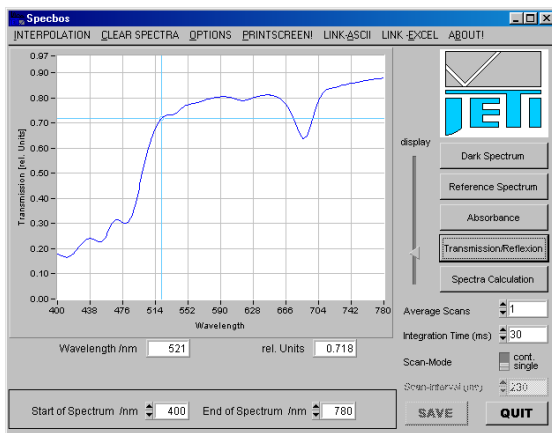


## Miniature Spectrometer with Dip Probe Specbos 3100

The **Specbos 3100** is a miniature spectrometer with a fiber-coupled dip probe for in-situ measurement of various liquids in the Visible range. The basic unit contains the Visible light source and is characterized by its very small size and ease of use. The dip probe is available in a variety of different standard and customer-specific versions.

The **Specbos 3100** is offered in two versions:

The USB version (under development) can easily be connected to the USB port of a PC and measurements can be started almost immediately – a real plug & play solution! The device is bus powered.



Transmission spectrum of olive oil

The RS-232c version is supplied with a PC Serial cable and a power supply. The instrument software automatically detects which COM port is being used, avoiding many problems during installation.

The JETI Specbos software is included with the system. It is suited for acquisition of spectra, as well as for transmission / absorbance calculations. Single and continuous measurement modes are possible. Data can be exported in Excel™ spreadsheet format (.xls) and to ASCII data files.

Upon request, the parameters of the dip probe can be adapted to meet customer-specific needs (temperature / pressure ranges, diameter, etc.).

## Specifications

Application	In-situ spectral measurement of liquids (portable applications, stationary use in combination with Swagelok fitting)
Spectral range	380 nm ... 760 nm
Wavelength accuracy	$\pm 0.5$ nm (ASTM E275, $\lambda=485.8$ nm / 641.1 nm)
Wavelength reproducibility	$\pm 0.2$ nm (ASTM E275, $\lambda=485.8$ nm / 641.1 nm)
Spectral resolution	9 nm (optional 6 nm) FWHM
Digital spectral resolution	4.1 nm
Digital resolution	14-bit A/D converter
Extinction range	0 ... 3 AU
Base line noise	max. $10^{-3}$ AU at 550 nm (aqua dest.)
Photometric precision	$\pm 0.002$ AU (ASTM E275, D=1, $\lambda= 550$ nm)
Photometric accuracy	$\pm 0.005$ AU (ASTM E275, D=0.46, $\lambda= 550$ nm)
Temperature dependence	$< 10^{-4}$ AU/ K (D $\approx$ 0.3, $\lambda=550$ nm)
Stray light	$< 10^{-3}$ (ASTM E387, GG495, 4 mm, $\lambda = 420$ nm / 630 nm)
Light path	5 mm (optional 1 mm, 2 mm, 10 mm or variable)
Probe diameter	0.5"
Maximum depth of immersion	200 mm
Fiber length	1.5 m
Measuring time	approx. 100 msec
Operation conditions dip probe	Temperature: max. 140° C Pressure: max. 3 bar pH: 1 ... 13
Spectrometer	Flat field image holographic diffraction grating 128-pixel photodiode detector array
Power supply	RS-232c version: 115 VAC (230 VAC optional) / 9 VDC USB version: Hub powered (under development)
Interfaces	RS-232c, 8N1, 38,400 Baud or USB 1.1, full speed (12 Mbit/sec) (under development)
Dimensions basic unit	120 mm x 58 mm x 34 mm
Weight basic unit	200 g
Enclosed accessories	JETI specbos PC software for Windows 98/2000/ XP/NT (RS-232c version only) Operations manual Transport case RS-232c version: Switching mode power supply PC Serial cable USB version: USB cable

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