Q Series Mechanical Test Machines

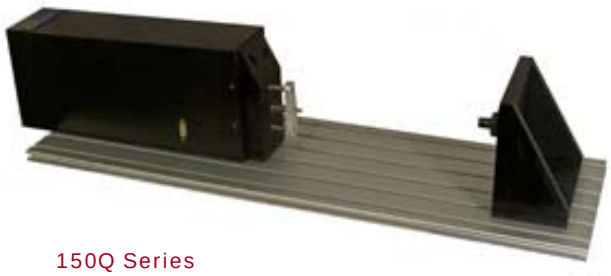
Tension & Compression
Force ratings to 1500 lb (6.6 kN)
Servocontrolled constant Load Rate & Speed
High Accuracy & Resolution

100Q Series
Single Column Frame

800Q Series
Dual Smooth
Column Frame

Choices & Options

- **Load Frame Style** - single or dual column, or horizontal test tables
- **Actuator Performance** – force rating, speed range and stroke
- **Standalone or PC based** – optional data export and plotting software
- **Load Cell** – many to choose from - full scale rating
- **Testing Accessories** – grips, fixtures, chambers and engineered solutions



150Q Series
Horizontal Test Tables

120Q Series
Dual Column
Frame

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Modular Systems Approach

TestResources test systems are configured to serve each customers test requirements. Each P Series system consists of a load frame or horizontal test table, an actuator, load and position transducer, test controller, and software. Due to a modular product structure, system modules can be swapped or re-configured during as requirements change.

Q Controller * 2 Segments * Cyclic Mode * 6 Setups

The Q controller includes basic control features and more. They serve testing requirements where one or two segments of constant speed, crosshead travel rate, or loading rate are required for the test – including ramp and hold tests such as stress relaxation and creep.

Data can be acquired during the second segment for adhesive tack tests and bend tests. Servocontrol makes sure that when test forces increase, speed stays constant. The test stops automatically based upon the specimen break, test duration, or if stop is pushed. The Q measures and can limit force and position and features limit switches to protect actuator travel. High resolution 24 bit A/D converter provides high quality load data while a high accuracy encoder measures position change. The controller memory captures, displays and exports test data to an optional PC using our optional software program to plot data. The Q includes a long list of data calculations to improve operator efficiency.

Dual Segment control provides true hold force, and cyclic mode cycles between either two load values or two position values for millions of cycles. **Spring testing** and absolute height measurement are possible with the Absolute Zero function. The platens of the test machine automatically move till they reach a preset force value, then retract to the user set Home position. The controller then determines zero position to be used for subsequent measurements. Springs, shock absorbers, bottle top push On/Pull Off and insertion and extraction of electrical connectors are easily tested using this feature.

Six test methods can be stored in nonvolatile memory for later recall and execution. Test control, analyses, engineering units, data acquisition, and alarm functions are all stored within the specific test method.

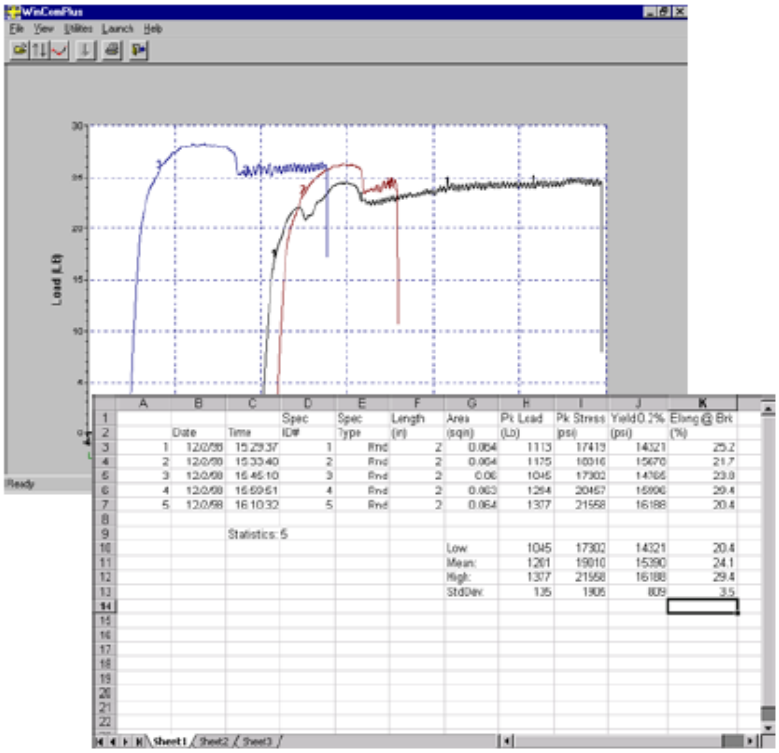
Q Controller Overview

- Displays load, position, and position rate during the test. Displays activated results when the test finishes.
- Save and recall six test methods.
- Password protected supervisor/operator modes protects test methods from inadvertent change.
- Set high and low limits to enable pass/fail indication at test completion.
- Calculate high, low, mean and standard deviation for a group of tests.
- Store up to 300 results to memory – including date, time, specimen ID plus all calculated parameters.
- Select data log rates from 0.5 to 1,000 samples per second to match long and short tests.
- English, Metric and SI engineering units.
- All test methods have one pre-test control segment which can be used as a pre-load function.
- Load calibrations exceed ASTM E4, BS EN ISO 7500-1: 2004, DIN 51221 and JIS B7721 standards.
- 2 segment profiles - user defined position rate and end channel - either load, position, time or sample break.
- Cycle between segments function to perform cyclic tests between load or displacement limits.
- Use with self identifying or standard load cells

Calculated Analyses include

– Maximum -- Load, Load/Width, Stress

- Minimum -- Load,
- Average -- Load 1 between Displacement, Load 2 at Load-Displacement,
- Load -- at break, at displacement, Load1 at displacement, Load2 at displacement, Load3 at displacement
- Displacement -- at break, at load,
- Percent -- Elongation, Disp1 at Load 1, Disp2 at Load 2, Disp3 at Load 3,
- Modulus - Offset Yield, Modulus of Elasticity, Shear Modulus – note need for application caution.
- Stiffness, Energy between Displacements, Free Height, Static & Kinetic Friction
- Custom analyses made to order.



Software to plot and export data

Software products are available to capture and document machine data as well as calculated results and raw load-displacement-time data. Single or multiple curves can be plotted on the same set of graph axes. The data is also available to common plotting programs such as Excel via ASCII data format.

D Series * Electromechanical * Screw Driven * Servoactuators

D Series servoactuators include a servomotor, encoder, linear bearings, and integrated limit detection to protect the actuator in case of over travel conditions and well suited for quasistatic (slower) tests common to material and product testing applications. They are available in a variety of speeds, travels and load ratings.

System Configurations and Specifications

100Q Series Single Column Systems

Model	Units	100Q250	100Q500	100Q1000	100Q1400	100Q1020	100Q1500
Max Load	lb (kN)	250 (1.1)	500 (2.2)	1000 (4.4)	1400 (6.2)	1000 (4.4)	1500 (6.6)
Max Speed	ipm (mm/m)	25 (625)	7 (625)	2.2 (55)	0.9 (23)	15 (375)	7 (625)
Resolution	micron	0.07	0.02	0.002	0.07	0.06	0.002
Min Speed	micron/min	30	8	2.5	1.5	30	-
Stroke	6” or 12”						
Load Accuracy	+/- 0.5% of reading to 1/500 of load cell --- Meets ASTM E4, BS EN ISO 7500-1: 2004, DIN 51221						
Vertical Space	Manually adjustable 0-31”						
Lateral Space	3.5” (blocks optional for increased space)						
Footprint	12” x 12”						

120Q Series Dual Column Systems

Model	Units	120Q250	120Q500	120Q1000	120Q1400	120Q1020	120Q1500
Max Load	lb (kN)	250 (1.1)	500 (2.2)	1000 (4.4)	1400 (6.2)	1000 (4.4)	1500 (6.6)
Max Speed	ipm (mm/m)	25 (625)	7 (625)	2.2 (55)	0.9 (23)	15 (375)	7 (625)
Resolution	micron	0.07	0.02	0.002	0.07	0.06	0.002
Min Speed	micron/min	30	8	2.5	1.5	30	-
Stroke	6” or 12”						
Load Accuracy	+/- 0.5% of reading to 1/500 of load cell --- Meets ASTM E4, BS EN ISO 7500-1: 2004, DIN 51221						
Vertical Space	Designed to requirements						
Lateral Space	Designed to requirements						
Baseplates	Designed to requirements – T Slotted or threads placed as needed – sized to needs						

150Q Series Horizontal Test Tables

Model	Units	150Q250	150Q500	150Q1000	150Q1400	150Q1020	150Q1500
Max Load	lb (kN)	250 (1.1)	500 (2.2)	1000 (4.4)	1400 (6.2)	1000 (4.4)	1500 (6.6)
Max Speed	ipm (mm/m)	25 (625)	7 (625)	2.2 (55)	0.9 (23)	15 (375)	7 (625)
Resolution	micron	0.07	0.02	0.002	0.07	0.06	0.002
Min Speed	micron/min	30	8	2.5	1.5	30	-
Stroke	6” or 12”						
Load Accuracy	+/- 0.5% of reading to 1/500 of load cell --- Meets ASTM E4, BS EN ISO 7500-1: 2004, DIN 51221						
Test Space	Adjustable – Length of table made to requirements						
Lateral Space	3.5” (blocks optional for increased space)						
Baseplates	T Slotted or threads placed as needed – sized to needs						

800Q Series Dual Smooth Column Systems

Model	Units	Q250	Q500	Q1000	Q1400	Q1020	Q1500
Max Load	lb (kN)	250 (1.1)	500 (2.2)	1000 (4.4)	1400 (6.2)	1000 (4.4)	1500 (6.6)
Max Speed	ipm (mm/m)	25 (625)	7 (625)	2.2 (55)	0.9 (23)	15 (375)	7 (625)
Resolution	micron	0.07	0.02	0.002	0.07	0.06	0.002
Min Speed	micron/min	30	8	2.5	1.5	30	-
Stroke	6” or 12”						
Load Accuracy	+/- 0.5% of reading to 1/500 of load cell --- Meets ASTM E4, BS EN ISO 7500-1: 2004, DIN 51221						

Model	Vertical Space	Lateral Test Space	Footprint
800	33” – optional 45”, 57”	16” Wide	6.5” x 22”
801	33” – optional 45”, 57”	20” Wide	6.5” x 26”
802	33” – optional 45”, 57”	24” Wide	6.5” x 30”
80x	33” – optional 45”, 57”	x” Wide	6.5” x 40”