# P Series Mechanical Test Machines

## Affordable * Entry Level

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

**100P Series**
**Single Column**

**800P Series**
**Dual Smooth Column**

## 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

**150P Series**
**Horizontal Test Tables**

**120P Series**
**Dual Column**

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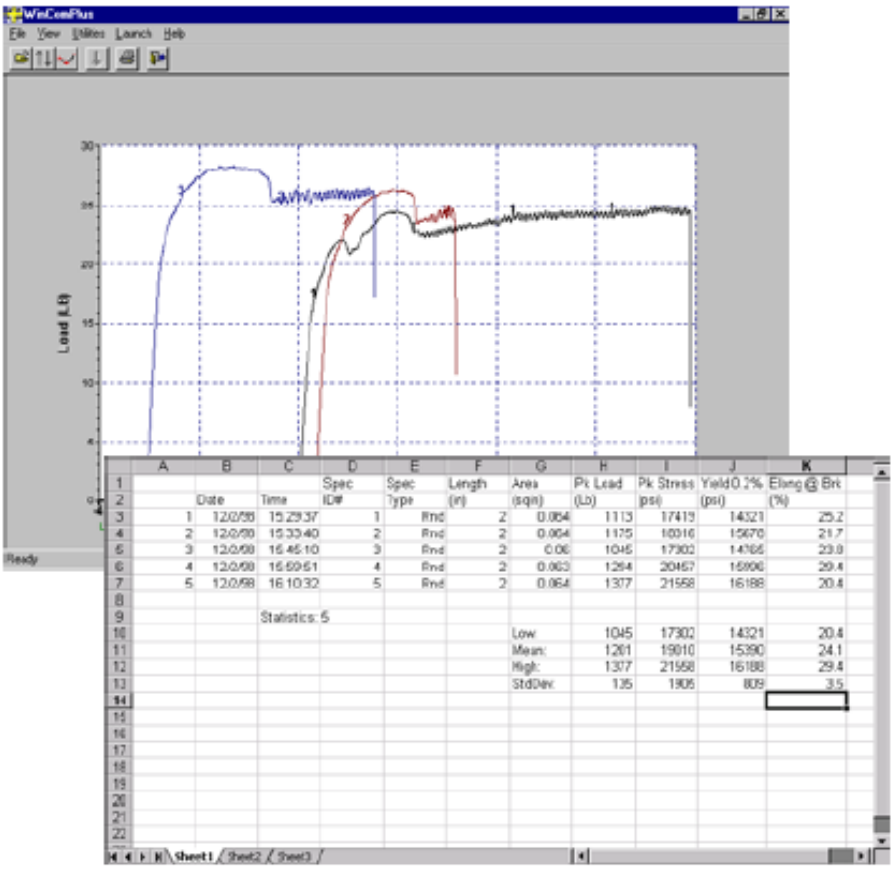
## Modular Systems Approach

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.

## P Controller * Single Segment Ramp * Constant Speed or Load Rate

P controllers feature adjustable constant speed, crosshead travel, or loading rate. Each test is controlled via single segment ramps which enables a single speed test from beginning to end in the pull (tensile) or push (compression) direction. As forces increase, speed stays constant. The test stops automatically based upon the specimen break, test time duration, or if the stop button pushed. P captures high resolution force and position data with limit switches to protect actuators from over 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 P controller includes calculated analyses that help improve operator efficiency.


| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | Spec | Spec | Length | Area | Pk Load | Pk Stress | Yield 0.2% | Elong @ Brk |
| 2 | | Date | Time | ID# | Type | (in) | (sqin) | (Lb) | (psi) | (psi) | (%) |
| 3 | 1 | 12/0/98 | 15:29:37 | 1 | Rnd | 2 | 0.064 | 1113 | 17413 | 14321 | 25.2 |
| 4 | 2 | 12/0/98 | 15:33:40 | 2 | Rnd | 2 | 0.064 | 1175 | 18016 | 15670 | 21.7 |
| 5 | 3 | 12/0/98 | 16:46:10 | 3 | Rnd | 2 | 0.06 | 1045 | 17302 | 14766 | 23.8 |
| 6 | 4 | 12/0/98 | 16:59:51 | 4 | Rnd | 2 | 0.063 | 1264 | 20457 | 15996 | 29.4 |
| 7 | 5 | 12/0/98 | 16:10:32 | 5 | Rnd | 2 | 0.064 | 1377 | 21558 | 16188 | 20.4 |
| 8 | | | | | | | | | | | |
| 9 | | | Statistics: 5 | | | | | | | | |
| 10 | | | | | | | Low: | 1045 | 17302 | 14321 | 20.4 |
| 11 | | | | | | | Mean: | 1261 | 19010 | 15390 | 24.1 |
| 12 | | | | | | | High: | 1377 | 21558 | 16188 | 29.4 |
| 13 | | | | | | | StdDev: | 135 | 1905 | 809 | 3.5 |

### 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.

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## P Controller

- Displays load, position, and position rate during the test. Displays activated results when the test finishes.
- 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.
- Single segment profile - user defined position or load rate and end channel - either load, position, time or sample break.
- Use with self identifying or standard load cells.

**Calculated Analyses such as**

- Maximum -- Load, Load/Width, Stress
- Minimum Load
- Average Load between Displacements
- Load -- at break, at displacement
- Displacement -- at break, at load
- Percent Elongation

## 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.

### 100P Series Single Column Systems

| Model | Units | 100P250 | 100P500 | 100P1000 | 100P1400 | 100P1020 | 100P1500 |
|---|---|---|---|---|---|---|---|
| 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” | | | | | | |

### 120P Series Dual Column Systems

| Model | Units | 120P250 | 120P500 | 120P1000 | 120P1400 | 120P1020 | 120P1500 |
|---|---|---|---|---|---|---|---|
| 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 | | | | | | |

## 150P Series Horizontal Test Tables

| Model | Units | 150P250 | 150P500 | 150P1000 | 150P1400 | 150P1020 | 150P1500 |
|---|---|---|---|---|---|---|---|
| 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 | | | | | | |

## 800P Series Dual Smooth Column Systems

| Model | Units | P250 | P500 | P1000 | P1400 | P1020 | P1500 |
|---|---|---|---|---|---|---|---|
| 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” |