

## LEX820 High Resolution Extensometer



The Dia-Stron LEX820 is a high resolution extensometer developed for the measurement of fine fibres failing at low strain values.

## General Information

### Principal Features

- 50mm linear travel
- Highly accurate speed control
- 2.5N & 20N load cells available
- DC micrometer drive
- Low maintenance & robust
- Automated sample covers

### Principal Benefits

- Exceptionally smooth travel
- High positional repeatability
- Highly detailed stress/strain data
- Can operate as a standalone unit or within an automated system (ALS1500).

### System Description

The LEX820 is a high resolution extensometer developed for fine fibre applications. At its heart, a DC micrometer drive offers exceptionally smooth travel combined with high positional repeatability. The module is designed for fibres which fail at low strain values and provides highly detailed stress/strain data. The LEX820 can be supplied with two load cells, either 2.5N or 20N capacity. The LEX820 instrument is supplied as a complete system comprising of the mechanical module, control unit and software for Windows OS.

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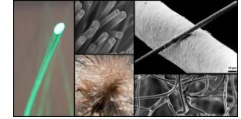
e: [sales@diastron.com](mailto:sales@diastron.com)

w: [www.diastron.com](http://www.diastron.com)

UK office 9 Focus Way | Andover | Hampshire | SP10 5NY | UK  
t: +44 (0)1264 334700 | f: +44 (0)1264 334686

888 Sussex Boulevard | Broomall | PA19008 | USA  
t: (610) 328-9038 | f: (610) 328-7157

US office



## Specifications

### LEX820 Module

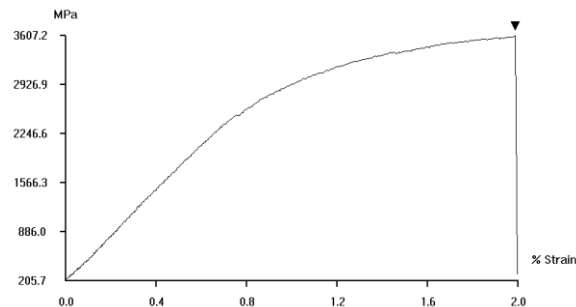
Extension range	3 – 53mm
Speed range	0.01 to 2.6mm/sec
Extension Force range	0 to 2.5N or 0 to 20N
Force resolution	0.05mN (2.5N) 0.5mN (20N)
Displacement resolution	1µm
Displacement accuracy	50µm
Load cell linearity	±0.1% full scale

### LEX820

The LEX820 module is a self-contained unit, designed for fine fibre applications. A DC micrometer drive provides an exceptionally smooth linear travel combined with a high positional repeatability. The LEX820 is suitable for fibres failing at a low strain and provides highly detailed stress/strain data.

### Dedicated software – UvWin

UvWin 3 software controls the LEX820 system. Method parameters can be easily edited within the software. UvWin enables automatic data correction for system compliance.



*Tensile data for a 13µm tungsten fibre (20mm gauge length)*

### Programmable Features

Methods	<ul style="list-style-type: none"> <li>● Stress/Strain with break detection</li> <li>● Stress relaxation</li> <li>● Creep</li> <li>● Hysteresis</li> </ul>
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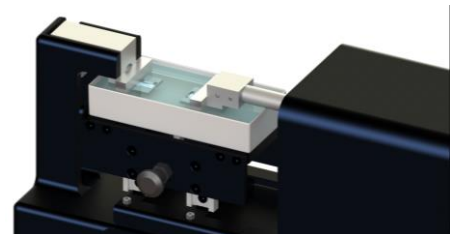
UvWin also offers a number of integrated data processing tools which includes 1 or 3 phase tensile, hysteresis and stress relaxation analyses. The raw data can also be exported.

### Content

UV1000 Control unit  
LEX820 Module  
USB and Power cords  
UvWin software for Windows OS

### New – Optional Immersion Cell

The new immersion cell is a recent development for brittle fibre specimens such as carbon or ceramic filaments which shatter into multiple fragments at break. The



### Requirements

Power Supply	85-265vac 47-63Hz, 100W
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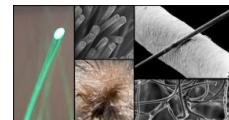
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Computer	<ul style="list-style-type: none"><li>• Windows OS: XP, Vista, 7, 8, 10</li><li>• 1 x native USB port</li></ul>	immersion cell can be filled with a viscous liquid that dissipates fracture energy enabling the recovery of the specimen for further analysis such as SEM imaging to better understand failure mode, unravelling the nature of the fibre microstructure.
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