

## LR50KPlus 50 kN Universal Materials Testing Machine

The LR50KPlus advanced materials testing machine incorporates an extensive range of features making it ideal for performing complex as well as routine testing applications up to 50 kN (11241 lbf). The standard LR50KPlus features a twin column design with a maximum crosshead travel of 855 mm (33.7 in). Extended machine column options (LR50KPlus-E models) for testing high elongation materials are also available.

This bench mounted machine is microprocessor controlled and incorporates world proven 32 bit technology for highly accurate load measurement and rapid data acquisition. The LR50KPlus features an integral user interface consisting of a side mounted control console with large, positive action membrane keys, allowing complex tests to be performed at the touch of a button. A back lit 4 line LCD display shows the test and set-up information in a wide choice of user selectable languages and units.

The stand alone system is capable of storing up to 600 test results from a choice of ten programmable

test set-ups. Test parameters are entered using the keypad in a sequential menu driven format.

For additional flexibility, the LR50KPlus can also be connected to a personal computer with optional Lloyd Instruments NEXYGENPlus material test and control software. NEXYGENPlus software provides almost unlimited testing and results processing capability in a familiar Windows® environment.

The high stiffness frame incorporates a crosshead guidance system to prevent side loading of the sample under test. The crosshead is driven by twin lead screws and a high precision servo motor and DC servo system to achieve a wide range of speeds throughout the full load range.

A series of highly accurate, interchangeable load cells is available for tension, compression and cycling through zero force measurements. Our extensive range of grips and fixtures support virtually any type of test. The system is ideal for use in production, quality control, educational and research environments.

### Features

- Simple to set up, operate and maintain
- High accuracy load measurement
- Constant load holding
- Data sampling rate 8 kHz
- Load rate control
- Saves up to 600 test results
- 10 programmable test set-ups
- Pre-loading of samples and cycling to load or extension limits
- Multi-stage testing with NEXYGENPlus software
- Extension resolution <0.05 microns
- Multi-lingual display options
- Multi-unit display options
- Flash upgradeable
- Extended column options for testing high extension materials
- Wide selection of load cells, grips, jigs, extensometers, temperature chambers and other accessories

### Specifications

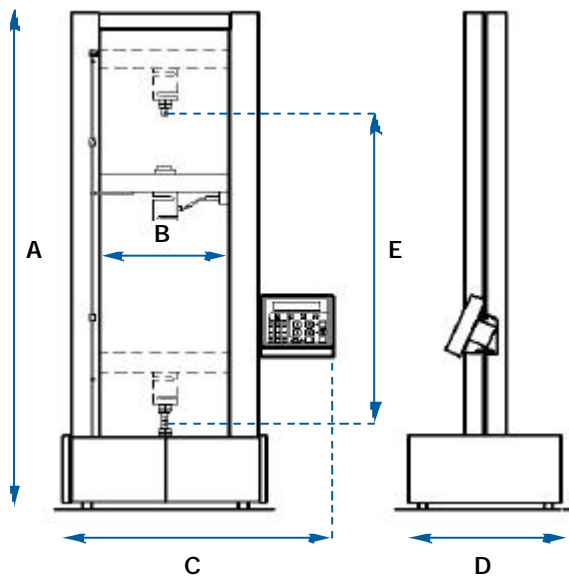
Force Capacity:	
<b>LR50K Plus (Standard)</b>	50 kN (11241 lbf)
<b>LR50K Plus-E (Extended)</b>	50 kN (11241 lbf)
Crosshead Speed Range:	0.001 to 508 mm/min (0.00004 to 20 in/min)
Speed Accuracy:	<0.2% at steady state
Maximum Crosshead Travel:	
<b>LR50K Plus</b>	855 mm (33.7 in)
<b>LR50K Plus-E</b>	1355 mm (53.4 in)
Width Between Columns:	404 mm (16 in)
Minimum Load Resolution:	0.0001 N (load cell specific.)
Load Cell Accuracy:	<0.5%
Extension Resolution:	<0.05 microns
Data Sampling Rate:	8 kHz
Display:	40 character x 4 line backlit LCD
Extensometer Inputs:	Digital and Analogue
Load Measuring System:	EN ISO 7500:2004 Class 0.5 ASTM E4
Software:	NEXYGENPlus Data Analysis Software (optional)
Supply Voltage:	230Vac ±10%, 50-60 Hz, Fuse T5AH250V 115Vac ±10%, 50-60 Hz, Fuse T10AH250V
Weight:	
<b>LR50K Plus</b>	148 kg (326 lb)
<b>LR50K Plus-E</b>	152 kg (335 lb)
Operating Temperature:	5° to 35°C (41° to 95°F)



## Accessories

Item	Part No	Item
<b>XLC Series Load Cells:</b>		<b>Extensometers:</b>
5 N (1.12 lbf)	01/2946	We supply contacting and non-contacting extensometers. For further information see our extensometer specification sheets.
10 N (2.25 lbf)	01/2360	
20 N (4.5 lbf)	01/2950	
50 N (11.25 lbf)	01/2361	
100 N (22.5 lbf)	01/2480	
250 N (56.25 lbf)	01/3048	<b>Temperature Chambers and High Temperature Furnaces:</b>
500 N (112.5 lbf)	01/2362	A range of thermal chambers and furnaces are available. For further information see our specification sheets.
1000 N (225 lbf)	01/2419	
2500 N (562.50 lbf)	01/2363	
5000 N (1124 lbf)	01/2364	
10 kN (2248 lbf)	01/2365	<b>Splinter Shields:</b>
20 kN (4496 lbf)	01/2417	Splinter shields can be supplied to your specific requirements. Contact Lloyd Instruments for further information.
30 kN (6744 lbf)	01/2366	
50 kN (11241 lbf)	01/2367	
<b>Item</b>		<b>Part No</b>
<b>Application Software:</b>		
NEXYGENPlus	40/0771	
<b>Grips &amp; Fixtures:</b>		
A wide range of grips and fixtures are available. For further information see our grip specification sheets.		
<b>LR50KPlus-CC Large Compression Cage Option:</b>		
The LR50KPlus machine can be ordered mounted above a floor standing compression cage for larger sample testing. Contact Lloyd Instruments to discuss your specification needs.		

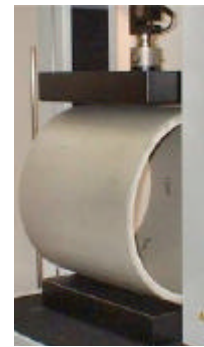
## Machine Dimensions



	mm	in
A (Standard machine height)	1567	61.7
A (Extended machine height)	2307	90.8
B	404	16.0
C	868	34.2
D	596	23.5
E (Standard machine travel)	855	33.7
E (Extended machine travel)	1355	53.4



Tensile test



Compression test



Flexure test

## Ordering Information

Model	Part No	Capacity	Description
LR50KPlus	01/3173	50 kN (11241 lbf)	LR50KPlus Materials Testing Machine with Console
LR50KPlus-E	01/3249	50 kN (11241 lbf)	LR50KPlus Materials Testing Machine (Extended) with Console

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