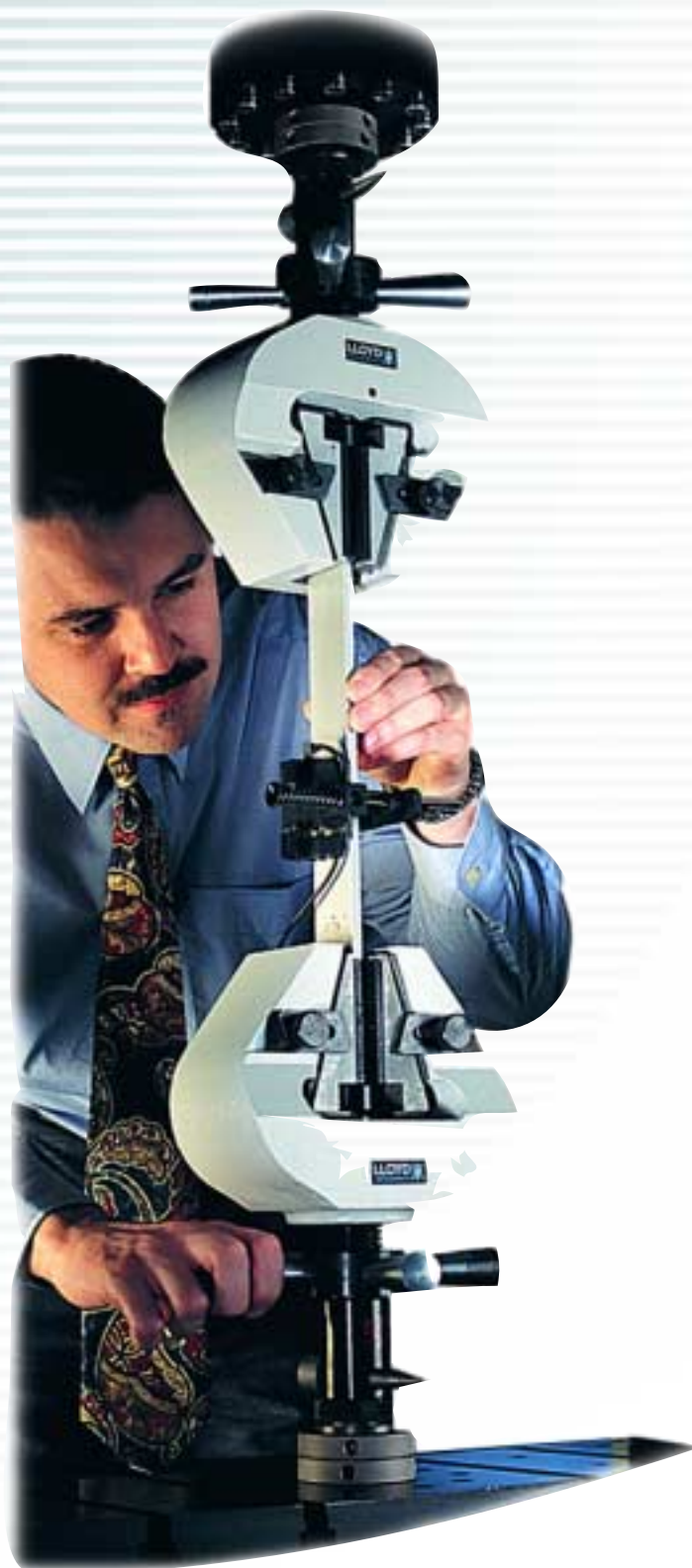


EZ SERIES EXTENSOMETERS



SPECIFICATION
SS-MT-6603-0101
January 2001

INTERNET
www.ametek.com
www.chatillon.com
www.lloyd-instruments.co.uk

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LASERSCAN 200 SERIES



Description

The Laserscan 200 is a versatile, non-contacting measuring instrument.

A bright red scanning beam illuminates the sample and gauge markers, making it easy to set up and align. The Laserscan 200 includes four gain settings allowing it to be used over a wide range of gauge lengths without adjustment to its calibration or position. It incorporates a digital display, which is used to facilitate calibration and provide a continuous readout. The instrument has an analogue output (0-10V) which allows it to be interfaced with all Lloyd Instruments' and most other materials testing machines. Two reflective markers denote the gauge length of the sample. The Laserscan senses the leading edges of these markers and is unaffected by their shape, making accurate setting of the gauge length a very simple procedure. An 80Hz laser beam sweeps the axial length of the specimen, illuminating and detecting the position of the gauge markers. As the sample is stressed the markers separate and any movement is measured. The Laserscan 200 is supplied with an adjustable stand to allow accurate positioning for different length test specimens.

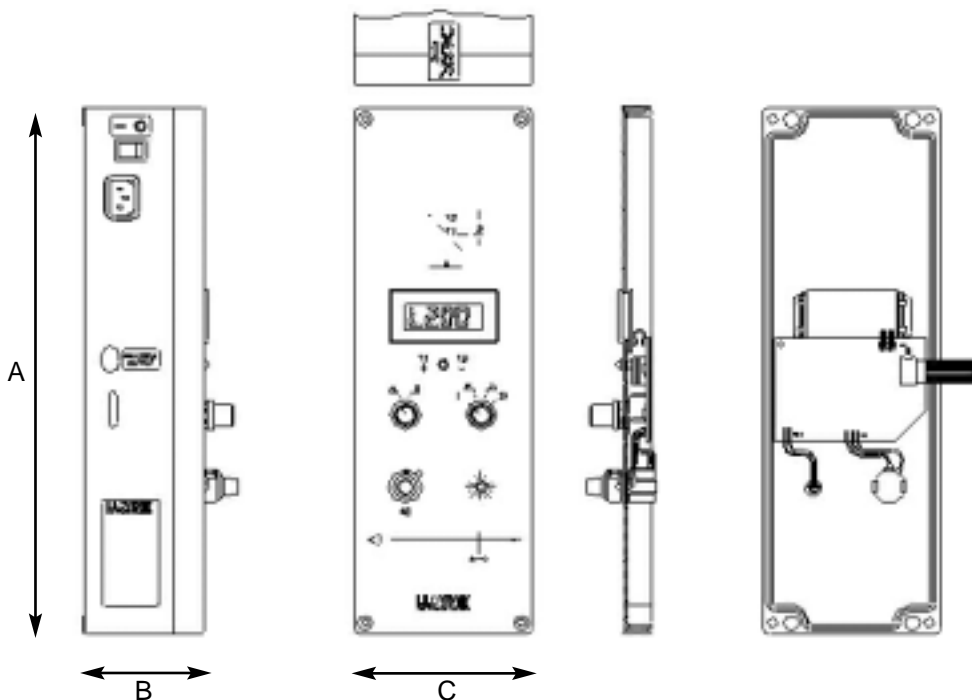
Specification

Gauge Length	10 - 2000 mm (0.4 - 78 mm)
Elongation Range	10 - 2000 mm (0.4 - 78 mm)
Accuracy	±0.5% of working length
Measurement Principle	Ratio Non-Contacting
Signal to Noise Ratio	72 db
Scan Frequency	80 Hz (nominal)
Analogue Output	0 - 10V
Supply Voltage	220/240Vac and 110/120Vac
Power Requirements	100W Maximum

Applications

The Laserscan 200 allows accurate strain measurement from a wide range of materials with varying ductility including plastics, film, rubber and textiles.

The Laserscan 200 eliminates any problems associated with contacting extensometers making it particularly suitable for elastomeric samples where the pressure of knife edges on a contacting extensometer could induce local stresses and weaken the sample. Specialist punches for applying reflective tape targets can be ordered separately.



Dimensions

A	357 mm	14 in
B	80 mm	3.0 in
C	117 mm	4.6 in

EXL750: Long Travel Extensometer



EXL750 Mounted to LRX

Description

The EXL750 is specifically aimed at the plastic and rubber industries to provide accurate readings of strain and extension over a large extension range. The unit, incorporating two clamping arms and precision potentiometers, produces a DC voltage proportional to the distance between the arms. This generates accurate readings of percentage strain, and allows additional parameters such as yield point and break points to be calculated when used in conjunction with Lloyd Instruments' software. The EXL750 conforms to BS5214 Grade D, ISO9513 Class 2.

Specification

Measurement Principle	Dual Potentiometer (10V = 750 mm, 30 in)
Mounting Stand	Order Separately
Resolution	250 microns
Accuracy	2%
Selectable Gauge Lengths	10 mm 0.4 in 20 mm 0.8 in 25 mm 1.0 in 50 mm 2.0 in
Weight	8 Kg
Power Requirements	100 W Maximum
Supply Voltage	115/230 V ac \pm 10% 50 - 60 Hz
Measuring Range	750 mm 30 in
Maximum Sample Cross Section	50 mm 2.0 in

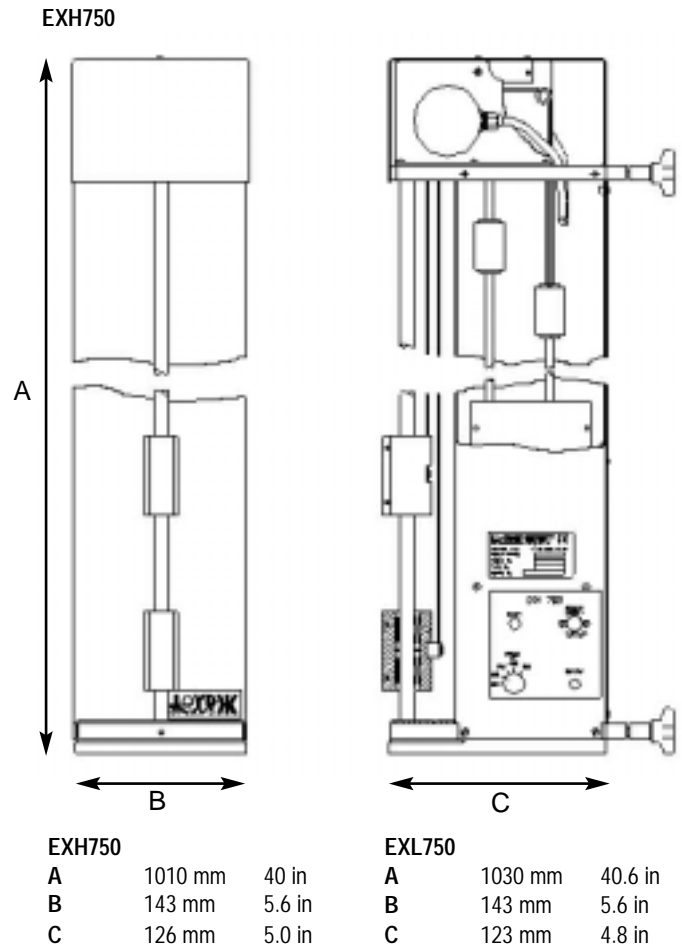
EXH750: Long Travel Extensometer

Description

The EXH750 is suitable for use with rigid, semi-rigid and ductile materials. The extensometer is supplied with a universal voltage external power supply unit, a loom and connector to fit a range of machines, and a mounting stand, which easily bolts onto the left hand column of the machine. The EXH750 conforms to BS5214 Grade C, ISO9513 Class 1.

Specification

Measurement Principle	Dual Encoder with D/A Converter
Mounting Stand	Supplied (Bolts to Machine)
Resolution	2.5 microns
Accuracy	1%
Selectable Gauge Lengths	10 mm 0.4 in 25 mm 1.0 in 50 mm 2.0 in 80 mm 3.1 in
Weight	8 Kg
Power Requirements	100 W Maximum
Supply Voltage	115/230 V ac \pm 10% 50 - 60 Hz
Measuring Range	750 mm 30 in
Maximum Sample Cross Section	50 mm 2.0 in



STGA: High Resolution Strain Gauge Extensometers



Description

A general-purpose, precision extensometer, designed for testing a wide range of materials including metals, plastics, composites and ceramics. The STGA operates in tension, compression and cyclic testing modes. Its Dual Flexure design permits higher frequency operation, while eliminating sensitivity to vibrations. The extensometer is supplied with an attachment kit to allow quick, one hand mounting to the sample.

- Tests specimen through failure
- Suitable for axial tension, compression and cyclic testing
- Overtravel Safety Stop eliminates risk of damage
- Interchangeable components : arms, spacers and steel knife edges
- Meets standards ASTM E83 Class B-1, ISO9513, Class 0.5

Specification

Measurement Principle	Full Bridge Strain Gauge
Accuracy	0.5%
Maximum Clamp Opening	25 mm
Maximum Elongation	10%, 20%, 25%
Selectable Gauge Lengths	10 mm 0.4 in 25 mm 1.0 in 50 mm 2.0 in 80 mm 3.2 in
Temperature Range	-40°C to +100°C
Excitation	10 VDC typical
Output	2 to 4m V/V nominal

STGB: Bi-Axial Extensometers

Description

This multi-purpose Biaxial extensometer provides simultaneous averaged axial strain measurements with average lateral strain. Ideally suited for testing anisotropic materials such as advanced composites, or equally for more general applications, determining Poisson's ratio and 'r' values.

- High accuracy with minimal crosstalk between channels
- Multiple sets of dual flexures and mechanical stops allow testing through failure
- Unique knife edge mounting and parallel travel permits use on round or flat samples with unprecedented accuracy and ease
- Suitable for wide range of sample sizes from 2.5 mm to 25 mm (0.1 to 1.0 in) width or diameter





Specification

Maximum Movement (STGB 0.5E)	0.5 mm	0.02 in
Maximum Movement (STGB 1.0E)	1.0 mm	0.04 in
Gauge Length	25 mm	1.0 in
Sample Width	0 to 25 mm	0 to 1 in
Maximum Clamp Opening	25 mm	1.0 in
Accuracy	0.5% Both Axes	
Extensometer Type	Full Bridge Strain Gauge Both Axes	
Temperature Range	-40°C +100°C	
Output	2 to 4m V/V depends on model	
Linearity	0.15%	
Crosstalk	Less than 0.5%	
Excitation	10 VDC	

STGT: Transverse Extensometers

Description

A general purpose self supporting extensometer, capable of measuring samples of up to 1 inch width or diameter. Commonly used to determine Poisson's Ratio and 'r' values. It is well suited for testing a wide range of materials including metals, plastics, composites and ceramics.

- Wide range of sample sizes
- Self supporting on sample
- Rugged dual flexure design withstands severe usage
- May be used for dynamic cyclic testing as well as static
- Easily replaceable hardened tool steel knife edges
- 25 pin plug for connecting to EZ machines or NEXYGEN™EXT interface
- Supplied with a foam lined case



Specification

Maximum Movement (STGT 0.5E)	0.5 mm	0.02 in
Maximum Movement (STGT 1.0E)	1.0 mm	0.04 in
Maximum Movement (STGT 2.5E)	2.5 mm	0.1 in
Sample Width	0 to 25 mm	0 to 1 in
Accuracy	0.5%	
Extensometer Type	Full Bridge Strain Gauge	
Temperature Range	-40°C +100°C	
Output	2 to 4m V/V depends on model	
Linearity	0.15%	

Standard Accessories

Item	Part No.	Description
NEXYGEN/EXT	01/2908	NEXYGEN Interface Kit for EZ Series Machines
Extensometer Mounting Stand and Bracket		
EXT BRACKET	07/1708	LASERSCAN Bracket for Thermal Chamber
EXT STAND B	01/2313	Extensometer Stand for LS500, LR5K thru LR50K & EZ Series Machines

ORDERING INFORMATION

Model	Part No.	Description
LASERSCAN EZ	01/2913	Laserscan non-contacting extensometer, 240V
LASERSCAN E1	01/2939	Laserscan non-contacting extensometer, 115V
TTOXP/2	01/1159	Extensometer Punch (Applies 2 mm 0.08 in reflective targets to sample)
TTOXP/4	01/1158	Extensometer Punch (Applies 4 mm 0.16 in reflective targets to sample)
EXL750	01/2914	Long Travel Dual Potentiometer Extensometer
EXH750	012915	Long Travel High Resolution Dual Encoder Extensometer
STGA/10/10	01/2917	High Res' Strain Gauge: 10 mm, 0.4 in gauge length, 10% mm max elongation
STGA/25/10	01/2918	High Res' Strain Gauge: 25 mm, 1.0 in gauge length, 10% mm max elongation
STGA/25/25	01/2919	High Res' Strain Gauge: 25 mm, 1.0 in gauge length, 25% mm max elongation
STGA/25/50	01/2920	High Res' Strain Gauge: 25 mm, 1.0 in gauge length, 50% mm max elongation
STGA/25/100	01/2921	High Res' Strain Gauge: 25 mm, 1.0 in gauge length, 25% mm max elongation
STGA/50/25	01/2922	High Res' Strain Gauge: 50 mm, 2.0 in gauge length, 25% mm max elongation
STGA/50/50	01/2923	High Res' Strain Gauge: 50 mm, 2.0 in gauge length, 50% mm max elongation
STGA/50/100	01/2924	High Res' Strain Gauge: 50 mm, 2.0 in gauge length, 100% mm max elongation
STGA/80/10	01/2925	High Res' Strain Gauge: 80 mm, 3.2 in gauge length, 10% mm max elongation
STGA/80/25	01/2926	High Res' Strain Gauge: 80 mm, 3.2 in gauge length, 25% mm max elongation
STGB/0.5	01/2806	Bi-Axial Extensometer, 0.5 mm 0.02 in elongation
STGB/1.0	01/2807	Bi-Axial Extensometer, 1.0 mm 0.04 in elongation
STGT/0.5	01/2803	Transverse Extensometer, 0.5 mm 0.02 in elongation
STGT/1.0	01/2804	Transverse Extensometer, 1.0 mm 0.04 in elongation
STGT/2.5	01/2805	Transverse Extensometer, 2.5 mm 0.1 in elongation



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