



Data Sheet – FDAS760

FDAS760 High Resolution Dimensional Measurement System.

Specially developed measurement system for dimensional analysis of fibres immersed in solutions

A chemically resistant tanked version for kinetic studies on fibre swelling.

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

Accurate measurement with resolution of better than 1μ .

PC software compatible with Dia-Stron Miniature Tensile Testing Systems.

System Description.

General Information.

The FDAS76 fibre dimensional system is supplied as a fully operational unit, comprising the control unit, dimensional test module including Mitutoyo laser micrometer, laser controller and UvWin applications software.

Control Unit.

The FDAS760 is a stand-alone unit and the control unit is designed to operate the measurement protocols only on this module. The Control unit is not compatible with other modules within the Dia-Stron fibre testing range.

FDAS760 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, which are used to hold the sample in place during measurement. The FDAS760 model has a manual fibre straightening facility to ensure that the fibre is orthogonal to the laser beam. Fibres may not be cylindrical in cross section and to obtain an accurate measure, multiple measurements are made while rotating the sample in the laser beam. From the measurement of the major and minor axes the cross sectional area can be determined. The fibre may be measured at a single point, or scanned along its' length in discrete 'slices'. The fibre is measured in a tank made of chemically resistant material and the laser light is passed through optical glass windows located in the sides of the tank. The sample holders are made of stainless steel and enter the tank through chemical resistant seals. The tank is suitable for measurement of fibres during immersion in chemical solutions. Please contact Dia-Stron for further information on chemical resistance.

UvWin PC Applications Software.

The FDAS760 is operated through UvWin PC application, a 32-bit software programme written for Windows™ 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 analysis tools designed for this application. Data export to other PC programmes is through formatted text files suitable for import into Excel and other similar software. Data report gives details for each scan along the fibre.

UvWin supports the complete range of Dia-Stron fibre testing instruments and cross sectional area data obtained using the FDAS760 can be merged with mechanical data from the other instruments in the range.

Specifications.

Sample size:	30mm
Linear slices per sample:	1 – 20
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™ 2000 & XP
Communications:	RS232, USB serial adapter
Power:	Universal supply 85-265vac, 47-63Hz, 100W

* - Software selectable

System Components:

FDAS760 Laser Scan Micrometer module with Control Unit
Mitutoyo LSM 6000 Controller
UvWin PC Applications Software including manuals.
Mains cord and serial cable.

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