

1000R System Rated to 1125 pounds



Applications

- *Metals*
- *Plastics*
- *Rubber*
- *Foam*
- *Composites*
- *Medical Devices*
- *Adhesives*
- *Textiles*
- *Wood*
- *Wire*
- *Many others*

Test Methods

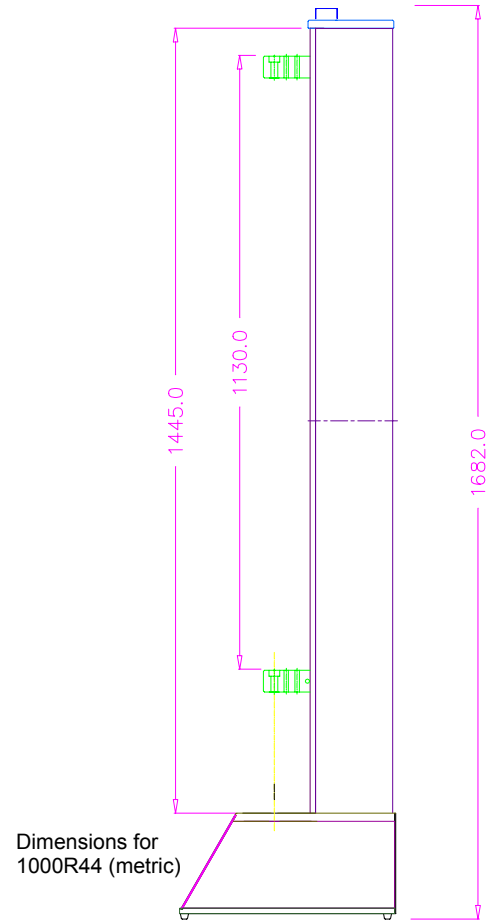
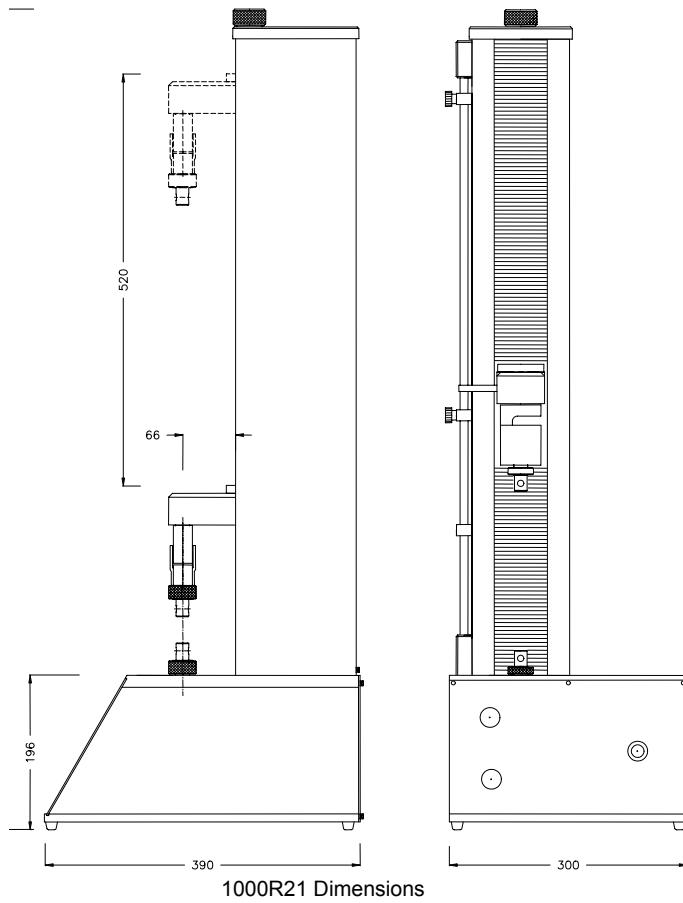
- *Strength Tests*
- *Tensile*
- *Compression*
- *Peel and Adhesion*
- *Tear*
- *Shear*
- *Bend Test*
- *Sheet Metal Testing*
- *Stress Relaxation*
- *Limited Fatigue Testing*
- *Many others*

| System Specifications | |
|------------------------------|---|
| Model Reference | 1000R |
| Load Capacity | 1125 Pounds (5 kN) |
| Maximum Test Speed | 20 inches per minute |
| Load Accuracy | +/- 0.5% of reading to 1/400 th load cell capacity (per ASTM E4) |
| Position Resolution | 0.000004 inches (0.1 micron) |

System Services

- 12 month Warranty
- Manuals & Support Documentation including multimedia CD
- Local calibration and engineering services available via field service network
- Optional – On Site Installation and Training
- Optional – Grips, Fixtures, Extensometers and Software

Load Frame



Features

- Robust single column load frame
- Crosshead travel 520 mm (20.5 inches) - standard
- Compact tabletop design

| Attribute | Specification |
|----------------------------|--|
| Drive Technology | Electromechanical & Ball Screw |
| Load Capacity | 1125 Pounds |
| Test Speed Maximum | 20 inches per minute at full load |
| Return & Jog Speed Maximum | 27 inches per minute at no load |
| Column Clearance | 66 mm (2.6 inches) |
| Head Travel Maximum | 20.5 inches ; 44.5 inches (1000R44) |
| Mechanical Interface | 5/8 inch male shank with dowel pin |
| Dimensions | 41"H x 12"W x 16"D (66" H – 1000R44) |
| Weight | 100 Pounds (125 pounds 1000R44) |
| Power | 115 VAC |
| Position Limits | Adjustable Upper and Lower Mechanical limits |
| Load Cell | |
| Load Cell Rating | 1000 Pounds (others available) - 150% Overload |
| Optional Load Cells | Available from 1000 pounds to 0.1 Pound |

R Controller

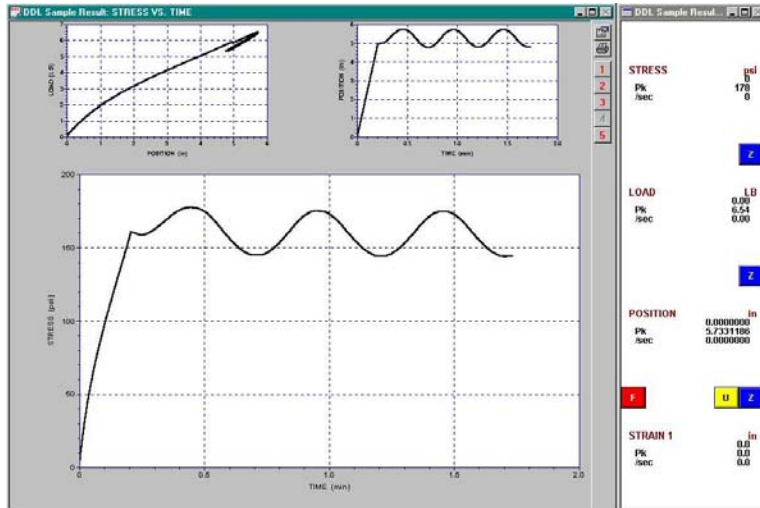
The R Controller is an intelligent 16 bit device to control and measure load, position and strain channels on electromechanical test systems. It features signal conditioning, motor power, position measurement, digital input and output for remote start and stop and analog outputs, data acquisition and data storage. Test results are printed, stored or may be exported to other programs.

Features

- High resolution load, position and strain channels
- Full PC control, data acquisition and analysis.
- Easy to learn and to use.

| General Attributes | Specification |
|---------------------------|---|
| Model | R Controller |
| PC requirements | PC with serial port ; MS Windows 98 or later |
| Operator Interface | |
| Machine Controls | <ul style="list-style-type: none"> ▪ Emergency Stop ▪ Jog Up and Jog Down ▪ Stop Test Button |
| Mechanical Limits | Manually adjustable upper and lower position limits (software limits included also) |
| Machine Interface | |
| Cable Connection | Standard Serial Port cable – length 8 feet; 100 feet optional. |
| Remote Input | Digital Input for Remote Start & Stop - Optional |
| Analog Output | 14 bit 2 channel output for remote data acquisition – Optional |
| Channels | |
| Channels | Three channels included in standard configuration <ul style="list-style-type: none"> ▪ LOAD CH - Strain gage signal conditioner and data acquisition ▪ POSITION CH - encoder position ▪ STRAIN CH - Extensometer or 2nd load cell signal conditioner and data acquisition ▪ OPTIONAL STRAIN CH 2 – for second extensometer |
| Data Capture | |
| Acquisition Rate | 50 per second – adjustable rate on each waveform segment through software |
| Load & Strain Resolution | Load & Strain: 1 part in 1,058,000 using 20 bit averaging firmware |
| Position Resolution | Position: 0.1 micron (4 micro-inch) encoder resolution |
| Command Output | |
| Waveforms | Ramp; Dwell; Haversine segments can be assembled to create custom waveforms. Fatigue testing is not limited by the software, but limited to mechanical nature of the servomotor (less than 1 hz), load cell and other accessories. Contact factory to confirm application. |
| Transducer Ranges | |
| Load & Strain Channels | Each channel includes a 5 point linearization table. There are 30 tables per channel that may be used for different ranges, or different sensors. |
| Data Transfer via Printer | Output is compatible with HP PCL5 Printers (DeskJet and LaserJet) |
| ASCII Export | XY Data or machine settings may be transferred to 3 rd party programs such as MS Excel. |

R Software



Features

- Three real time XY Curves monitor sample behavior on multiple channels
- Export test data to MS Excel
- All Analyses included in basic package
- Program system to create custom waveforms – including sinusoidal
- Set data acquisition to match requirements
- Develop test setups to have others run.

| R Software | Description |
|--------------------------|---|
| OS Compatibility | Windows 95, 98, NT, 2000 or XP. PC may be supplied by customer. |
| Data Displays | |
| Data Units | <ul style="list-style-type: none"> ▪ Load -- Pounds, Newtons, kilograms, grams ▪ Position - Inches, mm, cm ▪ Stress - Psi, MPa, KPa, ksc |
| Real Time Data Displays | <ul style="list-style-type: none"> ▪ 3 independent XY displays with autozoom and autoscaling ▪ Numeric data displays for each channel |
| System Management | |
| Data Export | Data maybe exported in ASCII format to MS Excel and other popular programs. |
| Test Setups | Infinite number of test setups and configurations may be developed and stored. Each setup includes parameters, labels, specimen information, and any data re-analysis. |
| Results Storage | Internal data base included for data storage, manipulation and export. |
| Password | Calibration data is protected by setting password - determined by lab supervisor. |
| Test Segment | |
| Profile Generator | |
| Speed Settings | Test, Jog, and Return Home speeds are programmable. |
| Standard Waveforms | Trapezoidal, stepped, sinusoidal, block and triangular functions can be easily executed. |

| | |
|-----------------------|---|
| Custom Waveforms | Change and save complex test waveforms by assembling standard segments. Each segment may be based on different load, displacement or time events. User may create and assemble multiple segments consisting of different control modes, timed events, ramps, haversines, or dwell periods with adjustable data acquisition rates. |
| Block Programming | An indefinite number of cycles can be programmed (e.g. a cyclic position rate can be programmed to go to specified load level and reverse). |
| Test Conclusion | Select end of cycle, programmed limit, or calculation of asymptotic closure parameters. |
| Test Analyses | |
| Analyses - Examples | Modulus of Elasticity, 3 and 4 point modulus, Yield Strength (Offset and Offset 2 by load and stress), Yield (EUL), Peak Load, Peak Stress, Minimum Load, Average Load over Extension Range, Load at Extension Point, Loads at multiple extension points, Reduction of Area, ASTM E646, Energy at Break, ASTM C273 Shear, ASTM D2344, ASTM D1781 Peel Torque, ASTM E1290 CTOD, Minimal CTOD, Johnson's AEL, Picked points, Poissons Ratio, Limits, Yield Halt Force, Spring Rate, YPE (ASTM E8), Strain Ration ASTM C469 modulus, Regression Best Fit, Regression Specify Order and many others. Contact factory for details. |
| Sample Geometries | Round, Cylinder, Square, Flat Dogbone, 3 & 4 Point Beam, Area, Pipe, Tube, Cut Tube and others. |
| Multiple Test Results | Reports may be generated with multiple test records stored for each test setup. Each test record configured to match user selectable analyses. |

Option -- Dimensional Drawing for 1000R44

