200 Series

UNIVERSAL TEST MACHINES

Versatile and convenient, long travel and higher speeds

Low forces up to 5 kN (1,125 lbf)



TESTRESOURCES

200 SERIES

The 200 Series serve lower force mechanical test applications and are required for high extension or long travel testing applications. This series is ideal for test applications ranging from very low forces up to 5 kN (1125 lbf) and high extension materials testing applications such as tensile tests of rubber. Our 200 Series is designed as a tabletop test machine and is compact and lightweight.

The 200 series is recognized globally for being reliable, low maintenance and dependable. These systems provide many years of error-free test results. Maximize your productivity and minimize your annual costs with convenient calibration and minimal infrastructure maintenance.

What's Different?

What sets the TestResources' 200 Series apart from traditional universal test machines?

- Force capacities up to 5 kN (1125 lbf)
- Test speeds up to 100 ipm (2500 mm/min)
- Travel lengths up to 1400 mm (55 in)
- Test high elongation test samples such as thin film and rubber with extended crosshead movement
- Flexible adjustment of crosshead travel limits
- Includes high performance and easy to use controller with logical workflow design
- Can be configured for low force testing

What's New?

Newton Universal Controller

Affordable AND Smart: Pay only for what you need now and receive performance and capability for what you might need in the future.



Announcing the Newton Universal test controller with both tablet and computer based configurations.

What does this mean for you?

- User interface optimized for intuitive workflow and ease of use
- Configured and customized to meet YOUR immediate testing needs and available budget
- Upgrade and Expand as needed to meet ALL future unforeseen testing challenges
- Research quality accuracy, resolution and speed range
- Expands to 20 sensors (transducer control channels)

200 Series Universal Test Machines





What you can do with the 200 Series...

The 200 series is a single channel uniaxial test machine with mechanical test measurement and control, data acquisition, results analysis and customized test report generation. Standard and custom models are available.

Save time and money using modular components that allow you to build it or expand it yourself.

Engineered for accuracy and durability in order to deliver long travel and higher speeds

Designed to meet a variety of applications including rubber and elastomers, metal, wire and steel products, composites, plastics, wood, medical devices, textiles, large components and many more.



Test Types

- Tensile
- Compression
- Flexural
- Peel
- Shear
- Tear
- Friction
- Strength
- Characterization
- Proof
- Viscoelastic (Stress Relaxation / Creep)

Test Profiles

- Monotonic
- Dual segment
- Multiple segment
- Cyclic

Adjustable Test Speed Control

Constant test speed (CRE); mm/min or in/min
Constant loading rate (CLR); N/min; lb/min or psi/min
Constant strain rate (CSR); %/min, in/in/min or mm/mm/min

Standards

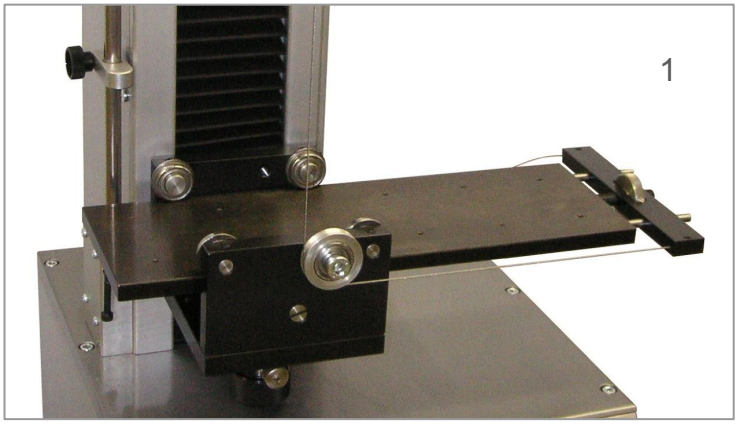
Meets specific industry test methods from ASTM, ISO, EN, DIN, JIS, TAPPI, JEDEC and other international standards organizations.

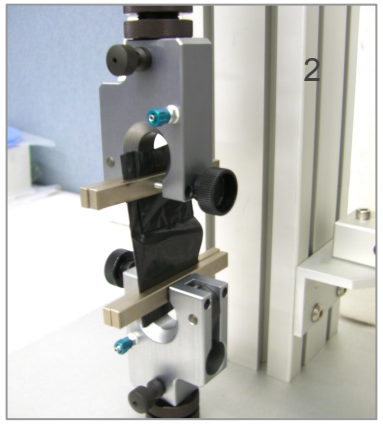
Markets

Product and materials testing in quality assurance, production, research, product development and educational test environments

Industries

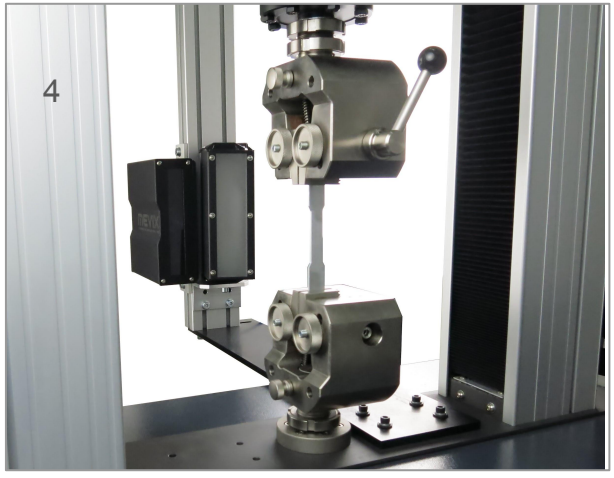
Medical devices, biomaterials, textiles, soft metals, rubber and elastomers, food, small components, wire, paper, plastic, film and many more.

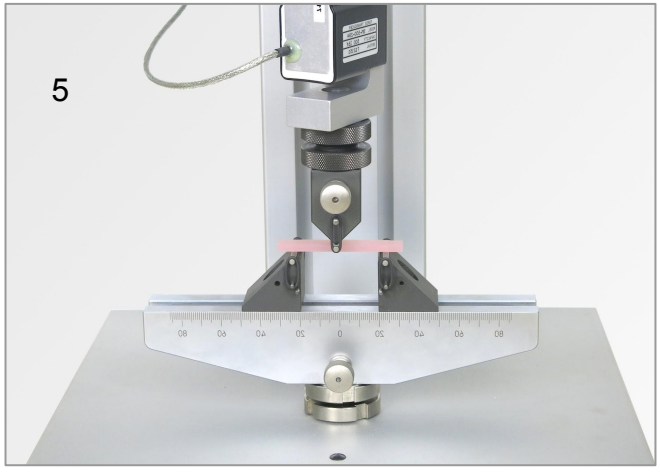


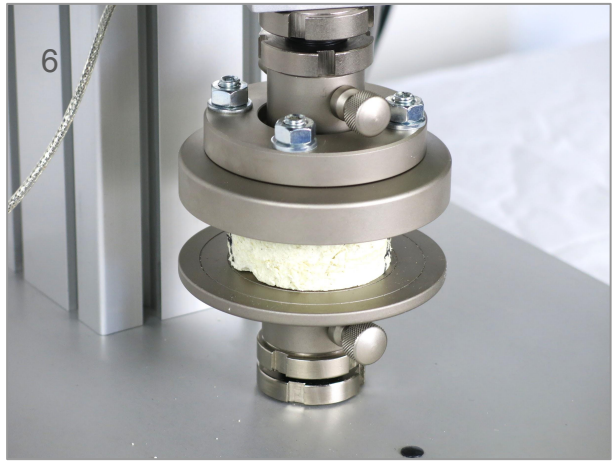


1. Peel test fixture for adhesive tests (Model G50)
2. Pneumatic Tensile Grips with Wide Jaws (Model G229)
3. High travel extensometer for rubber tensile tests (Model EC900)
4. Video extensometer for tensile test (E-VID)
5. 3 Point Bend Fixture (Model G238)
6. Compression Platens (Models G223 & G23)
7. Tensile grips for tissue test applications (Model G240k)











EXCEPTIONAL PERFORMANCE

At TestResources, exceptional performance is our top priority because we know that your business relies on it. This is especially evident with our 200 Series universal testing machines which produce precise, repeatable and reliable test results.



Load & Strain Measurement Accuracy

The 200 Series features accurate load measurements over a wide dynamic range, while meeting or exceeding industry standards such as ASTM E4, BS 1610, DIN 51221, ISO 7500-1, EN 10002-2 and AFNOR A03-501. Load accuracy is better than ± 0.5% over the entire calibrated range.

- Accurately measure forces as low as 0.0001 N (0.00002 lbf) with a low force rated load cell.
- Fourteen load cells available to cover a wide range of full scale capacities including 0.1 lbf, 0.2 lbf, 1.1 lbf, 2.2 lbf, 5.6 lbf, 10 lbf, 25 lbf, 50 lbf, 100 lbf, 150 lbf, 250 lbf, 500 lbf, 1000 lbf and 5 kN. Metric models are also available.
- Controller automatically identifies each load cell with Plug ‘n’ Play simplicity, which improves operator efficiency and reduces likelihood of errors. Newton controllers meet TEDS IEEE 1451.4 standard.
- Strain measurement accuracy meets or surpasses ASTM E83, ISO 9513 and EN 10002-4

Position Resolution

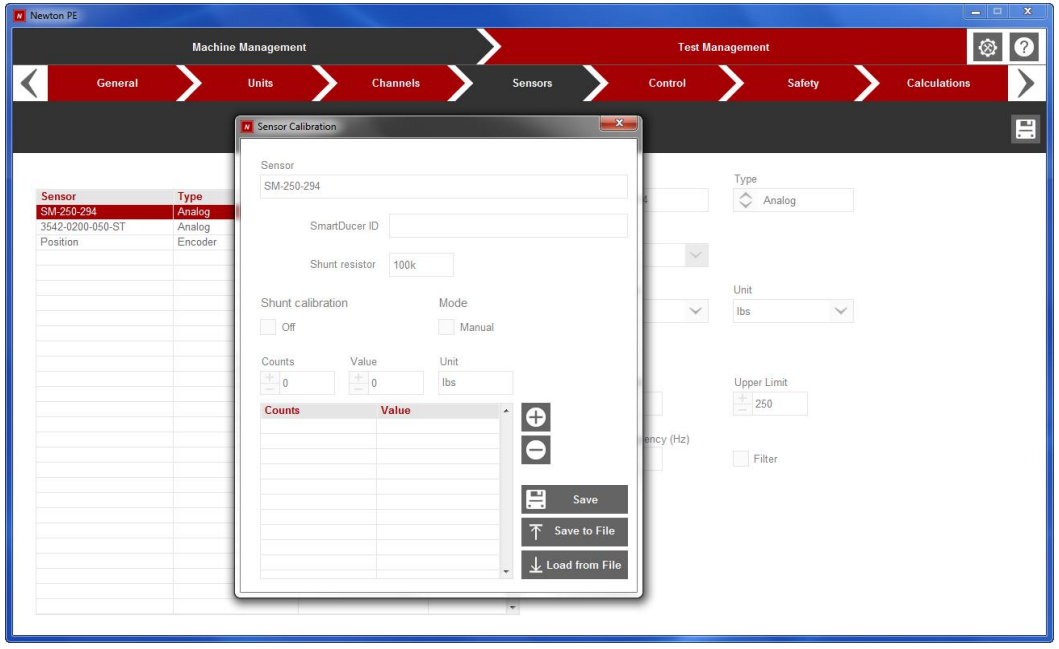
High resolution position encoders improve position data quality and improve machine control.

Data Acquisition Rates

Up to 5 kHz data acquisition rate option simultaneous on load, extension and strain channels.

Flexible Control

Control variety of testing modes including constant crosshead speed (CRE), loading rate (CLM) and strain rate (CSR).



NEWTON UNIVERSAL CONTROLLER



Newton Universal, universal test machine controller, is an interactive and intuitive workflow guided controller that is configurable to your test requirements, preferences and budget.

User interfaces:

- Touchscreen tablet interface
- Desktop PC with keyboard and mouse interface

Software packages:

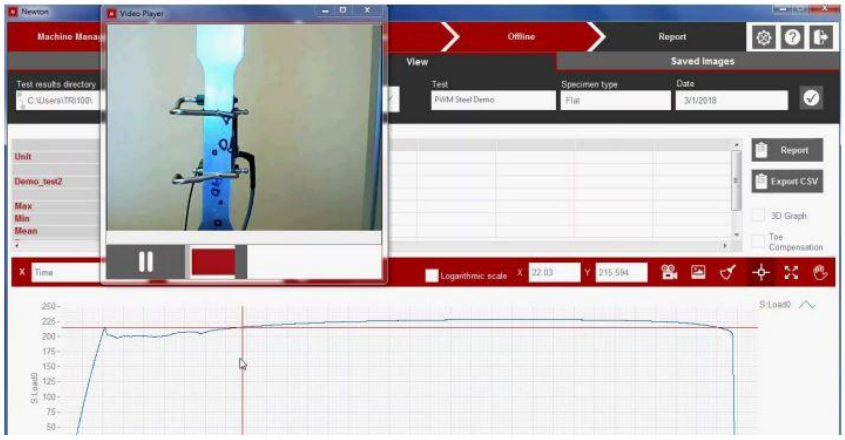
- Force Testing Package
- Materials Testing Package
- Premium Package

Optional features to enhance your testing capabilities:

- **TestVideo** Module for video capture and playback of tests with data synchronization
- **TestCreator** Module creates custom multiple segment profiles for product and component testing
- **TestCalc** Module enables you to create custom analyses and calculations
- **TestComply** Module to meet CFR 21 Part 11 FDA needs for biomedical applications
- **TestLingo** Module translates your controller interfaces to your language.

Additional options:

- Strain channel modules for standard and biaxial applications
- Inputs from up to 20 different sensors
- Up to 26 different digital input and output channels



BUY ONLY WHAT YOU NEED, WHEN YOU NEED IT

Newton is the latest technology on the market that gives you the ability to purchase only the capabilities and features you currently need while allowing you to easily and affordably expand the system's capabilities to meet all potential needs.

This industry leading approach gives you the freedom of choice, the power to control your budget and the security for future growth.

Your controller and software can be easily enhanced at any time by adding standard or customized features. Have a unique calculation or report that you need? No problem. We can create any custom feature that your test application requires.

LOAD FRAMES

The 200 Series universal test machines are compact, lightweight and versatile. The 200 Series offers 5 models that are designed for high elongation test applications.

Model	240-250	240-250-1400	240-500	240-500-1400	240-1125
Type	Tabletop	Tabletop	Tabletop	Tabletop	Tabletop
Force Capacity	±1100 N (±250 lbf)	±1100 N (±250 lbf)	±2200 N (±500 lbf)	±2200 N (±500 lbf)	±5000 N (±1125 lbf)
Minimum Speed	0.051 mm/min (0.002 in/min)				
Max Speed	1500 mm/m (60 ipm)	1500 mm/m (60 ipm)	762 mm/m (30 ipm)	762 mm/m (30 ipm)	2540 mm/m (100 ipm)
Crosshead Travel	1040 mm (41 in)	1400 mm (55 in)	1040 mm (41 in)	1400 mm (55 in)	1040 mm (41 in)
Vertical Test Space	1143 mm (45 in)	1499 mm (59 in)	1143 mm (45 in)	1499 mm (59 in)	1143 mm (45 in)
Maximum Column Spacing	89 mm (3.5 in)	89 mm (3.5 in)	89 mm (3.5 in)	89 mm (3.5 in)	89 mm (3.5 in)

Notes
1. Load weighing system meets or surpasses ASTM E4, BS 1610, DIN 51221, ISO 7500-1, EN 10002-2 and AFNOR A03-501.
2. Strain measurement system meets or surpasses ASTM E83, BS 3846, ISO 9513, EN 10002-4.
3. Load capacity is listed at maximum speed.

The specifications listed were developed per TestResources procedures and are subject to change without notice.

FLEXIBILITY TO EXPAND

1000's of Grips and Test Fixtures

- Wedge action and side action grips
- Mechanical, Pneumatic and hydraulic grips
- Compression platens
- 3 and 4 point bending jigs and fixtures.
- Self tightening grips
- Capstan bollard grips
- Meets specific ASTM and ISO standard test requirements
- Custom test fixture design service

Special Load Frame Accessories

- Safety enclosures
- T slot and engineered baseplates
- Test frame column spacing
- Control multiple actuators per test frame
- Multi-sample test setups

Extensometers and Deflectometers

- General purpose clip on extensometers
- High resolution video and laser extensometers
- Deflectometers for precision position measurements

Environmental Chambers with Test Fixtures and Extensometers

- Low temperature environmental ovens
- High temperature environmental ovens
- Humidity control options
- Biomedical bathes for testing in saline at 37 C (98.6 F)
- High temperature furnaces for tests at temperatures up to 1600 C (2912 F)
- Corrosion resistant grips and fixtures

Custom Solutions

Our modular approach makes quick and easy application engineered solutions practical. Changes can be made on modules, rather than at integrated system levels which are more complicated.



Add a Torsion Channel (Upfront or in the Field)

Simple twist-thrust biaxial tests help evaluate the mechanical performance of tubes, screws, connectors, wires and bottles. TestResources solves these applications in multiple ways that depend on the timing of your torsion add on. Our systems are inherently modular and flexible which allows you to add the torsion channel upfront or in the field in a short amount of time.

SIMILAR PRODUCTS

When you need shorter travel lengths.
100 Series Single Column Universal Test Machine

Consider a cost effective 100 Series modular universal test machine if your test requires shorter travel lengths.

- Interchangeable actuators with force capacities up to 9 kN (2000 lbf)
- Configurable to meet your technical requirements and budget
- Designed specifically for low force testing



When you need higher force.
300 Series Dual Column Universal Test Machine

If your tests requires more than 10 kN (2250 lbf), then consider the 300 Series of universal test machines.

- Tabletop models with force capacities from 5 kN to 50 kN (1125 to 11250 lbf)
- Floorstanding models with force capacities from 5 kN to 500 kN (1125 lbf to 112 kip)
- Designed specifically for high force testing



SUPPORT

With over 20 years of providing support around the world we have it figured out. We are recognized globally for delivering reliable, low maintenance and budget friendly solutions. It all starts with well-designed products, the right people and a machine with easy to replace components.

TestConnect. Better Support--Faster

TestConnect, included as part of our Newton Universal support toolset, delivers powerful communication capabilities that bring our most experienced support engineers even closer to your organization and operators. Secure online screen share connection technology enables us to provide you with fast and straightforward technical support when you need it.

TestConnect reduces wait times, shortens support times and saves you money.

Additional Services

We offer on-site calibration, new operator training, refresher training, emergency repair and replacement parts which ensures that you can start testing faster and stay testing longer.

Facts about TestConnect

94% of our customers have no service calls within the first 5 years of operation
83% of our support calls are resolved within 4 hours



TestResources

Our team of experienced engineers will help you find the exact solution for your test requirements. Find out how we can help you ensure accurate and consistent test results!

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