



## **Data Sheet – FDAS765**

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### **FDAS765 High Resolution Dimensional Measurement System.**

Measurement system for rapid analysis of cross sectional data from hair and other small fibres.

Quick and easy scanning procedure.

Automated calculation of key parameters such as major/minor axes and cross sectional area.

Accurate measurement with resolution of better than 1 $\mu$ .

Compatibility with Dia-Stron Miniature Tensile Testing Systems

### **System Description.**

#### **General Information.**

The FDAS765 fibre dimensional system is supplied as a fully operational unit, comprising the UV1000 control unit, dimensional test module including Mitutoyo laser micrometer and UvWin applications software. Alternatively the FDAS765 may be incorporated with the MTT675 automated tensile tester or with the ALS1500 sample loading module.

#### **Control Unit.**

The common universal control unit (UV1000) supports the dimensional module and other measurement modules including the MTT variants, Cyclic Tester, Bending Module and the automated sample loading modules (ALS). The commonality of the control unit permits compatibility across the product range, allowing the user to integrate testing capability in line with changing needs. The control unit has no user interface and all methods are entered through the PC software.

#### **FDAS765 Dimensional Analysis Module.**

The test module incorporates the Mitutoyo scanning laser micrometer (LSM500) for measurement of fibre diameter. The fibres are permanently mounted on small tabs and held in place by the instrument during measurement. The FDAS765 model has a fibre straightening facility to ensure that the fibre is orthogonal to the laser beam. Fibres are not cylindrical in cross section and to obtain an accurate measure they are rotated in the laser and multiple measurements made. Rotation is achieved via a DC motor fitted with a shaft encoder to monitor the angle and multiple measurements are taken so that major and minor axes together with cross sectional area can be determined. The fibre may be measured at a single point, or scanned along up to a 24mm length in discrete 'slices'. In addition, the fibre can be rotated to user selected angles so that the dimensional aspects can be determined. This facility is important when measuring such properties as bending moment of single fibres.

#### **UvWin PC Applications Software.**

The FDAS765 is operated through UvWin PC application, a 32Bit software programme written for Windows™ NT, 2000 & XP. The instrument protocols are selected from user interactive dialogues and the software includes method options for specific applications, data display and storage. In addition there are a range of analysis tools designed for particular applications. Data

export to other PC applications is through formatted text files suitable for import into Excel and other similar software. Data report gives full details of all scans along the fibre.

UvWin supports the complete range of Dia-Stron fibre testing instruments, including the automated sample loading modules, and gives a familiar Windows platform over the range of applications.

**Specifications.**

Sample size:	3.2, 5, 10, 20, 30mm
Linear slices per sample:	1 – 200
Laser type:	Mitutoyo LSM 500
Controller:	Mitutoyo LSM 6000
Measuring range:	5 – 2000 microns
Resolution:	0.1 microns*
Repeatability:	0.06 microns
Scan Rate:	up to 1600 scans/sec*
Laser beam width at focus:	200 microns
Software:	Windows NT, 2000 & XP
Communications:	RS232, USB serial adapter
Power:	Universal supply 85-265vac, 47-63Hz, 100W

\* - Software selectable

**System Components:**

FDAS765 Laser Scan Micrometer  
Mitutoyo LSM 6000 Controller  
UV1000 Control Unit.  
PU1100 Pneumatic Unit.  
UvWin PC Applications Software including manuals.  
Mains cord and serial cable.

**Dia-Stron Limited**, 9 Focus Way, Andover, SP10 5NY, UK  
Telephone +44(1264) 334700. Fax+44(1264) 334686. [Info@diastron.com](mailto:Info@diastron.com)