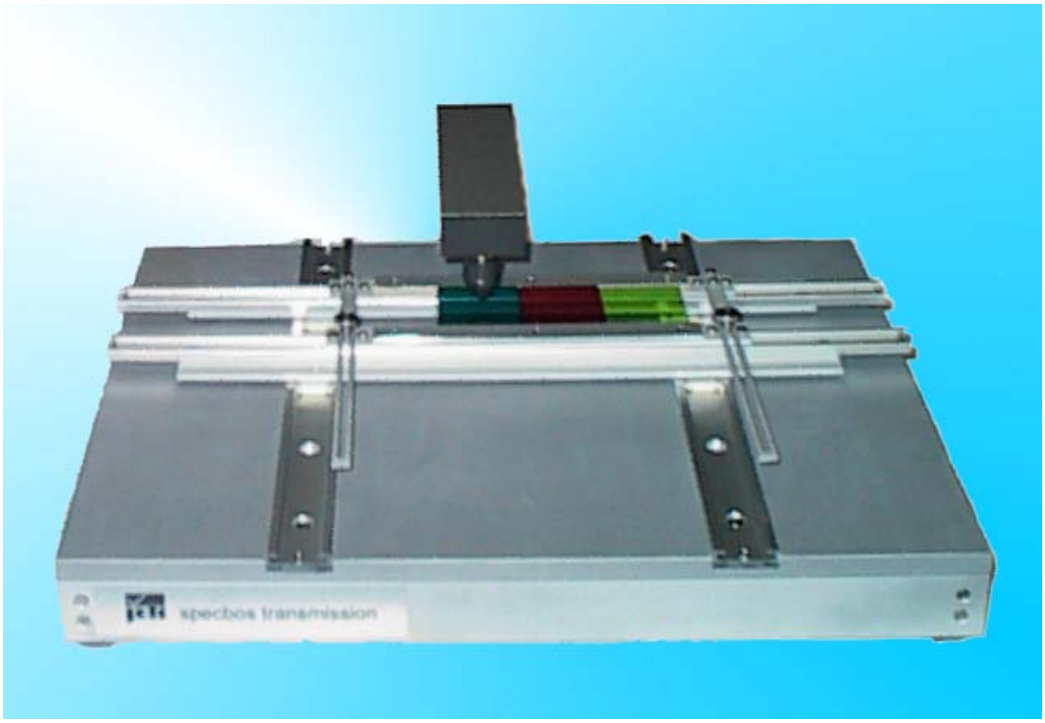
Spectrophotometer

Specbos Trans

The **Specbos Trans** is an easy to use instrument for spectral transmission measurement in the VIS region. It is especially suited for flat materials such as optical filters with dimensions up to 6” x 6”.



The **Specbos Trans** is delivered with JETI Specbos data processing software for Windows™ 98/ NT/ 2000, power supply and serial data cable. The software package allows the measurement of transmission and absorbance spectral data over a large sample area.
Besides the display and management of spectra (with hot links to Excel® and ASCII files), further mathematical operations such as first and second derivatives are possible. In addition, the optional JETI Specbos Color software allows the measurement of color coordinates of samples (e.g. L*a*b*).

Specifications

Test objects	Flat samples (1” x 1” … 6” x 6”)
Measuring geometry	0/0 (illumination by 0°, observation by 180°)
Measuring diameter	3 mm
Measuring time	approx. 0.05 sec.
Spectral range	400 nm ... 780 nm
Spectral resolution	9 nm
Digital spectral resolution	4.5 nm
Digital resolution	14-bit A/D converter
Light source	Tungsten lamp / Blue LED
Dispersive element	Holographic diffraction grating
Light receiving element	128-pixel photodiode detector array
Operating conditions	Temperature: 10 ... 40 °C Humidity: <85% relative humidity at 35°C (non-condensing)
Power supply	115 VAC (230 VAC optional) / 9 VDC
PC interface	RS-232c, 8N1, 38,400 Baud
Dimensions	380 mm x 320 mm x 110 mm
Weight	5 kg
Enclosed accessories	Switching mode power supply JETI Specbos PC software for Windows™ 98/2000/NT Operations manual RS-232c Serial PC cable (9-pin D connector)

Photometric measurement (JETI Specbos software)

Measurement curves	Transmission spectrum Absorbance spectrum
Wavelength accuracy	± 0.5 nm (ASTM E275, BG 20 filter, 2 mm, λ = 528.7 nm / 684.3 nm)
Wavelength reproducibility	± 0.2 nm (ASTM E275, BG 20 filter, 2 mm, λ = 528.7nm / 684.3 nm)
Base line noise	maximum 10^{-3} AU at 550 nm
Base line drift	maximum $2 \cdot 10^{-3}$ AU per hour
Photometric precision	± 0.002 AU (ASTM E275, D = 1, λ = 550 nm)
Photometric accuracy	± 0.005 AU (ASTM E275, D = 0.46, λ = 550 nm)
Photometric linearity	0 ... 2.6 AU (ASTM E275, ND filters, λ = 550 nm)
Stray light	< 0.1% (ASTM E387, GG495, 4 mm, λ = 420 nm/ 630 nm)
Long term stability	± 0.3% per 12 hours
Temperature dependence	$< 5 \cdot 10^{-4}$ AU / K (D = 0.2, λ = 550 nm)
Option	Kinetics mode (under preparation)

Color measurement (JETI Specbos Color software)

Wavelength pitch	10 nm
Illumination	C (A and D65 selectable)
Observer	2° (10° selectable)
Measuring values	Color systems X, Y, Z; L*a*b*(CIE), Luv, L*C*h* Color differences Jod, Hazen, Gardner (under preparation)
Precision	$\Delta E < 0.1$

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JETI-038-0302-en