The New X-Series Range

Testometric
materials testing machines

Made to Measure

Redesigned from the ground up and drawing on over 50 years of experience in the field, Testometric's new X-Series range of Universal Testing Machines offers key benefits in terms of speed, performance and ease of use.

Built for Precision

The new modular electronics system offers improved data rates via high-speed ethernet connection and allows increased flexibility for the connection of accessories. The state of the art servo-motor drive system enables improved positional control across the range with class leading performance at low speed.

Flexible and Adaptable

Available in single and twin-column versions, both bench-mounted and floor-standing and with capacities up to 1000kN.

X-Series Features

New high speed modular electronic system with improved data acquisition rates (up to 1000Hz at the PC).

Improved positional control with the ability to measure crosshead displacement up to a resolution of 0.000001mm.

Class leading low speed performance allowing slow speed tests down to 0.00001mm/min.

Precision linear guide rods on X500 machines for improved rigidity and precise alignment for high load testing.

Integral load cell cable routing in machine column on X350 and X500 models to eliminate snagging and prevent cable damage.

Machine electronics mounted on dampers to isolate them from shock and vibration.

Ethernet interface for reliable, high speed communication with the PC.

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X100

Compact and lightweight Universal Testing Machine with full computer control and precision AC servo drive system. Ideally suited to high-volume, low force testing applications such as paper or packaging materials. Available in both standard and long-travel versions suitable for testing of high-elongation materials.

	X100-1	X100-1LT
Force Capacity kN	1	1
Accuracy	Better than +/- 0.5% of reading down to 1/1000th of load cell capacity	
Crosshead travel mm	420	670
Vertical space mm	600	850
Position Control Resolution mm	0.0001	0.0001
Throat depth (force axis to column)	81	81
Minimum Speed mm/min	0.001	0.001
Maximum Speed mm/min	2000	2000
Speed Accuracy	+/- 0.1% under stable conditions	
Max force at full speed kN	1	1
Max speed at full load mm/min	2000	2000
Data Acquisition Rate (at PC)	500Hz	
PC Connection	USB	
Available load cells	5N, 10N, 20N, 50N, 100N, 250N, 500N & 1kN	
Machine Configuration	Single-column, bench mounted	
Frame Stiffness kN/mm	5	5
Weight kg	24	26
Operating Temperature ˚C	-10 to +40	
Operating Humidity	+10 to +90% non-condensing	
Electrical Supply	230V, 1ph 50/60Hz (115V option available)	
Power kW	0.2	0.2

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Made to measure

Fully digital testing system with high precision control and accuracy, includes automated computer control of test methods giving simplicity of operation.

High resolution load cells with accuracies better than +/-0.5% down to 1/1000th of the load cell capacity.

Automatic recognition of load cells and extensometers, with on-device storage of calibration parameters.

Software calibration check facility for instant verification of machine accuracy.

800% overload capability of load cells without damage.

High efficiency pre-loaded self cleaning ballscrews for fast, quiet testing. Fitted with sealed for life lubricated end bearings.

Crosshead guidance system providing precise alignment and smooth running.

Precision crosshead control via digital AC servo drive and brushless servo motor giving maintenance free operation and 20,000 pulses/rev positional control.

High speed data collection systems for up to 4 synchronous channels.

Expansion channel for additional devices such as extensometers, micrometers, calipers, balances etc.

High stiffness loading frames with solid specialised steel crossheads and rigid extruded support columns with T-slots for accessory mounting.

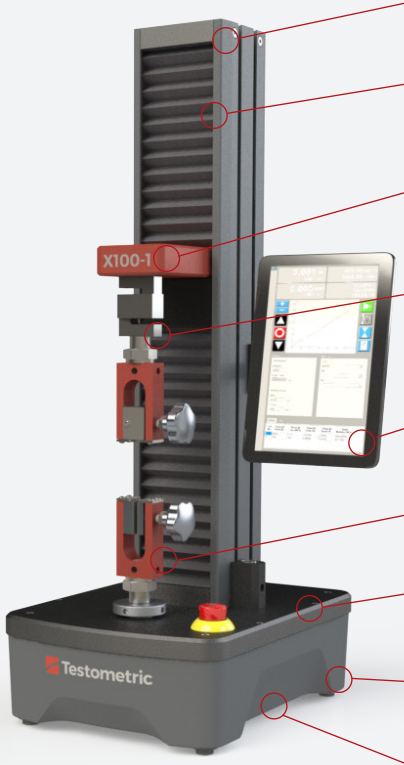
Overload, overtravel and impact protection.

Telescopic covers giving additional protection for ballscrews against dust and testing debris.

Small footprint design, giving economy of bench space.

Extensive range of grips and fixtures for tension, compression, flexural, shear, peel and product testing etc.

A wide range of contacting and non-contacting extensometers is available including laser and video models.



High stiffness loading frames

High efficiency self cleaning ballscrews

Precision crosshead control

High resolution load cells

Optional touchscreen tablet PC[1]

Extensive range of grips and fixtures[2]

Rigid and versatile base plate with numerous options for mounting grips and accessories.

Small footprint design

Lightweight design with integrated handle recesses to allow ease of portability.

1. Available at additional cost. Machine can alternatively be controlled using a standard PC or laptop (not supplied).
2. Machine shown with PG25 paper grips (available separately).

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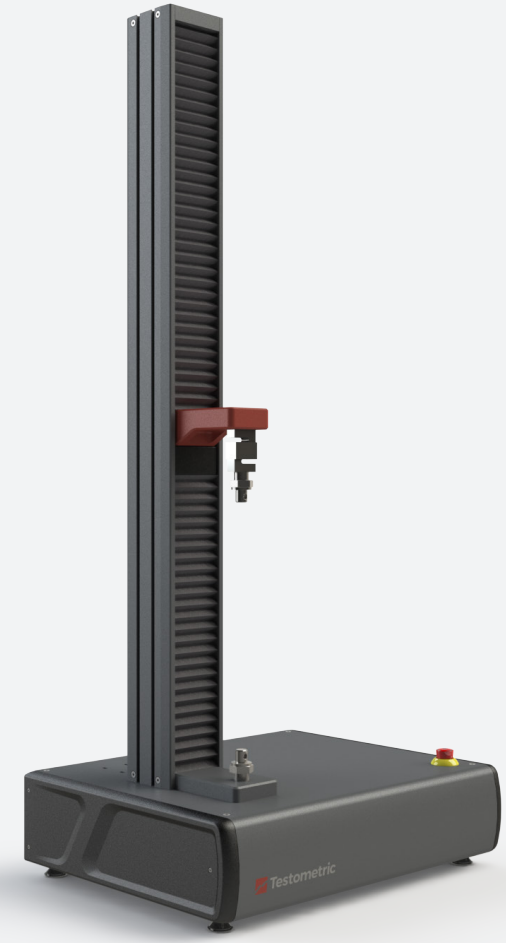

X250

Single column, bench-mounted Universal Testing Machine with full computer control and precision AC servo drive system. High speed operation for efficient material testing up to 3kN capacity.

	X250-1	X250-2.5	X250-3
Force Capacity kN	1	2.5	3
Accuracy	Better than +/- 0.5% of reading down to 1/1000th of load cell capacity		
Crosshead travel mm	630	990	990
Vertical space mm	800	1160	1160
Position Control Resolution mm	0.000001	0.000001	0.000001
Throat depth (force axis to column)	108	108	108
Minimum Speed mm/min	0.00001	0.00001	0.00001
Maximum Speed mm/min	2500	2500	2500
Speed Accuracy	+/- 0.1% under stable conditions		
Max force at full speed kN	1	2.5	3
Max speed at full load mm/min	2500	2500	2500
Data Acquisition Rate (at PC)	500Hz as standard (optional 1000Hz)		
PC Connection	Ethernet (or USB via adaptor)		
Machine Configuration	Single-column, bench mounted (optional base cabinet available)		
Frame Stiffness kN/mm	8	8	8
Weight kg	58	65	65
Operating Temperature ˚C	-10 to +40		
Operating Humidity	+10 to +90% non-condensing		
Electrical Supply	230V, 1ph 50/60Hz (115V option available)		
Power kW	0.3	0.3	0.3

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Testometric

Made to measure

Fully digital testing system with high precision control and accuracy, includes automated computer control of test methods giving simplicity of operation.

High resolution load cells with accuracies better than +/-0.5% down to 1/1000th of the load cell capacity.

Automatic recognition of load cells and extensometers, with instant calibration check facility.

800% overload capability of load cells without damage.

High efficiency pre-loaded self cleaning ballscrews for fast, quiet testing. Fitted with sealed for life lubricated end bearings.

Crosshead guidance system providing precise alignment and smooth running.

Precision crosshead control via digital AC servo drive and brushless servo motor giving maintenance free operation and 23-Bit positional control.

High speed data collection systems for up to 4 synchronous channels.

6 I/O channels for additional devices such as extensometers, micrometers, calipers, balances etc.

High stiffness loading frames with solid specialised steel crossheads and rigid extruded support columns with T-slots for accessory mounting.

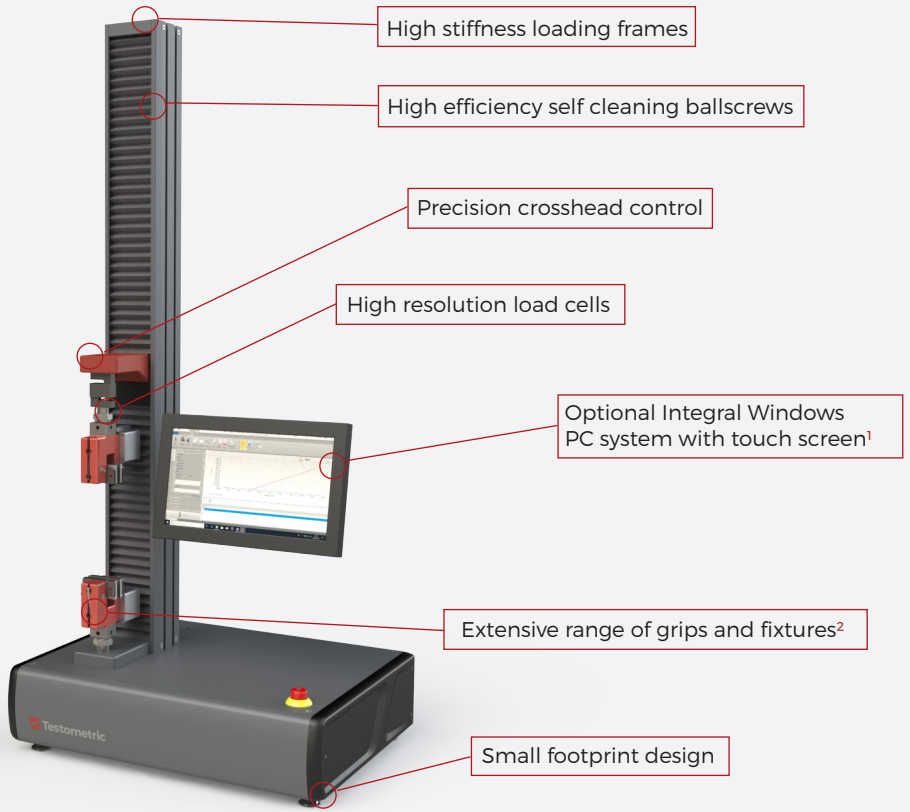
Overload, overtravel and impact protection.

Telescopic covers giving additional protection for ballscrews against dust and testing debris.

Small footprint design, giving economy of bench and floor space.

Extensive range of grips and fixtures for tension, compression, flexural, shear, peel and product testing etc.

A wide range of contacting and non-contacting extensometers is available including laser and video models.



1. Available at additional cost. Machine can alternatively be controlled using a standard PC or laptop (not supplied).
2. Machine shown with ACPN pneumatic grips (available separately).

Testometric

X350

Dual column, bench-mounted Universal Testing Machine with full computer control and precision AC servo drive system. High speed operation for efficient material testing up to 20kN capacity.

	X350-5	X350-10	X350-20
Force Capacity kN	5	10	20
Accuracy	Better than +/- 0.5% of reading down to 1/1000th of load cell capacity		
Crosshead travel mm*	1100	1100	1100
Vertical space mm	1275	1275	1275
Position Control Resolution mm	0.000001	0.000001	0.000001
Distance Between Columns mm	320 (or 420mm with wide frame option)		
Minimum Speed mm/min	0.00001	0.00001	0.00001
Maximum Speed mm/min	2000	2000	1000
Speed Accuracy	+/- 0.1% under stable conditions		
Max force at full speed kN	5	10	20
Max speed at full load mm/min	2000	2000	1000
Data Acquisition Rate (at PC)	500Hz as standard (optional 1000Hz)		
PC Connection	Ethernet (or USB via adaptor)		
Machine Configuration	Twin-column, bench mounted (optional base cabinet available)		
Frame Stiffness kN/mm	50	50	50
Weight kg	110	110	120
Operating Temperature ˚C	-10 to +40		
Operating Humidity	+10 to +90% non-condensing		
Electrical Supply	230V, 1ph 50/60Hz (115V option available)		
Power kW	0.45	0.45	0.45

* Extended travel versions available on request.

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Made to measure

Fully digital testing system with high precision control and accuracy, includes automated computer control of test methods giving simplicity of operation.

High resolution load cells with accuracies better than +/-0.5% down to 1/1000th of the load cell capacity.

Automatic recognition of load cells and extensometers, with instant calibration check facility.

800% overload capability of load cells without damage.

High efficiency pre-loaded self cleaning ballscrews for fast, quiet testing. Fitted with sealed for life lubricated end bearings.

Crosshead guidance system providing precise alignment and smooth running.

Precision crosshead control via digital AC servo drive and brushless servo motor giving maintenance free operation and 23-Bit positional control.

High speed data collection systems for up to 4 synchronous channels.

Integral load cell cable routing in machine column to eliminate snagging and prevent cable damage.

6 I/O channels for additional devices such as extensometers, micrometers, calipers, balances etc.

High stiffness loading frames with solid specialised steel crossheads and rigid extruded support columns with T-slots for accessory mounting.

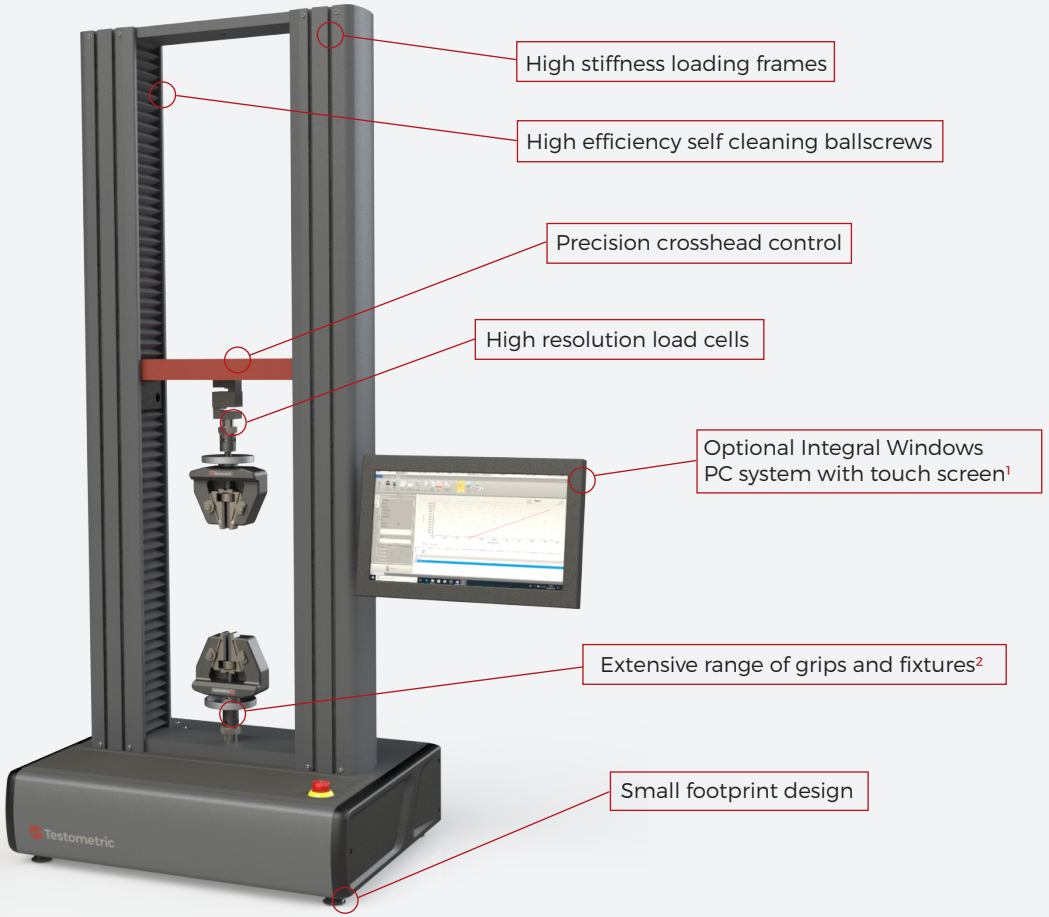
Overload, overtravel and impact protection.

Telescopic covers giving additional protection for ballscrews against dust and testing debris.

Small footprint design, giving economy of bench and floor space.

Extensive range of grips and fixtures for tension, compression, flexural, shear, peel and product testing etc.

A wide range of contacting and non-contacting extensometers is available including laser and video models.



1. Available at additional cost. Machine can alternatively be controlled using a standard PC or laptop (not supplied).
2. Machine shown with PWG pre-tightening wedge grips (available separately).

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Built for precision

Force Measurement

Universally Calibrated, better than Grade 0.5 EN 7500-1, DIN 51221 ASTM E-4. AFNOR A03-501. Range 0.4% to 100% minimum. Automatic identification of load cell. Resolution 1 part in 500000. Electronic load cell protection.

Extension Measurement

Full frame length to a maximum resolution of 0.000001mm (selectable). Accuracy +/- 0.01mm. Absolute, relative and auxiliary modes in mm, inch and percent.

Speed Control

Class-leading low speed performance with speeds down to 0.00001mm/min. Drive system temperature and current protection.

Load Frame

Rigid frame, using dual slide crosshead guidance system and rigid extruded support column. Frame stiffness 60kN/mm plus K factor facility built-in. Re-circulating ball screw with bellows. Electronic limit trips, total travel trips and customer programmable safety stops.

Electronics System

Modular electronics system offers fast data transfer to the PC (up to 1000Hz) via high-speed Ethernet connection. Extensive input options allow the connection of a wide range of extensometers and accessories via simple plug-in interface modules.

Safety Features

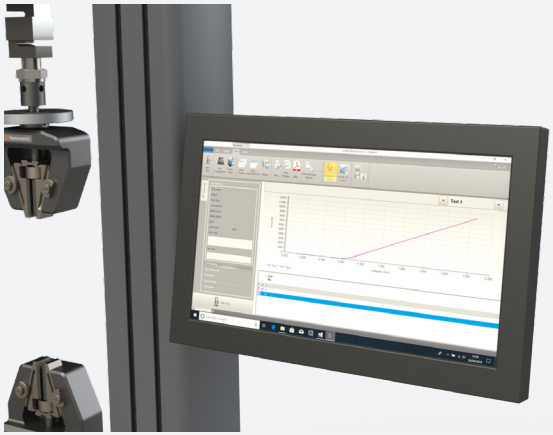
Extensive safety features to ensure highest levels of operator safety, including E-Stop, programmable extension limits and overload/impact detection. Fully compliant with global safety directives:- 2006/42/EU Machinery Directive, 2014/35/EU Low Voltage Directive and 2014/30/EU Electromagnetic Compatibility Directive.

Optional Touchscreen Panel PC

When paired with the optional IPC3 industrial-grade Panel PC with touchscreen control, the machine becomes a robust standalone system without the need for an external PC or Laptop.

Using the latest Windows 10 operating system and running a full version of Testometric's winTest software the system allows complete control of the test machine and provides storage and access to unlimited test methods and results. The included mounting arm which attaches to the machine column T-Slots is fully adjustable for height, reach and viewing angle allowing the user to find the most ergonomic working position.

Specification:-
Display 15.6" 1366x768 panel resistive touch screen with anti-reflective, dirt repellent screen protection.
QM87 Chipset, 4xUSB3.0, 3xCOM ports [RS232], 2xGigaLAN.
CPU-i5-4300M Intel Core i5 Processor, 2.6GHz.
4GB 1600MHz SODIMM DDR3 204-pin
2.5" 250GB, Solid State Disk (SSD), SATA III 6GB/s



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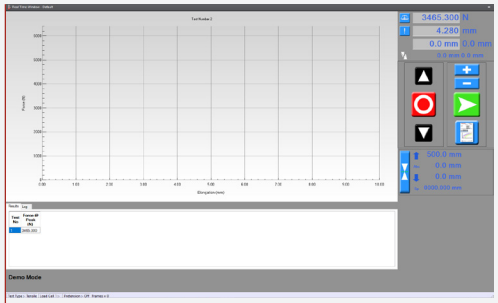
Tried and tested software

All Testometric models are supplied with our comprehensive winTest Analysis software package.

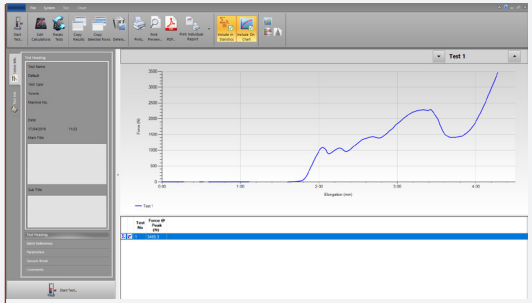
The product of many years of continuous development, winTest Analysis provides a flexible and intuitive software package to suit all types of material testing. With built-in test methods covering tensile, compression, flexural, peel, shear, tear, cyclic, creep and multi-stage tests.

It includes a wide range of industry standard test methods and the facility to create and store an unlimited number of further test methods. There is automated storage of all test data and ease of export to other software packages such as word, excel, access and SPC systems for enhanced report generation.

Please refer to the winTest software datasheet for further information.



Real time test screen



Test analysis screen

Standing the test of time

Testometric is a private limited company that has been involved in the design and manufacture of testing machines and quality control equipment since its foundation in 1970.

Fifty years of continuing development has resulted in a main product line of universal strength testing machines for tension, compression, flexure, shear and product testing. Testometric machines are used in over 100 countries worldwide and supported by a network of offices and approved agencies.

Testometric is established in all industries and educational sectors and we have an enviable reputation for innovation, product quality and excellent customer support.

testometric.co.uk

Testometric

winTest™ Analysis EC

winTest Analysis universal testing software is a fully-integrated and fully-customisable package that supports all industry standards including ISO, ASTM and BS EN specifications.

Test types supported include tensile, compression, flexure, peel, tear, burst, adhesion, shear, spring, cyclic, friction and Brinell hardness. winTest Analysis is very flexible providing simple peak force testing or complex user-defined multistage step testing for specialised testing requirements.

The virtual control panel allows the operator full control of all tester functions and the ability to conduct simple tests manually. The control panel provides easy access to stored test methods, system configuration and diagnostics. The optional Panel PC also features touch screen technology to provide a very efficient and easy-to-use interface.

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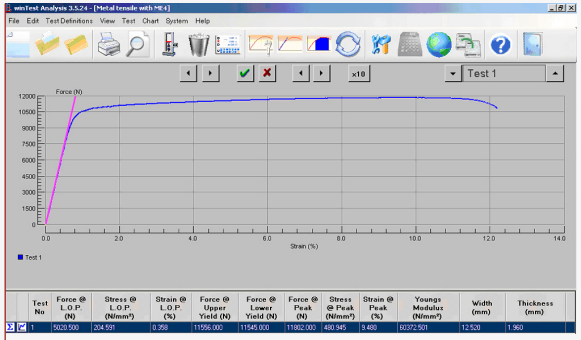
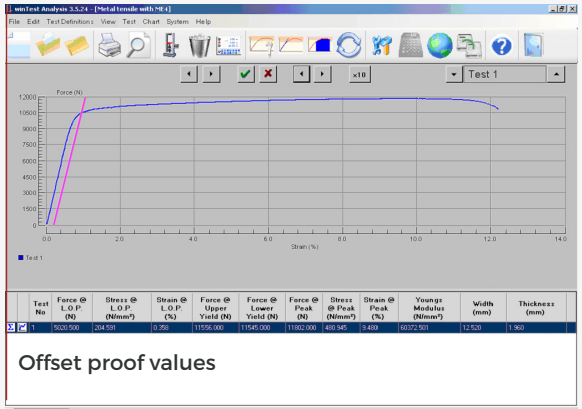
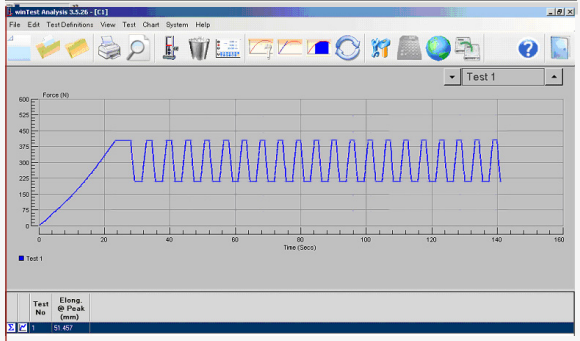


Best fit straight line in elastic region



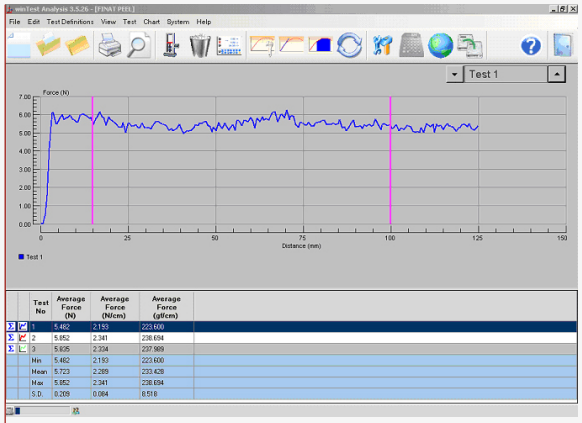
Offset proof values



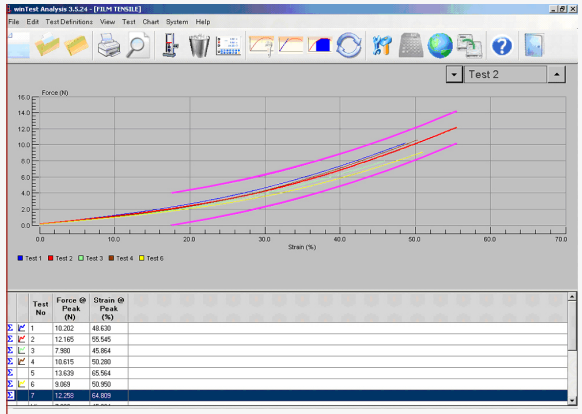
Multi stage test method

Key Features

- Intuitive and simple-to-use operation and set-up.
- User-defined machine control routines.
- Configurable trigger points for sample break detection, with multiple methods.
- Configurable statistics summary for each test report.
- Customisable test calculations.
- Pass/Fail tolerance bands
- Fully-configurable test reports.
- Pre-defined industry standard test methods available.
- Comprehensive library of industry standard calculations.
- Display of best fit straight line in the elastic region, for calculation of E modulus, proof stress etc.
- Transfer of test data to Excel, Word and Access
- Import and export of test definitions in XML format.
- Golden sample, a test curve can be selected as a reference and tolerance bands can be set to provide an instant visual check that all subsequent tests are within tolerance.
- Video extensometer image processing software, including transverse and multi point measurement.
- Direct connection to customer network systems.
- Crosshead speed control selectable in either linear, load, stress or strain rate.
- Sequential calculations to take measurements at set intervals for long term tests etc.
- Custom statistics can be generated for selected calculations.



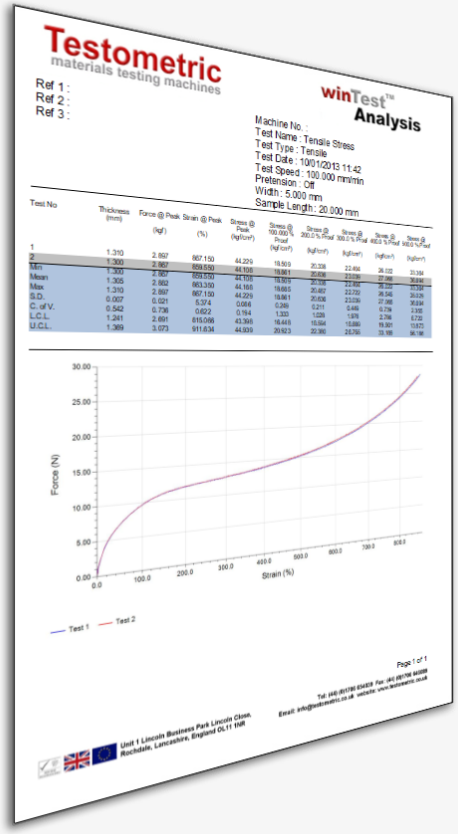
Selected calculation regions



Golden sample

Key Features (continued)

- Multi level password security.
- Audit trail to log activities performed during any use of the machine and software.
- Direct connection to Testometric control centre for on line service, software upgrades, test method download etc. (with RCE option)
- Event marking during real time plotting of test curve.
- Retrospective analysis of all test calculations.
- User-defined header and footer on test reports.
- Export test results and raw curve data in ASCII format.
- Generate test reports in PDF format for email etc.
- Calculate results on pre-defined test regions.
- Multi-lingual support with one key press.
- Support for an extensive range of peripherals including balances, extensometers, thickness gauges, contractometers, environmental chambers etc.
- Load cell calibration check log for reference and diagnostics.
- Comments field and custom columns available for each test series and for individual tests.
- Auto-print and preview option.
- Tester system diagnostics integrated into software.
- Intergrated Help file with graphical representations of stored calculations.
- User-friendly test data backup can be configured for periodic reminders.
- Industry specific or bespoke test standards installer available.



Test Reports

Include your own company logo and company details as Header and Footer on your test results to produce professional looking test reports.

Test reports can also be exported* to Microsoft Word™ and/or Excel™ to provide you with full editing features and copy and paste capability to produce presentation-quality test reports, charts or test data in spreadsheet format.

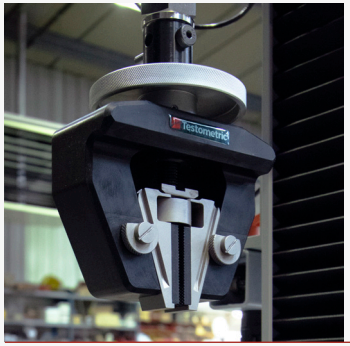
PDF Creation and Email

Convert your test report into an Adobe™ PDF file so you can simply email your test report as a PDF attachment
You can also email your test reports as a Microsoft Word™ document or an Excel™ file.

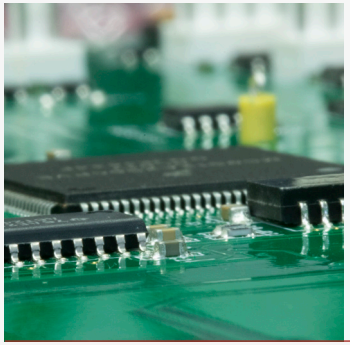
Calculations

The software includes an extensive range of calculations applicable to many industries, including all variations of force, elongation, stress and strain values and many others. Some examples are listed below.

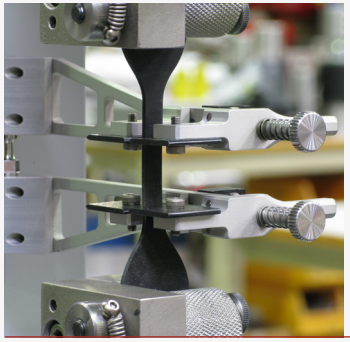
- Average Force
- Average Force / Width
- Bending Modulus
- Crush Force (Edge)
- Deflection @ 1st Collapse
- Deflection @ Force (Stage)
- Dynamic Co-eff of Friction
- Elongation @ Break
- Energy to Break
- Energy to Yield
- Initial Modulus
- Force @ Peak
- Force @ 1st Collapse
- Force @ Elongation
- Force @ Proof
- Force after Stage
- Lowest Force
- Seam Opening Force
- Seamed Strength
- Static Co-eff of Friction
- Strain @ Break
- Strain @ Force (Load Cycle)
- Strain @ Force (Return Cycle)
- Strain @ Force (Stage)
- Stress @ Peak
- Stress @ Proof
- Stress @ Strain
- Stress @ Yield
- T.E.A.
- Tenacity
- Transverse Rupture Strength
- Unseamed Strength
- Youngs Modulus
- Chord Modulus
- Tangential Modulus @ Strain
- Tangential Modulus @ Stress
- Secant Modulus @ Strain
- Secant Modulus @ Stress
- Strain @ Limit of Proportionality
- Force @ Rupture
- Strain @ Rupture
- Average of 5 Highest Peaks
- Bend. Strength @ Peak
- Bursting Strength
- Stress @ % Height
- Force @ Time
- Deflection @ Time
- Secant Stiffness
- Stress @ Relative Deformation
- Time to Peak
- Time to Failure
- LOP
- MOR
- Strain to LOP
- Strain to MOR
- Ym
- Average Peaks (Selected Region)
- Percentage Reduction of Area
- Spring Rate Between Forces
- Spring Rate Between Deflections
- Density
- Chewiness
- Fracturability
- Hardness
- Poisson's Ratio
- Plastic Strain Ratio r



Large range of grips and fixtures available



High-speed modular electronics



Comprehensive range of extensometry

Advanced Options

Trend Analysis

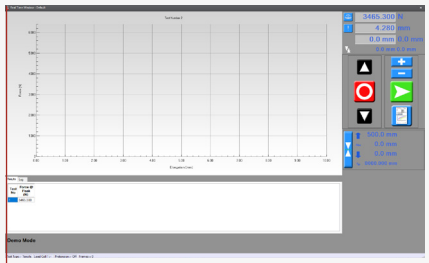
Export selectable test data in ASCII delimited format to Microsoft Excel™ or other spreadsheet software to analyse test result trends over a user-specified time period or production batch. Represent test result trends graphically using the charting features Excel™ to review trends 'at a glance' and also produce presentation-quality trend analysis reports.

Standards Installer

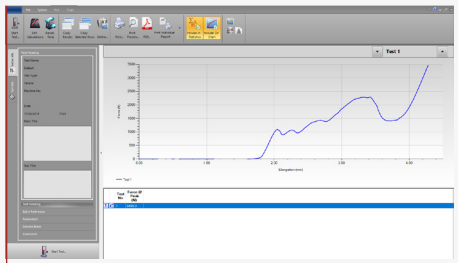
Eliminate the need to interpret standards and manually configure the software by using pre-defined test methods based on an extensive range of industry standards. These can be installed as separate modules or installed as an industry-specific package to give you access to an impressive set of test methods and test calculations ranging from basic tensile tests to complex multistage tests. You can preview the test methods to verify and ensure the correct one has been selected before you start testing.

Multi-Language Support

The software language can easily be selected from a wide range of options to ensure ease of use in all regions. Test reports are automatically converted allowing clear communication of results with overseas customers.



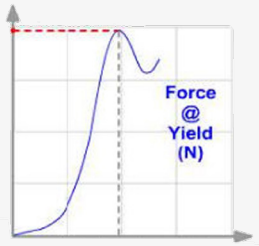
Real time test screen



Test analysis screen

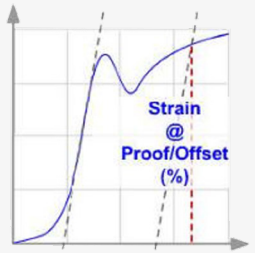
Integrated Help System

winTest Analysis has an integrated HTML Help file with added search function that includes simple explanations of machine operation, test result descriptions and graphical Flash™ representation of tests and test calculations. View graphically how specific test results are calculated to help you verify the correct selection of test calculations.



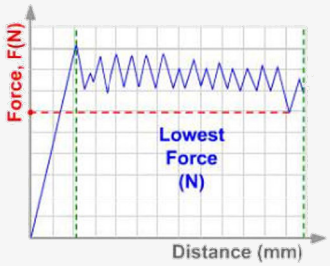
Force@Yield

The force at which extension/ deflection increases without a corresponding change in force (normally just beyond the elastic limit of the sample). Followed by a decrease in force.



Strain@Proof

The percentage elongation/deflection at which the straight-line gradient of stress against strain, when the sample is below its elastic limit (limit of proportionality) is offset by a specified fractional strain. Divided by the original cross sectional area of the sample



Lowest Force

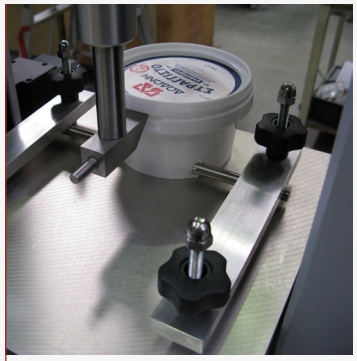
The lowest force after the initial peak force.

Testometric

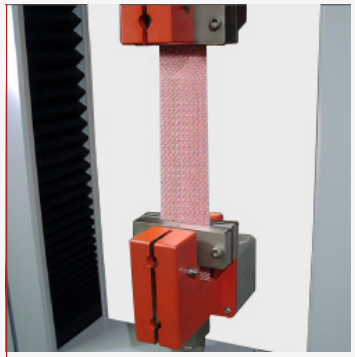
Industries

Testometric systems are in worldwide use in almost every industry for both routine quality control testing and specialised research and development.

Aerospace	Bedding	GRC
Automotive	Cargo Restraints	Rope & Nets
Cable and Wire	Toys	Insulation
Clothing	Concrete	Furniture
Adhesives	Fibre	Footwear
Food	Metals	Springs
Pipe	Packaging	Timber
Adhesive tape	Cord and Rope	Foam
Containers	Elastic	Wood based Panel
Credit Cards	Geotextiles	Plastic film and sheet
Military	Medical	Corrugated board & Boxes
Constructions	Rubber	Yarn & Cord



Container Testing



Fabric Testing

System Requirements

Processor	2 Ghz or above Intel processor, or an AMD processor.
Memory	4 GB Minimum 8 GB Recomended.
Communications	1 x Free Ethernet (RJ45) connection. Other devices will require additional serial or USB ports. Video Extensometers will require a USB 3.0 connection.
Hard Disk	50 GB hard disk space. winTest also requires hard disk space to store data, this should be taken into consideration.
Display	Both computer and monitor must be capable of displaying a resolution of 1024 x 768.
CD Drive	CD/DVD drive required for installation.
OS System	Microsoft Windows 7 (32 bit and 64 bit) Microsoft Windows 8 (32 bit and 64 bit) Microsoft Windows 10 (32 bit and 64 bit)
Software	Microsoft .Net Framework 2.0 Redistributable (On Disk) Microsoft SQL Server Compact 4.0 (On Disk) Windows Installer 3.5