



2.5 kN / 562 lbf Advanced Material Testing System

LS2.5

» **Test of Rubber and Plastics**

The 1400 mm crosshead travel makes the unit perfect for test of high elongation materials

» **Large Work Area**

150 mm throat depth for larger specimens and wide range of work tables for flexibility

» **High Speed**

High precision and improved productivity
0.01-2032 mm/min (0.0004-80 in/min)

» **High Mechanical Stiffness**

Modern linear guide technology, pre-loaded ball screws and advanced software compensation ensures high displacement precision

» **Exceptional Load Accuracy**

Load accuracy of +/- 0.5% down to 1% of load cell value provides a high dynamic range, thereby reducing the number of load cells required to cover the full force range

» **Flexible Controls**

Scalable from stand alone operation using a control console or utilising our highly acclaimed NEXYGENPlus software

» **Control Interface**

PC interface is via USB allowing standard laptops to be used with no special PC interface cards required

» **Advanced Test Setup with NEXYGENPlus**

The Windows®7 compatible NEXYGENPlus software features an improved and intuitive User Configurable Test functionality complementing the comprehensive test standards library available



The LS2.5 is a 2.5 kN / 562 lbf high precision material testing machine that combined with our extensive range of grips, fixtures, extensometers and software creates a powerful material testing system. The system is equally suited to quality control, educational and R&D environments within a wide range of applications and test types. The system is particularly suited for plastic, rubber and other high elongation materials due to its wide crosshead travel capability.

- Meets or exceeds national and international material test standards
- Intuitive operation and low maintenance
- Small tabletop footprint with a large and flexible work space
- Plug 'n' Play, automatic identification of YLC series load cells
- NEXYGENPlus provides seamless data transfer to Microsoft Office®, LIMS and other data management systems

Test Types

Tensile Testing • Compression Testing • Flexural Testing • Friction • Insertion/Extraction • Peeling • Tearing • Creep/Relaxation

ISO 9001 Manufacturer

Data Sheet
SS-LS2.5

NEXYGEN[™] PLUS

NEXYGEN^{Plus} material testing software is the hub of the Lloyd Instruments materials testing system. This extraordinarily easy to use and flexible software, allows the operator to control and monitor all aspects of the system from a single front end, ensuring fast, reliable and powerful testing and data analysis for tensile, compression, peel, creep, friction, relaxation and flexural test applications.

- Large built-in library of test methods meeting international test standards
- Intuitive User Configurable Test facility
- Video and still capture for visual analysis
- User access settings and data traceability enabling compliance with FDA 21 CFR Part 11
- Built in SPC functionality for continuous monitoring of process parameters such as Cp and Cpk
- Microsoft Office[®] integration for seamless transfer of data to familiar Windows[®] packages, Windows[®] 7 compatible
- Versatile data export facility to LIMS, SPC or data management systems
- Test automation and batch testing

Multi-lingual

NEXYGEN^{Plus} software is available in the following languages: English • Spanish • French • German • Italian • Danish • Turkish • Chinese • Russian • Polish

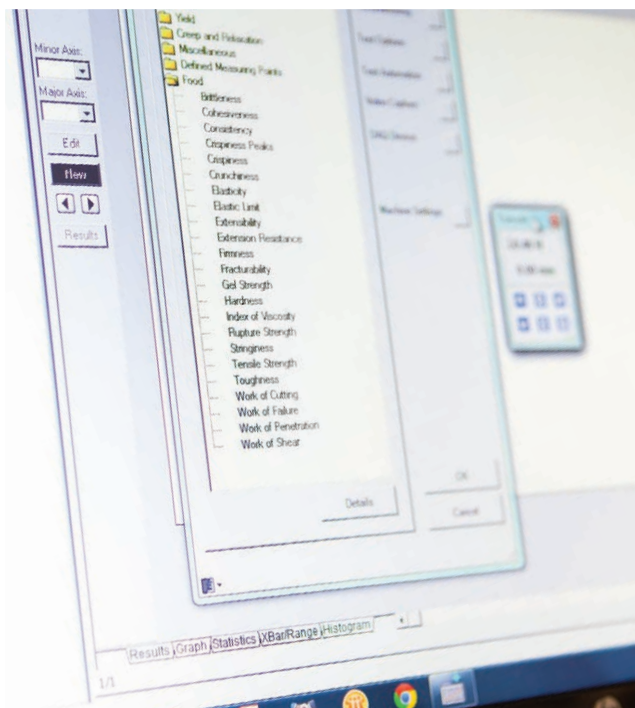
Test Creation

Getting started with NEXYGEN^{Plus} is simple, thanks to:

- An extensive built-in library of test methods covering ASTM, DIN, EN, ISO and other standards
- Test wizards for tension, compression, tearing, peeling, friction and flexural tests
- The User Configurable Test facility, ideal for product and component testing, R&D use and specialised testing

New User Configurable Test

The new User Configurable Test enables users to quickly build advanced multi-stage test routines using simple built-in commands.



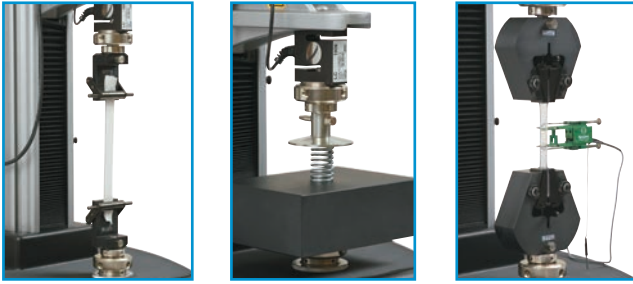
Video and Still Picture Capture

Whether for advanced sample failure analysis or presentation of test results, video and stills capture is a feature unique to NEXYGEN^{Plus}. Video and/or still pictures are synchronised with the stress/strain data and can be replayed or shown at specific points during the test in the graphical display. To utilise these powerful features simply connect your web cam or analogue video camera to your PC.

Test Automation and Customisation

To facilitate the increasing use of automation in manufacturing, NEXYGEN^{Plus} has been developed with powerful utilities for systems integration. Typical integration projects include:

- Automated sample handling
- In-line testing
- Monitoring of parameters from other sensors, e.g. thermocouples and strain gauges
- Customisation of the user interface and other functionality via the integrated Microsoft VBA module



Grips and Fixtures

Choose from a wide range of standard grips and fixtures as well as custom designed versions.

- Wedge action grips for rigid samples
- Pneumatic action grips for faster sample clamping
- Vice action grips for film and semi rigid materials
- Compression platens available in many sizes
- 3 and 4 point bending jigs
- Self tightening grips to reduce operator fatigue
- Bollard grips for wire and rope testing

Extensometers

Lloyd has a complete range of contact and non-contact extensometers available.

- General Purpose Contacting Extensometers
- Non-Contacting Extensometer
- High Resolution Strain Gauge Extensometer
- High Resolution Non-Contacting Video Extensometer

The LS2.5 accepts up to 3 external inputs using an external interface. As standard the LS2.5 accepts one extensometer input using a cable loom.

Load Cells

The machine uses Plug'n'Play YLC Series load cells. The load cells feature anti-rotation collars to avoid load train twist and facilitating easy axial alignment. 8 interchangeable YLC load cells are available with different load ratings and resolution.

Technical Specification

Force Capacity	2500 N (562 lbf)
Max. Crosshead Travel, Standard Travel (<i>Between the Eye Ends</i>)	1400 mm (55.1 in)
Crosshead Speed Range	0.01-2032 mm/min (0.0004-80 in/min)
Max. Return Speed	2032 mm/min (80 in/min)
Speed Accuracy (<i>Unloaded</i>)	+/-0.2% of selected speed from 2% to 100% of max. speed
Min. Load Resolution (<i>Load Cell Specific</i>)	0.0001N (2.2x10 ⁻⁵ lbf)
Load Cell Accuracy	+/-0.5% from 1% to 100% of load cell value
Extension Resolution	<0.15 microns
Data Sampling Rate	8kHz
Load Measuring System	EN ISO 7500:2004, Class 0.5 ASTM E4
Relative Humidity	20% to 85%
Operating Temperature	+5 to 35°C (41 to 95°F)
Storage Temperature	-17 to 54°C (0 to 130°F)
Supply Voltage (+/- 10%)	115VAC/230VAC, 50-60Hz
Max. Power Requirement	500VA

All systems conform to relevant EU standards and are CE marked. On site verification as per ASTM E4 and ISO 7500-1 recommended.

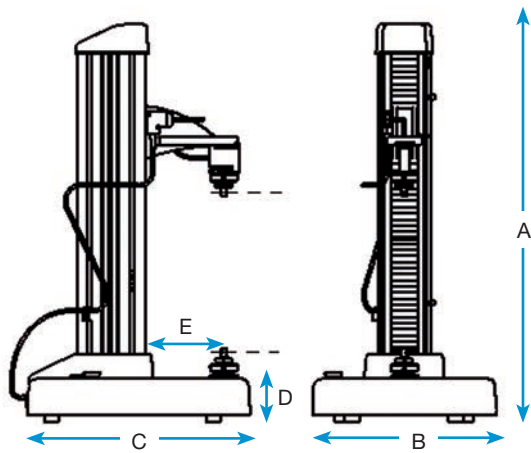
Flexible and Safe work area

The machine can be equipped with an expanded work table, a T-slot table or a drip tray. For safety splinter shields with electrical interlocks are available in three different heights. A temperature chamber can be added as an integral part of the solution.

Large Sample Testing

The LS2.5 is fully compatible with the unique pogo system from Lloyd Instruments, here shown with a dual column machine. The pogo system allows testing of very large samples up to 2 x 2 m (78.7 x 78.7 in) in size with the added benefit of optional elevated and low temperature testing capability.





A	Height	1910 mm (75.2 in)
B	Width (excluding console)	460 mm (18.1 in)
C	Depth	557 mm (21.9 in)
D	Base Height	108 mm (4.3 in)
E	Throat Depth	150 mm (5.9 in)
	Weight	82 kg (180 lb)

Ordering Information

Order number	Description
LS2.5	LS2.5
	Model
E	Standard
X	POGO Design*
	Operation
H	Hand Held Remote
C	Main Console
	Power
115V	US Power Cord
230V	UK and Euro Power Cord
230V - CNAU	China and Australian Power Cord
	Order number sample
LS2.5 E C 230V	LS2.5, Standard, Main Console, UK and Euro Power Cord

*Our unique POGO system allows testing of very large samples with the added benefit of optional elevated and low temperature testing capability.

AMETEK Test & Calibration Instruments

A business unit of AMETEK Measurement & Calibration Technologies offering the following industry leading brands for test and calibration instrumentation.

Chatillon Force Measurement

Chatillon has been a hallmark in the industry since 1835. The hand held gauges and motorized testers have earned their reputation for quality, reliability and accuracy and they represent the de facto standard for force measurement.

Lloyd Instruments

Material Testing Solutions

Materials testing machines and software from Lloyd Instruments guarantee the highest level of performance and capability for production testing, quality control, laboratory testing, research and education to provide expert materials testing solutions.

Davenport Polymer Test Equipment

Allows critical polymer parameters to be determined, including melt flow index and melt flow rate, intrinsic viscosity (IV) measurement of moisture-sensitive PET polymers and polymer density measurement.

Texture Analysers

The comprehensive program provides the platform to perform rapid, general food testing and detailed texture analysis on a diverse range of foods.

Newage Testing Instruments

Newage offers a comprehensive range of hardness testers, durometers, optical systems and software for measurement, data acquisition and analysis.

JOFRA Calibration Instruments

The inventor of the portable high precision dry-block temperature calibrators. The calibration instruments program also covers precision thermometers and temperature baths, temperature sensors hand held instruments for pressure calibration and process signal calibrators for easy control loop calibration, measurements and simulation.

M&G Pressure Testers & Pumps

Pneumatic floating-ball or hydraulic piston dead weight testers with accuracies to 0.015% of reading.

Crystal Pressure

Digital pressure gauges and calibrators that are accurate, easy-to-use and reliable. Designed for use in the harshest environments; most products carry an IS, IP67 and DNV rating.

AMETEK® TEST & CALIBRATION INSTRUMENTS

United Kingdom
Tel +44 (0)1243 833 370
uk-far.general@ametek.co.uk

France
Tel +33 (0)1 30 68 89 40
general.lloyd-instruments@ametek.fr

Germany
Tel +49 (0)2159 9136 510
info.mct-de@ametek.de

Denmark
Tel +45 4816 8000
ametekdk@ametek.com

USA
Florida
Tel +1 (727) 538 6000
chatillon.fl-lar@ametek.com

California
Tel +1 (800) 444 1850
sales@crystalengineering.net

India
Tel +91 22 2836 4750
ametekdk@ametek.com

www.lloyd-instruments.com

Singapore
Tel +65 6484 2388
ametekdk@ametek.com

China
Shanghai
Tel +86 21 5868 5111

Beijing
Tel +86 10 8526 2111

Guangzhou
Tel +86 20 8363 4768
lloyd@ametek.com.cn