of these ovens is lower and incorporates an integrated draught hood (The Draught Hood is used to eliminate variations in force measurements due to temperature and air effects in the surrounding environment), to eliminate variation in force measurements due to temperature and air effects.

The oven is filled and the sample holder moves up and down by a servo motor driven screw system. The oven has a controlled air exchange rate and low air speed which can be controlled by a free meter, meeting the requirements for aging ovens in IEC 811.
Aging Ovens

Test Tube Aging Oven - EB Series

The Test Tube Aging Oven - EB Series are designed for aging tests according to ASTM D 471 Effect of Liquids. Cell ovens and cabinet aging ovens perform well inside the apparatus liquids. Glass tubes for both standards are included. The ovens can also be used for testing in liquids according to ASTM D 471. Effect of Liquids. Cell ovens and cabinet aging ovens perform well inside the apparatus liquids. Glass tubes for both standards are included. The ovens are designed to give very low temperature variations in time and space, low air speed and controlled air exchange rate. This is achieved by using an inner chamber with a controlled air flow.

Cell Ovens are ideal for aging finished products and large test pieces which are unsuitable for cell ovens. Both shelves and rods are supplied with the oven for accommodating most types of samples.

Monitoring oven temperatures EC 11 is a data monitoring software monitoring instruments such as ovens and laboratories for measuring oven temperatures and humidity. In the software it is possible to set alarm limits. The software has three main windows, one to see actual temperature values and corresponding curve, one for comparing historical data and one for setting the communication with the amplifiers.

Cabinet Aging Oven - EB Series

Cabinet Aging Oven - EB Series are designed for aging tests according to ASTM D 865 Rubber-Deterioration by Heating in Air (Test Tube Enclosure). The instrument is often used in multiple configurations of test stations and load ranges (the Roxalis unit has 10 test stations) and is available for testing in liquids according to ISO 16770 (Full Test Cooper) or in air according to ISO 856. For ISO 856 the test stations are built into a precision aging oven for tight control of conditions for long term testing. Cabret can be measured by dip- or wet etchers on dumbbells or by the motor encoder when testing strip specimens. Results are presented in graphical and table formats as absolute creep or creep index. In order to study the actual sample failure the data logging rate is increased just before a break occurs.

Cell Aging Oven - EB Series

The Cell Aging Oven - EB Series are designed for aging tests according to ASTM D 865 Rubber-Deterioration by Heating in Air (Test Tube Enclosure). The ovens can also be used for testing in liquids according to ASTM D 471. Effect of Liquids. Cell ovens and cabinet aging ovens perform well inside the apparatus liquids. Glass tubes for both standards are included. The ovens are designed to give very low temperature variations in time and space, low air speed and controlled air exchange rate. This is achieved by using an inner chamber with a controlled air flow. EB 04 is equipped with air pump and a traverser where EB 10 is a header version where this is replaced by a factory set incine to give a fixed air exchange rate of 0.5 m³ per hour.

The Ovens can be supplied with a 3 glass window, illuminator of the inner chamber and separate systems for temperature control and indication with alarm. The ovens are supplied in two sizes, with 80 and 120 L. Cell oven Cabinet Oven EB 04-I with air supply that contains external air and flow meter that can be set between 0-1000 L/h. Cell oven Cabinet Oven EB 04, excellent temperature stability and distribution is achieved by using an inner chamber with a controlled air flow.

Test Tube Aging Oven - EB Series

The Test Tube Aging Oven - EB Series are designed for aging tests according to ASTM D 865 Rubber-Deterioration by Heating in Air (Test Tube Enclosure). The ovens can also be used for testing in liquids according to ASTM D 471. Effect of Liquids. Cell ovens and cabinet aging ovens perform well inside the apparatus liquids. Glass tubes for both standards are included.

Common specifications:
- The oven performs well inside the apparatus liquids. Glass tubes for both standards are included.
- The oven is designed to give very low temperature variations in time and space, low air speed and controlled air exchange rate.
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Hot Set Tester - EB 16 II

Hot Set Tester - EB 16 II is made for hot set testing of cable material according to ISO 6914 and ISO 2603. The instrument is based on our triple temperature oven EB 07, which means that each test station can run with an individual temperature.

New Cell Ovens for Stress Relaxation We have now constructed special versions for use in relaxation testing. The heating of these ovens is lower and incorporates an integrated draught hood (The Draught Hood) is used to eliminate variations in force measurements due to temperature and air effects in the surrounding environment), to eliminate variation in force measurements due to temperature and air effects.

Stress Relaxation Tester - EB-02

Stress Relaxation Tester - EB-02 for continuous measurement in either compression or tension. Meets the requirements in ISO 2394, ISO 6914 and ASTM D6147. The relaxation rigs are used in combination with the cell aging ovens EB 01 or EB 07 or our new range of ovens when testing at elevated temperature.

Automatic Creep and Stress Relaxation Tester - EB-18

With the Automatic Creep and Stress Relaxation Tester - EB 18, testing of Rubber - tests can be done. The instrument is based on our triple temperature oven EB 07 which means that each test station can run with an individual temperature.

The test rigs are built into a systolic cabinet made of polycarbonate and aluminium profiles. The cabinet is cooled by Peltier elements which keep a constant room temperature around the test stations. The system includes three test stations for testing of stress relaxation or creep in compression or tension, according to ISO 2394 and ISO 6914. A load cell 1000 NF PT 100 sensors and displacement sensors are included. The instrument can be extended up to 6 test stations.

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Creep Testers & More

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New Cell Ovens for Stress Relaxation We have now constructed special versions for use in relaxation testing. The heating of these ovens is lower and incorporates an integrated draught hood (The Draught Hood) is used to eliminate variations in force measurements due to temperature and air effects in the surrounding environment), to eliminate variation in force measurements due to temperature and air effects.

Film Creep Tester EB-24

Film Creep Tester based on our Aging Oven EB 10.4 with a digital rater scale including a line laser pointer for manually measuring the creep. The rater is connected to a computer and the values are fed into an Excel template which calculates the result and presents the graph.

- Controlled air flow, 14 air changes per hour.
- Window, ø x ø 370 x 350 mm.
- Hinges to hang 10 test pieces 25 x 100 mm.
- Measuring system with laser pointer, 0,01 mm resolution, to measure elongation, range 300 mm.

Full Notch Creep Tester EB 11

Full Notch Creep Tester - EB 11 is for For Testing of Plastics Mass Loss at Elevated Temperature in air using the buckling configuration. The creep tester utilizes load cells and servo motors to apply and hold the load rather than the conventional method of applying dead weights. Apart from eliminating the handling problems associated with weights this design offers the possibility of running features such as creep and stress relaxation test and to change the load and ramp controlled by the computer.

The instrument is often used in multiple configurations of test stations and load ranges (the Roxalis unit has 10 test stations) and is available for testing in liquids according to ISO 16770 (Full Test Cooper) or in air according to ISO 856. For ISO 856 the test stations are built into a precision aging oven for tight control of conditions for long term testing. Cabret can be measured by dip- or wet etchers on dumbbells or by the motor encoder when testing strip specimens. Results are presented in graphical and table formats as absolute creep or creep index. In order to study the actual sample failure the data logging rate is increased just before a break occurs.

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The test rigs are built into a systolic cabinet made of polycarbonate and aluminium profiles. The cabinet is cooled by Peltier elements which keep a constant room temperature around the test stations. The system includes three test stations for testing of stress relaxation or creep in compression or tension, according to ISO 2394 and ISO 6914. A load cell 1000 N, PT 100 sensors and displacement sensors are included. The instrument can be extended up to 6 test stations.
Advanced Polymer Testing Instruments

Low Temperature Tester - Combo TR Gehman Brittleness Compression Set Test System

The TR Tester, Gehman Tester and Brittleness Tester can be combined using the same base unit and rig changing system. The combined instrument consists of a base unit with a cooling bath and the electronics. The three different test rigs are then mounted on a carousel. No ring is necessary when switching from one method to another. An automatic computerized Low Temperature Tester increases the precision up to 5 times. The capacity will also increase with about 50 % and not least the labour time will decrease about 75 %.

Gehman Tester - ET-02 - Relative Stiffness Characteristics Determination
www.WorldofTest.com/gehman.htm

The Gehman Tester has 6 test stations and is completely computerized and performs tests automatically. The computer controls both the temperature rise and measures the torsion angle of the samples. The results are displayed in a graph and RM2, RM5, RM10 and RM100 values are calculated. The results can be presented as a table.

TR Tester - ET-01 - Low Temperature Retraction Tester
www.WorldofTest.com/trtester.htm

The TR Tester ET-01 Low Temperature Retraction Tester is primarily used to determine low temperature characteristics by the temperature retraction procedure according to ISO 2921 and ASTM D-1329.

The TR Tester has 6 test stations, is computerized and performs the test automatically after the cooling media has been cooled down and the samples have been mounted. An automatic release of the samples is initiated after the pre cooling period has been completed. The computer controls both the temperature rise and measures the length change of the samples.

Low Temperature Compression Set Rig - EV-09
www.WorldofTest.com/compressionset.htm

Low Temperature Compression Set Rig EV-09 performs compression set at low temperatures without having to open the deep-freezer. The sample can remain in the test rig for the cooling period. No lifting is necessary when switching from one method to another. An automatic computerized Low Temperature Tester increases the precision up to 5 times. The capacity will also increase with about 50 % and not least the labour time will decrease about 75 %.

Carbon Black Dispersion Tester
www.WorldofTest.com/carbonblackdispersion.htm

The test is to ensure uniform dispersion of carbon black in the polymer substrate, which influences the product’s characteristics and is therefore vital to check. Our Tester is packed with features at a very reasonable price. The main features include: Pixel and dispersion analysis, based on methods A and B of ASTM D-2663 to carry out the calculation and analysis the count of particles, diameter, distribution, and area etc., as well as Philips 10-grade automatic judgment, where you can save the Philips 10-grade images and data as the standard for comparison, and display the grade of the testing results.

Users can have 1000 file groups and can set their own standard pictures for automatic comparison and grade judgment, and via the advanced software the users can generate comprehensive reports.

Ball Rebound Tester for Foam Materials
www.WorldofTest.com/ballreboundtester.htm

Each kind of foam is different – and manufacturers as well as processing enterprises should be able to judge the quality as well as the different behavior of products objectively and reproducibly.

One relevant characteristic of materials is its ball rebound behavior. It describes the material’s dynamic behavior. With the help of this measurement the optimal application of soft elastic polymeric foams can be guaranteed.

Vertical Rebound Tester
www.WorldofTest.com/verticalrebound.htm

The vertical rebound tester also known as resilientometer measures resilience of elastomers by dropping a plunger of controlled weight and geometry from a fixed height on the rubber test specimen. It is especially useful in developing compounds to absorb vibration. The lower the resilience, the less vibration can be transferred.

The vertical rebound tester complements durometers in the testing labs and conforms to ASTM D 2632.

Carbon Black Content Analyzer
www.WorldofTest.com/carbonblackcontent.htm

The tube oven ES14 / Carbon Black content analyzer can be used for the following and similar test methods:

- ASTM D1563 Plastics - Test method for carbon black in carbon plastics
- Temperature controller, oven temperature thermostat, drying tube, flow meters, wash bottles and 5 quartz glass boats are included.
Abrasion Testers

DIN Abrasion Tester
www.WorldofTest.com/dinabrasion.htm

Our DIN Abrasion Tester, which is the original product & is designed to conform to the DIN 53516, DIN ISO 4894. This top quality and highly precise abrasion tester determines the resistance of elastomers in regard with the frictional loss on rubber products, such as tires, conveyor belts, hoses, footwear, floor covering etc. Since wear is always a result of abrasion, different test methods have been developed for the simulation of long term wear.

Rotary Abrasion Tester
www.WorldofTest.com/rotaryabrasion.htm

Rotary Abrasion Tester (compare to Taber-Type Abrasion Tester) is a cost-effective and high quality instrument used to determine the abrasion for rubber, leather, plastic, fabric, papier-mache, tiles, glass, etc. and is built in conformance to ASTM D4167, DIN-53754/53799/53109/52347, and TAPPI T476. For this method of abrasion, a four-inch diameter sample is mounted on a rotating turntable. Abrasive wheels are applied to the sample using a fixed weight. For a specific number of cycles, the abrasive wheels wear away the sample. Usually, two sample wipers are tested. The result is calculated by measuring the weight loss per thousand cycles of abrasion. Abrasive wheels are commonly made of silicon carbide, and they come in several levels of coarseness. The test procedure is as follows: wipe specimen against a pair of grinding wheels under a specified pressure. The Rotary Abrasion Tester is supplied with Vacuum unit and optionally a trimming machine may be obtained.

NBS Abrasion Tester
www.WorldofTest.com/nbsabrasion.htm

The NBS abrasion tester is used commonly in the footwear industry, often to compare materials versus rubber. In this test, three elastomer samples are abraded across the surface of a rotating abrasive drum until 1/10" of the sample is abraded. A taber standard is tested and used for the test. An NBS index is then calculated based on the cycles to abrade the sample and the rubber standard. The results are indexed to the rubber standard, which is generally of low to medium abrasion resistance. For example, if the tested sample took twice the number of cycles to abrade 1/10", the NBS abrasion resistance would be reported as 200. In this test, higher numbers indicate higher resistance to abrasion. Our NBS Abrasion Tester meets ASTM D-1630 Test Method.

Akron Abrasion Tester
www.WorldofTest.com/akronabrasion.htm

Akron abrasion tester is designed to evaluate the resistance of wear on a variety of products such as rubber tires, shoe soles, etc. This machine conforms to all attributed industry ASTM standards.

Martindale Abrasion Tester
www.WorldofTest.com/martindale.htm

Martindale Abrasion Tester model MAT1000 is an ideal and advanced instrument to be used for determination of the abrasion resistance of textile fabrics. Fabrics of all types advanced instrument to be used for determination of the abrasion resistance of textile fabrics. Fabrics of all types can be tested by this unit, including woven, non-woven, and knit apparel fabrics, household fabrics, industrial fabrics, and four coverings, with fabric pile depth of less than 2mm.

The resistance of textile materials to abrasion as measured on a testing machine in the laboratory is generally only one of several factors contributing to wear performance or durability as experienced in the actual use of the material. While “abrasion resistance” and “durability” frequently are related, the relationship varies with different fibers and uses, and different factors may be necessary in any calculation when trying to predict durability based on findings from specific abrasion tests.

Brittleness & Environmental Testers

ET-05 (Advanced Model) Britleness Point Temperature Tester
www.WorldofTest.com/britleness.htm

The ET-05 Britleness Point Temperature Tester is used for the automatic determination of Britleness point according to ISO 812, ISO 974, ASTM D746 and ASTM D12137. The test rig is raised by pneumatic cylinders, which require an air supply of 8 Bar. The britleness tester is designed as a falling weight tester, where the weight is set by the height and the energy by the attached weights. The computer controls the temperature rise and measures the temperature at impact. The result from each stroke is entered by typing the result in the software. The speed is measured after the impact, to verify the speed loss during impact.

QT-BPT Series Britleness Point Temperature Tester
www.WorldofTest.com/britleness.htm

The Britleness Point Temperature Tester - QT-BPT Series Britleness Tester covers the determination of the temperature at which rubber, plastics and elastomers exhibit brittle failure under specified impact conditions. Samples to be housed in a thermostatic bath based on the reference standards ASTM D746, ISO 812, as well as other international standards. The cooling medium is dry ice and Nitrogen. The working temperature is from –70°C to +20°C. With this test method the test specimens are mounted onto cantilever grips and then immersed into the low temperature bath for 3 minutes (rubber), or 2.5 minutes (other material). The specimen is then struck with the tip of the hammers dart at a linear speed of 2.5 ± 0.2 m/s at a lowest temperature of no occurrence of brittle failures. The specimen is then checked for cracks, crevices, small holes and fragments.

Elastometer - EF-02
www.WorldofTest.com/elasrometer.htm

Elastometer - EF-02 is used for Compression Tests on profiles & for Discontinuous Stress relaxation tests. The test rig for stress relaxation is simple in design but made with very high accuracy regarding surface finish and parallelism of the platens. The discontinuous stress relaxation system has an economical advantage when many materials are to be tested during very long times. The instrument is a specialized compression tester controlled by a PC. The software permits several types of tests to be performed, such as:

• Discontinuous stress relaxation tests according to ISO 3384 method B.

• Standard compression tests to measure modulus, such as in ISO 7743

Freezing Testers
www.WorldofTest.com/freezeing.htm

Our freezing testers available in vertical or horizontal configurations are used to test the bending and/or flexing curvability of rubber, plastics, synthetic leather, shoes, etc., under cold temperatures as low as –30°C or –50°C depending on the selected model. The test chambers can be equipped with a variety of freezing baskets made of stainless steel. These models conform to ASTM D7130, and ASTM D1590 standards.

ET-05 (Advanced Model) Britleness Point Temperature Tester
www.WorldofTest.com/britleness.htm

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Environmental Test Chamber - QT 7005 Series
www.WorldofTest.com/environmental.htm

Qualitest environmental test chambers are capable of simulating a wide range of temperature or temperature and humidity conditions. These humidity temperature chambers are well-suited for use in electronic, military, and pharmaceutical quality assurance and reliability testing, as well as research testing and production processes.
Moving Die Rheometer (MDR)

The Moving Die Rheometer MDR-3000 measures the change in stiffness of a rubber sample. The sample is compressed between two heated platens and an applied oscillation at a degree of vibration determines the cure characteristics of the sample as it is heated and compressed. Our Moving Die Rheometer offers affordable testing and stunning results. We offer sealed die and unsealed die type configurations to suit your application. The servo-driven system provides extremely steady oscillation frequencies as well as low noise to ensure test accuracy, convenience and increased lifespan of the machine. Operated with a remote computer via RS-232, we can analyze results during data at 1000 readings per second. The machine allows for selectable times and torques during setup or in testing to accommodate limitless configurations. You can monitor the test from the computer or large LCD displays on the front for in test evaluation. The design features modular internal parts for in house servicing and overall easy maintenance.

Mooney Viscometer

The Mooney Viscometer measures the change in a rubber and plastic elastomer properties over time, from uncured to scorched state. The specimen is physically deformed by a rotating platen which will determine changing viscosity at preset temperatures. When the test is completed, the dies will automatically reset and allow for remounted the specimen. With the PID temperature controller you can assure that smooth and accurate data will be taken throughout the test. The servo-driven motors contribute to very accurate results, they are also quiet and require no maintenance. The tester is designed for easy maintenance, it is equipped with modular electrical boards, quick-detachable upper and lower dies, calibration via computer and auto hardware detect features. The unit is safe as it is equipped with a transparent safety shield. With our Mooney viscometer you can ensure reliable results at an affordable price.

Rubber Process Analyzer 9000 (RPA)

The RPA-9000 is a colorless rotational shear system with closed test chamber type system according to ASTM, ISO, and DIN. This instrument works with extreme fast frequencies as well as low noise to ensure test accuracy, durability, and overall easy maintenance. You can monitor the test from the computer or large LCD displays on the front for in test evaluation. The design features modular internal parts for in house servicing and overall easy maintenance. Operated with a remote computer via RS-232, we can analyze results during data at 1000 readings per second. The machine allows for selectable times and torques during setup or in testing to accommodate limitless configurations. You can monitor the test from the computer or large LCD displays on the front for in test evaluation. The design features modular internal parts for in house servicing and overall easy maintenance.

Foam Pressure Rheometer

The foam pressure rheometer is for the determination of force-elongation characteristics of different foam rubber compounds. This series is divided into two machines, the QT-3000FW and the QT-3000FAP. The QT-3000FW machine is able to precisely adjust the gap between upper and lower die freely. The QT-3000FAP machine is able to isolate the die’s opening and frame by the sealed ring. This upper and lower die can be totally sealed.

Durometers: Shore & IRHD Hardness Testers

DigTest Automatic Motorized

DigTest offers the highest level of precision, user-friendliness and repeatability for hardness measurement in any of Durometer A/D/B/C/D0/DG/D00/Micro A/Micro D as well as IRHD Micro Normal Soft Superfast scales.

The modular construction of DigTest allows the users to change the setup to configure with their basic needs in the most cost-effective way, and upgrade their system with additional measuring heads according to any of Durometer or IRHD scales, at any time at nominal cost. With the help of a newly developed plug in system, all the measuring heads are plugged into the pick-up bracket, and recognized and adjusted fully automatically.

DigTest eliminates the operator’s influence on the test results, and thus ensures the highest precision and repeatability for your measurements.

Whether your samples are flat or uneven shaped, or if you want to measure the hardness of O-rings, gaskets, etc., you can always find the most suitable configuration from our list of parts, and optional accessories. With the optional HardTest software, you can transfer, analyze, and archive your measuring results in your PC.

Baroni used to automate the o-ring measuring process depending on the size. The Automatic DigTest system, fully meets or exceeds International standards according to: ASTM D 2240, ASTM D 1415, DIN 53505, DIN 5319 sheet 1.2, ISO 982, ISO 48, NFT 51 123, NFT 46 003, and BS 903 Part A. 26.

Automatic Hardness and Darsity Testing

The revolutionary HardTest consists of a hardness tester and a density measuring system which allows tests to be carried out automatically.

This is an automatic system specialized for high capacity test. The revolutionary digiChamber consists of a digi test hardness tester and a temperature chamber which allows tests to be carried out at above or below ambient temperature. With the function of temperature control, the specimen can be examined of its hardness changes in extreme temperature conditions. This kind of test is ideal for automobile and tire industries as most of the rubber parts are required to withstand critical temperature changes. The entire system can be controlled by a touch panel with coloured display providing easy-to-use feature.

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Micro Compact IRHD II Hardness Tester - New Generation

The 2nd series of this popular IRHD Hardness Tester line has more convenient and user-friendly operation. Accurate IRHD Micro hardness measurement of such elastomers such as O-rings, seals and gaskets, with thickness down to 0.6mm is guaranteed.

IRHD Micro Compact II offers new advantages, with an excellent procedural quality ratio. Testing of O-rings, rubber samples with irregular shapes, seals, etc. are ideal applications for this model. A quick testing lever allows quick and precise positioning of the samples and the measuring head comes with integrated display and keypad for ease of use. IRHD Micro Compact II comes with standard RS-232 data interface as well as exchangeable indenters.

The quick pressing devices, Baroni and Centric, allow ideal positioning of O-rings as well as elastomer tubes and hoses for precise hardness measurement on the suitable section of the samples. The optional “HardTest” windows-based software, offers data logging, management of articles, display of graphics and hardness curves, statistical evaluation, and further analysis of the measured values.

As a service benefit and for quick and low-cost calibration purposes, the customers can send only the measuring heads of the instrument while keeping the test stand and base of the instrument at their lab. The New IRHD Micro Compact II fully meets and exceeds ASTM D 1415, DIN 53519 sheet 2, ISO 48, and other international standards.

Benchtop Models

Microroughness Tester

www.WorldofTest.com/moving-die-rheometer-mdr
www.WorldofTest.com/foampressurerheometer.htm
Durometers: Shore & IRHD Hardness Testers

PortaLine Models
HP-Series Analog Durometer

Our range of HP Durometers are suitable for accurate hardness measurement of natural and synthetic rubber products, plastics, acrylic glass, asbestos, casting resin, polyester, thermoplastic, PVC, rubber, hardwood, wood, leather, and even fruits. These tests can determine whether samples are within the Shore A, B, C, D, O, OO, OOO, C, D, DD scales.

These durometers are the highest precision models on the market with very easy handling. HP Durometers can be used as portable instruments and as benchtop units. All of our analog durometers have an antigalvanic scale with graduations between 0-100. The most important advantage of these handy analog durometers is the precise indication of their measured values, due to the unique design of the spring mechanism.

Our durometer line is optionally available with a maximum pressure according to international standards, eliminating the need for recalibration and thus preventing errors due to inaccurate measurement. The pick-up device slides a quick and easy mounting of the durometer. The built-in loading device for hardness testers within Shore A range guarantees a constant pressure as prescribed in DIN 53503 and ASTM D 2240. The hardness results can be measured without subjective influences because of this constant load.

These durometers are high-end hardness testers for accurate and repeatable hardness measurement of rubber, plastics, and other elastomers within the Shore A, B, C, D, O, OO, OOO, C, D, DD scales.

The new generation of HPE offers an extended range of applications as well as a new innovative radio data communication feature, which makes the HPE Series the most technologically advanced digital durometers on the market at a reasonable price.

HPE II can be conveniently used for any vertical or horizontal testing, and can also access hard-to-reach areas. This unit can be used with the optional test stand as a benchtop laboratory instrument.

Its patented pressure mechanism ensures a constant contact pressure according to international standards, eliminating the need for recalibration and thus preventing errors due to inaccurate measurement. The measured value will be stored on the display until the next measurement, and subsequently the measured value can be transferred to PC or printer via the RS232 interface.

The new generation of HPE offers an extended range of applications as well as a new innovative radio data communication feature, which makes it possible to test any vertical or horizontal loading device for hardness testers within Shore A range guarantees a constant pressure as prescribed in DIN 53503 and ASTM D 2240. The hardness results can be measured without subjective influences because of this constant load.

HPE-I Series Durometers
HPE I Series Durometers
www.WorldofTest.com/hpe-i-series.htm

Our digital Shore HD Shore hardness testers for portable hardness testers can be used for hardness testing, as well as a new innovative radio data communication feature, which makes the HD Series the most technologically advanced digital durometers on the market at a reasonable price. HPE II can be conveniently used for any vertical or horizontal testing, and can also access hard-to-reach areas. This unit can be used with the optional test stand as a benchtop laboratory instrument.

The electronic dial gauge is integrated in the instrument and shows the indentation depth to the accuracy of 3 decimal places (0.001 mm). With the help of a vertical spindle which is integrated on the back of instrument, the dial gauge can be moved up to perform tests conveniently and precisely.

The maximum load of 50 N is applied by turning the loading lever on the right side. The test result can be reached in only 60 seconds. With the user-friendly design of our P&J hardness tester, you can perform easy, quick, and repeatable measurements under heavy loads.

The pick-up device slides a quick and easy mounting of the durometer. The built-in loading device for hardness testers within Shore A range guarantees a constant pressure as prescribed in DIN 53503 and ASTM D 2240. The hardness results can be measured without subjective influences because of this constant load.

Digital Shore Hardness Tester HPE III

Qualitest offers Digital Hardness Tester HPE III which provides significant test data for the use in laboratory or field.

Companies that develop or use the products made of soft elastic materials produce, have usually a laboratory in which the products and raw material are regularly tested according to the standard.

HP-Series Analog Durometer
www.WorldofTest.com/barcol.htm

Available in both analog and digital models, this Barcol Hardness Tester accurately analyzes aluminum, glass, reinforced plastics, duro plastics, hard thermo plastics, sheet metal, and even fruits. These tests can determine whether samples are within the Shore A, B, C, D, O, OO, OOO, C, D, DD scales.

These durometers are the highest precision models on the market with very easy handling. HP Durometers can be used as portable instruments and as benchtop units. All of our analog durometers have an antigalvanic scale with graduations between 0-100. The most important advantage of these handy analog durometers is the precise indication of their measured values, due to the unique design of the spring mechanism.

Our durometer line is optionally available with a maximum pressure according to international standards, eliminating the need for recalibration and thus preventing errors due to inaccurate measurement. The pick-up device slides a quick and easy mounting of the durometer. The built-in loading device for hardness testers within Shore A range guarantees a constant pressure as prescribed in DIN 53503 and ASTM D 2240. The hardness results can be measured without subjective influences because of this constant load.

These durometers are high-end hardness testers for accurate and repeatable hardness measurement of rubber, plastics, and other elastomers within the Shore A, B, C, D, O, OO, OOO, C, D, DD scales.

The new generation of HPE offers an extended range of applications as well as a new innovative radio data communication feature, which makes the HPE Series the most technologically advanced digital durometers on the market at a reasonable price. HPE II can be conveniently used for any vertical or horizontal testing, and can also access hard-to-reach areas. This unit can be used with the optional test stand as a benchtop laboratory instrument.

The electronic dial gauge is integrated in the instrument and shows the indentation depth to the accuracy of 3 decimal places (0.001 mm). With the help of a vertical spindle which is integrated on the back of instrument, the dial gauge can be moved up to perform tests conveniently and precisely.

The maximum load of 50 N is applied by turning the loading lever on the right side. The test result can be reached in only 60 seconds. With the user-friendly design of our P&J hardness tester, you can perform easy, quick, and repeatable measurements under heavy loads.

The pick-up device slides a quick and easy mounting of the durometer. The built-in loading device for hardness testers within Shore A range guarantees a constant pressure as prescribed in DIN 53503 and ASTM D 2240. The hardness results can be measured without subjective influences because of this constant load.

Flex Testers

DeMattia Flex Fatigue Testers
www.WorldofTest.com/demattia.htm

Our advanced DeMattia Flexing Tester Conforms to ASTM D-430 method “E” and ASTM D 813 standards to measure the ability of soft rubber compounds, leather and similar materials to resist dynamic fatigue. This DeMattia Flexing apparatus is used to determine the crack growth of vulcanized rubber, leather, etc. when subjected to repeated bending strain or flexing and to measure the resistance to dynamic fatigue of vulcanized rubber and elastomers test specimen when subjected to repeated bending and extension.

A key advantage of this DeMattia tester is that the upper and lower grips both move in opposite directions, thus resulting in reducing the level of vibration and the noise found in traditional DeMattia flexing fatigue testers. As option a temperature chamber can be supplied with this advanced DeMattia flex fatigue tester.

Goodrich Flexometer
www.WorldofTest.com/flexometer.htm

In Collaboration with Doli, Qualitest offers standard or fully automatic flexometers commonly known as “Goodrich Flexometer” which have been manufactured since 1955.

The automatic Flexometer system features height measurement and cooling stations, an automatic temperature chamber including preheating station and a specimen silo for 20 specimens, due to the unique design of the spring mechanism. Our durometer line is optionally available with a maximum pressure according to international standards, eliminating the need for recalibration and thus preventing errors due to inaccurate measurement. The pick-up device slides a quick and easy mounting of the durometer. The built-in loading device for hardness testers within Shore A range guarantees a constant pressure as prescribed in DIN 53503 and ASTM D 2240. The hardness results can be measured without subjective influences because of this constant load.

Ultimate Flexometer
www.WorldofTest.com/ultimateflexometer.htm

At the time the Goodrich Flexometer was defined, it was hard to imagine, that a load could be controlled electronically. The control was done via a balance and weights. The Ultimate Flexometer is a multiprocessor system, which distributes the controlling jobs among the actuators. Since all jobs and controls can be defined via software, manual actions like changing stroke, lay on weights, etc. aren’t necessary. Each specimen (max. 56) in the specimen storage of the Ultimate Flexometer can be defined with completely different parameters to the prior one. Testing as well as specimen handling are fully automatic.

Rotary Flexometer
www.WorldofTest.com/rotaryflexometer.htm

Rotary Flexometers conforming to ISO 4866/2 1982 are fully digital systems with one motor for the axial deformation of the specimen. Both driving axes can measure load and position and can go in position and load control for each axis. This advantage enables the system to change all parameters with each specimen by software. A dead weight as used in standard goon Hansen-type flexometers is not needed. This enables the operator to go in load control for the axial axis and in position control for the transversal axes and vice versa. For higher volume testing we also offer fully automated rotary flexometers. These systems can perform 20 specimens each and are available. The handling arm can pick and place the specimens and will move it after the test to a rot-station. The handling system is driven by the software.

Ross Flexing Tester
www.WorldofTest.com/rossflex.htm

The Ross Rubber Reel Machine is designed to determine “resistance of vulcanized or synthetic elastomers to cut growth. The Ross Flexing Tester is a standard instrument for measuring the resistance of vulcanized rubber, leather and similar materials to cracking due to repeated bending strain or flexing. The tester is based on the standards ASTM D 623, DIN 53 533, part 3 or ISO 4866.
Electronic Densimeter EW-300SG

Only 10 seconds to measure density and volume, just putting the sample into the water. Ideal machine for the internal testing of production line.

Features:
- Minimum density and volume resolution 0.01g/cm³.
- Maximum measuring range up to 300g.
- Result judgments with Comparator Mode is available.

Electronic Densimeter MD-300S

Popular model with resolution 0.001g/cm³ which upgraded from previous model MD-200S. Compact body and Easy density measurement of not only solid, and liquid depending on the sample size. Easy and convenient without cutting, and it gives the whole sample average. Wide measuring capacity enables to measure the samples from 10mg to 3kg.

Features:
- Minimum density and volume resolution 0.001g/cm³.
- Maximum measuring range up to 300g.
- Smoother and easier operation with redesigned Container and chemical resistant Styrol Water Tank.

Densimeter SD-200L

Top precision model with density resolution at 4 decimal places for both Solid and Liquid. Easy operation, as same as the other models.

Suitable for Plastic, Pellets, Paper, Rubbers, Fabrics, advanced materials, and Liquid density in the field of Medical, Food, and Chemical that need to be measured to avoid the error on the third decimal.

Features:
- Minimum density and volume resolution 0.0001g/cm³.
- Selectable measuring time from 4 units.
- Error tolerance can be shown.

Densimeter MDS-300

Easy density measurement of not only solid, and liquid sample density, but also new function of powder density measurement added with resolution of 0.001g/cm³ and reference value of 0.0001g/cm³. New designed Sensor and Auto-weighing function improve accuracy and working efficiency.

Features:
- Higher accuracy with resolution of 0.001g/cm³, and reference value of 0.0001g/cm³ can be displayed.
- No need to open and close the lid with new designed Sensor. Smaller size lid brings less error value, and less operation time.
- Improves working efficiency and repeatability with Auto-weighing function. (Semiautomatic measurement)

Densimeter MDS-3000

MDS-3000 can measure maximum capacity up to 3kg. Wide measuring capacity enables to measure the sample without cutting, and it gives the whole sample average without cutting. A Water Tank, size can be customized depending on the sample size. Easy and convenient “Auto-weighing Function” is a standard feature.

Features:
- Bigger sample which could not fit in previous models, with weight up to 3kg can be measured.
- Minimum resolution of 0.0001g/cm³ and reference value of 0.00001g/cm³ can be displayed.
- Improves working efficiency and repeatability with Auto-weighing function. (Semiautomatic measurement)
- New function of powder density substituted measurement.
Use of Universal Testing Machines in the Plastics Industry

Tensile testing is the most basic and common plastics test method, which provides data on ultimate strength, modulus, elongation, toughness and yield strength as per various North American or international standards such as ASTM D638. Testing the bonding and flexural properties of plastics are also quite common for the plastics as per ASTM D790 and other international test methods and the standard test figures are 3 point or 4 point types used to test rigid and semi-rigid plastics. Also compression tests are very important for many molded parts as per ASTM D695 and other similar international standards. Compression test is commonly used on foams and packaging materials.

Q-Series Advanced Universal Testing Machines

The Q-Series Universal Tensile/Compression Testing Machines, with a stylish look and state-of-the-art design, meet the highest demands of quality-testing professionals and test applications in the plastics industry. The Q-Series UTMs’ high resolution and the capability to extend the load cell user field to 1/800 allows users to perform accurate tests at very low loads, enabling the widest range of coverage with a single load cell.

Other advantages of the new Q-Series tensile testers starting from Q5 and up include a minimum test speed of 0.0005 mm/min., a stroke reading of 0.5 µm and a two-year warranty.

Programming tests and monitoring results can be performed through the powerful and intelligent GraphWork test software, which allows complete and accurate data management, in accordance with North American and international test standards. The advanced, modular software comes with a comprehensive library of test standards, in accordance with American Society for Testing and Materials (ASTM) and international norms—incorporating at no extra cost.

The low-cost single column UTM model Q2.5 also comes with an integrated control console with high definition tactile display and can optionally be supplied with the advanced GraphWork software.

| QM-Series Universal Testing Machines |
| Models | Capacity |
| QM2 | 2 kN / 450 lbf / 200 kgf |
| QM5 | 5 kN / 1,100 lbf / 500 kgf |
| QM10 | 10 kN / 2,200 lbf / 1,000 kgf |
| QM20 | 20 kN / 4,500 lbf / 2,000 kgf |
| QM50 | 50 kN / 11,000 lbf / 5,000 kgf |
| QM100 | 100 kN / 22,000 lbf / 10,000 kgf |

QM-Series Universal Testing Machines

| Table-top Q-Series Universal Testing Machines |
| Models | Capacity |
| Q2.5 Single Column | 2.5 kN / 550 lbf / 250 kgf |
| Q5 Double Column | 5 kN / 1,100 lbf / 500 kgf |
| Q20 Double Column | 20 kN / 4,500 lbf / 2,000 kgf |
| Q50 Double Column | 50 kN / 11,000 lbf / 5,000 kgf |
| Q100 Double Column | 100 kN / 22,000 lbf / 10,000 kgf |

Specimen Dies & Clicker Presses

Specimen Dies

- Fully Certified ASTM, DIN and ISO
- DIN Standard
- ISO 34-A
- ISO 34-B
- ISO 37, Type I through 4
- ISO DES 3167
- 250 x 5.0
- 500 x 5.0
- 1,000 x 6.0
- Accessories
  - Mallet Handles
  - Shanks
  - Adaptors
  - Sharpening, Calibration & Certification

ASTM Standard
- ASTM D-412 A Tensile Sample Cutting Die
- ASTM D-412 B Tensile Sample Cutting Die
- ASTM D-412 C Tensile Sample Cutting Die
- ASTM D-412 D Tensile Sample Cutting Die
- ASTM D-638 Type I Tensile Die
- ASTM D-638 Type II Tensile Die
- ASTM D-638 Type III Tensile Die
- ASTM D-638 Type IV Tensile Die

Manual Test Sample Clicker Press

These units operate well in stand-alone cutting situations, and also compliment a Hydraulic press for smaller operations. With the single lever rotation and compressing action, its operating speed exceeds industry standards and costs a fraction of the price of a hydraulic press.

Auto-Pneumatic Clicker Press

This low-cost and high-quality Pneumatic clicker press only requires air to operate and is widely used in the rubber and plastics industry for accurately cutting rubber, leather, and plastics specimens. The Auto-Pneumatic clicker press is available in 3 or 5 ton capacities, which can be used to cut rubber samples with thickness up to 10 or 15mm. This unit is a compact and cost-effective solution for any testing laboratory.

Model SE-Series Laboratory Sized Swing Arm Clicker Press

The SE-8 Hydraulic Mini-Clicker cuts exact (dumbells, etc.) samples from split layered materials. The SE-8 automatically adjusts the stroke to the proper cutting height. With eight ton cutting pressure, this useful laboratory tool requires a minimum of floor space and is highly recommended for medium to high specimen cutting needs.

- Cutting Surface: 12” x 24”
- Cutting Arm: 10” x 14”
- Floor Space: 24” x 29”
- Tonnage: 8 Tons (Optionally 20, 22 , and 25 Tons available)

Rubber & Elastomers

Rubber compounds are one of the most complex and universally used materials and the flexibility of the compounds and their ability to absorb particle filler like carbon black, silica, and clay in amounts more than their own weight results in a wide range of properties, possible to achieve. Quite often, rubber and elastomer compounds are used where resistance to impact, or toughness is desired. Where elasticity during stretching and recoil are needed, rubber and elastomers are ideal materials. An elastomer can be stretched to many times its original length yet bounce back without permanent deformation.

Some rubber and elastomer products are quite economical. One of the popular elastomers for many consumer products, such as toys has been plasticized PVC. To minimize the cost of a low performance rubber product, the compound can be heavily filled with clay. On the higher end of the price range, specialty elastomers made of exotic compounds are used for aerospace applications and possess critical properties for high temperature environments. As a rule of thumb, higher performance and higher temperature usage specifications mean higher cost products and more careful and complex testing is required.

General Applications

Tires are a typical example of a product made from optimized compounds consisting of several natural and synthetic rubber compounds along with numerous reactive agents and carbon and other particles. The complex rubber compounds used in tires have taken many years to optimize and still intense formulating and testing continues on improving their consistency and performance.

Rubber compounds used for shoe soles, tires, gaskets, belts, and pulleys are optimized formulations, utilizing precise amounts of many different components. This complexity makes testing functions, a huge responsibility within any organization whose products include other polymers enables these compounds to achieve an expansive range of properties. Tires, hockey pucks, drive belts, running shoe soles, exercise mats are all examples of rubber compounds optimized for their specific application.

Polyamide based elastomers provide some of the highest strength and toughness properties known and are used in top of the line clothing and sports gear.

One of the higher performance elastomers used in applications requiring durability is considered to be Polyurethane. Where molding of many small parts require to be inexpensive, Thermoplastic rubber (TPR) is a common choice.

More Rubber Testing Instruments

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Spray Tester</td>
<td>The Salt Spray Fog Tester is used to create and maintain the salt spray fog test environment, and test the anti-erosion quality of the materials surfaces. Our salt spray testers available in two capacities meet ASTM B117, and ISO-9227 standard test methods.</td>
</tr>
<tr>
<td>Tire Plunger Tester</td>
<td>Our advanced range of Tire Plunger Testers is available in different configurations for various tests such as: plunger test, bead unseating, vertical stiffness, lateral stiffness, footprint analysis, dimension measurement, envelope stiffness, bead stiffness, tension, and inflation pressure tests. This extensive range of plunger testers are widely used in the tire industry and meet the corresponding ASTM and other international standard test methods.</td>
</tr>
<tr>
<td>Williams Parallel Plate Plastometer</td>
<td>The Williams Parallel Plate Plastometer test method measures plasticity and recovery of uncompounded, compounded, and reclaimed stock of unvulcanized rubber and rubber-like materials. Complete unit with heatproof dial indicator reading in 0.1mm increments. Plasticity is determined by taking a sample of lower size, exposing it to a predetermined test temperature for a precise time, and then subjecting it to a compressive force of 5,000g. The resultant thickness is the plasticity.</td>
</tr>
<tr>
<td>Compression Set Test Fixture</td>
<td>Compression Set Testing according to ASTM D395 test method, measures the ability of rubber to return to its original thickness after prolonged compressive stresses at a given temperature and deflection. As a rubber material is compressed over time, it loses its ability to return to its original thickness. This loss of resiliency (memory) may reduce the capability of an elastomeric gasket, seal or cushioning pad to perform over a long period of time. The resulting permanent set that a gasket may take over time may cause a leak, or in the case of a shock isolation pad, the ability to protect an accidentally dropped unit may be compromised.</td>
</tr>
<tr>
<td>Ozone Tester/Ozone Chamber QT-0500</td>
<td>Ozone testing is an accelerated test method used primarily for evaluating the resistance of rubber products to cracking during service life. Specimens are set in a manner so that the surface is in tension and placed in the exposure chamber for some time period selected either method or the user.</td>
</tr>
<tr>
<td>Portable Incliable Articulated Stud Slip Tester (PIAST)</td>
<td>This test method covers the operational procedures for using a portable inclinable articulated stud slip tester (PIAST) for determining the slip resistance of footwear sole, heel, or related materials (test feet) against planar walkway surfaces or walkway surrogates (test surfaces) in either the laboratory or field under dry, wet, or contaminated conditions. This unit meets ASTM F1677 test method.</td>
</tr>
</tbody>
</table>

Compliance to ASTM D-028 William test method measures plasticity and recovery of uncompounded, compounded, and reclaimed stock of unvulcanized rubber and rubber-like materials. Complete unit with heatproof dial indicator reading in 0.1mm increments. Plasticity is determined by taking a sample of lower size, exposing it to a predetermined test temperature for a precise time, and then subjecting it to a compressive force of 5,000g. The resultant thickness is the plasticity.

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Silicone based elastomers and fluoro polymer elastomers are also used in high temperature applications.
About Qualitest

QUALITEST, together with the WorldofTest.com network, is a global supplier of testing technologies that help customers improve their design, development and manufacturing processes. Our mission is to help our customers design, develop and produce their products faster, with higher quality and at a lower cost. A leader in offering the widest range of precision plastics & rubber testing technologies on the market, Qualitest leverages extensive industry experience to provide products that determine the mechanical properties of polymers including rubber, plastics and other elastomers. These solutions include portable and lab-based hardness testers as well as bench-top and sophisticated systems to meet your highest demands.

Qualitest offers direct after sales service/calibration support or through our authorized and nationwide A2LA accredited and ISO 17025 certified service centers.

With rapidly growing presence in North America and worldwide, Qualitest maintains offices in USA, Canada, UAE and Asia with a wide network of sales and service partners. This global presence ensures that Qualitest customers have fast and efficient access to Qualitest service, support and consulting services to realize optimal return on their testing solution investments.

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Fogging Tester EB 03
www.WorldofTest.com/foggingstestar.htm

For determination of windowsen fogging according to ISO, DIN, ASTM and other automotive standards. The equipment has a compact design with the heating bath and cooling bath integrated in one casing. For cooling the water bath, the instrument is normally connected to tap water of max 18°C. If the tap water is too warm, a model EB 03C can be supplied with a built-in cooling system with Peltier elements.

Resistivity Tester EE 01
www.WorldofTest.com/resistivity.htm

For determination of volume resistivity on conductive and semi-conductive rubber materials, according to ISO 1853.

The instrument has an integrated differential volt-meter, built into the head of the electrodes and a very sensitive ammeter, together with a very high input resistance for the volt-meter.

Optical Sorting Machine - Automatic Sorting System
www.WorldofTest.com/optical-sorting.htm

Optical Sorting Machine that can also be used to do automatic sorting. The optical sorting machine product line offers users flexibility over a wide range of parameters that can be measured as well as sorting machines that are designed specifically for certain objects such as screws, nuts or bolts. One sorting system from the optical sorting machine product line is designed to discriminate metallic objects based on hardness. Each optical sorting machine offers powerful technology to any production line.

Shoe Dielectric Resistance Tester
www.WorldofTest.com/shoedielectricresistancetester.htm

The Shoe Dielectric Resistance Tester is designed to test the dielectric resistance of safety or other ways insulated footwear. The Shoe Dielectric Resistance Tester applies a power line frequency voltage between the inner and outer electrodes of the shoe (specimen) being tested. If the test specimen does not fail, the current in mA displayed on the ammeter is the leakage current; the voltage in kV indicated by the voltmeter is the withstand voltage. It adopts HMI, so operation is smart and visible.

Shoe Bending Waterproof Tester
www.WorldofTest.com/shoebendingwaterprooftester.htm

The Shoe Bending Waterproof Tester determines the water resistance and durability of foaming for shoes immersed in water. The Shoe Bending Waterproof Tester stops automatically after either a preset number of bends has been performed or a preset testing-time has been reached. The Shoe Bending Waterproof Tester is equipped with an advanced sensor that detects water permeation inside the footwear, which limits operator interference of the test.
Qualitest also offers an extensive range of testing solutions for plastics, foam, paper & cardboard, textiles, cement & concrete, and metals.

Our plastics testing technologies include:

- Universal Tensile/Compression Testing Machines
- Izod/Charpy Impact Testers
- Sample Notchers
- Melt Flow Indexers
- Durometers
- Drop Dart & Gardner Impact Testers
- Specimen Molds
- Sample Preparation Machines
- Capillary Rheometers
- Laboratory Mixing Extruders
- Laboratory Mixing Molds
- Limiting Oxygen Index Chambers
- HDT/VCT Heat Deflection Testers
- Gloss Meters
- Light Booths
- Coefficient of Friction (COF) Testers
- Hot Tack Heat Seal Testers
- Elmendorf Tear Strength Testers
- Opacity Meters
- Film Thickness Gauges
- Gradient Tester for Minimum Film Forming Measurement
- Gas & Water Vapor Permeability Testers
- much more

Qualitest Locations:

USA: Plantation, Florida
Buffalo, New York
California

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UAE: Dubai

Asia: Hong Kong

Mexico: Mexico City

India: Mumbai

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