

The TIDAS S 100/116 fiber optic spectrometer succeeds of the TIDAS II from J&M. Its innovative technology in combination with a diode array detector enables the adaption of external fiber optic probes (immersion probes, flow cells and so on) and calibration or validation using the built in cuvette holder. The instrument is available with a 16 cuvette changer as TIDAS 116. The data acquisition and control of the TIDAS 100/116 is achieved by ethernet connection. The TIDAS 100/116 is ideal for the use in process analysis and laboratory applications.



Fig. 1: TIDAS 116 with 16 cuvette changer

Speed

Diode array technology allows measurement times in the ms-range. The wavelength range covers 190 to 1010 nm.

No Moving Parts

The instrument is consequently based on fiber optics and features an optical system without moving parts. This results in improved reliability and long-term stability of the system and allows the use of the TIDAS S 100 also in rough conditions.

Custom Designs

Based on the TIDAS S 100 a variety of special applications can be realized. We are happy to discuss special customisations of the instrument, please contact us directly.

Quality of results

All parts are optimized for the use of fiber optics, this ensures the highest quality of your results.

High flexibility

The fiber optic capabilities of the TIDAS S 100 permit the use of a very large range of accessories operated remotely from the unit. Already existing fiber optic probes can be used easily. Connection to remote cells for measurements in hazardous areas, e.g. inside a glove box, can be realized easily and quickly.

Internal and External Operation

The separation of the scanning and detection units is realized by the all fiber optic setup. A standard built in switching device allows simple selection of internal and external measuring mode and simply requires connection of the appropriate fiber optic guides to the external connectors provided at the side of the unit.

Sample Compartment

The sample compartment in the TIDAS S 100 is accessible easily from the top. The standard unit is supplied with a single cell holder. This makes a calibration and validation of the system very easy. An optional automatic cell changer for up to 16 cells is available.

Accessories

The fiber optic capabilities of the TIDAS S 100 permit the use of a very large range of accessories operated remotely from the unit. Already existing fiber optic probes can be used easily. Some examples are shown below.

Software

The software supplied with the instrument controls the instrument and provides a variety of data acquisition modes and modules for data analysis, for example colour analysis, library search, quantification mathematical operations like smoothing or derivatives and much more.



Immersion Probes

The TIDAS S 100 can be combined with different fiber optic coupled immersion probes. You can use probes for transmission as well as for reflectance (ATR) analysis.



Remote Cells

Connection to remote cells for measurements in hazardous areas, e.g. inside a glove box, is very easy and fast. A range of cells including flow-through versions is available.



Electronic System

The TIDAS S 100 uses a spectrophotometer electronics, which is capable of acquiring data in the low ms-range. An external PC is used for instrument control and data evaluation.

Specification:

Light sources:	deuterium (30W) / tungsten (7,5W)
Wavelength range:	190 nm - 1010 nm
Scan speed:	12 ms - 10 s / spectra
Number of diodes:	1024
Pixel resolution:	~ 0.8 nm / Pixel
Resolution:	< 2 nm FWHM
Straylight:	< 0.2% at 240 nm (KCl, ASTM E-387) < 1% at 198 nm (NaJ, ASTM E-387)
Wavelength accuracy:	± 1 nm (240 nm - 650 nm, NIST 2034)
Wavelength reproducibility:	± 0.005 nm (10 consecutive measurements, NIST 2034)
Wavelength drift:	< ± 0.005 nm/K
Photometric accuracy:	< ± 0.01 AU (according to EUP standard)
Baseline noise:	< ± 0.00005 AU (254 nm, ASTM 0,5)
Baseline deviation:	< ± 0.001 AU (220 nm - 800 nm, 0.5s measurement time, 0 AU)
Baseline stability:	< ± 0.0005 AU (254 nm, ASTM 0,5)
Dimensions (H x W x D):	165 x 555 x 490 cm
Weight:	25 kg