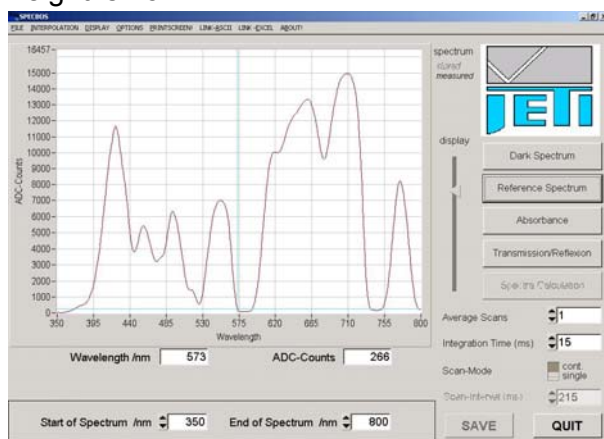




Spectrophotometer Specbos 3001

The **Specbos 3001** is a fiber-coupled VIS spectrophotometer for test cells and small filter samples. It includes a small light source, an integrated sample holder and a miniaturized spectrograph. The connection to the PC is via a USB (virtual COM port) interface, the system can be easily installed. The instrument needs no extra power supply. The sample holder can be moved continuously from 1 to 20 mm to fix objects of different thicknesses. The measuring height is 15 mm.



Transmission spectrum of an optical filter (BG 36)

The **Specbos 3001** is operated using JETI's intuitive measuring software. (For a demo, see www.jeti.com.) It is ideally suited for spectra acquisition, transmission / reflection, absorbance and 1st / 2nd derivative calculations. Single and continuous measurement modes and averaging are possible. The obtained data can be exported to Excel™ spreadsheets and to ASCII files.

Furthermore, it is possible to incorporate the instrument into individual applications using the virtual COM port utilizing the following methods:

- DLL
- Virtual Instruments for LabView
- Serial commands

Advantages:

- Compact instrument with included light source
- Easy installation and operation
- USB bus powered
- Start of measurement with external trigger
- DLL and Virtual Instruments (for LabView) included

The optional JETI Color colorimetric software allows the measurement of color coordinates of samples (e.g. $L^*a^*b^*$, $x\ y$ or $u'v'$).

Specifications

| | |
|--|---|
| Applications | Test cells with up to 10 mm optical path, filters up to 20 mm thickness |
| Optical parameters | |
| Spectral range | 400 ... 780 nm |
| Optical resolution | 9 nm (optional 5 nm) FWHM |
| Calculated wavelength step | 1 nm |
| Optical input | 100 µm fiber, NA 0.22 |
| Connector | SMA (optional ST) |
| Digital resolution | 15-bit ADC |
| Measuring ranges and accuracies | |
| Measuring geometry | 0/0 (illumination by 0 °, observation by 180 °) |
| Measuring height | 15 mm |
| Measuring diameter | 3 mm |
| Measuring time | approx. 0.5 sec |
| Other technical data | |
| Light source | Krypton lamp (lifetime > 10,000 hours) |
| Spectrometer | Imaging grating (flat field) |
| Light receiving element | Photodiode array 1024 or 2048 pixel |
| Power supply | USB bus powered |
| PC interfaces | USB 2.0 full speed |
| Dimensions | 330 mm x 58 mm x 44 mm |
| Weight | 550 g |
| Operating conditions | Temperature 10 ... 40 °C Humidity < 85 % relative humidity at 35 °C (noncondensing) |
| Accessories (included) | JETI Specbos software for Windows 2000/XP DLL, LabView Virtual Instruments USB cable and trigger connector Operating instructions Transport box |

Photometric measurement (software JETI specbos)

| | |
|----------------------------|---|
| Measurement curves | Transmission spectrum / Absorbance spectrum |
| Wavelength accuracy | ± 0.7 nm (ASTM E275, filter BG 20, 2 mm, λ = 528.7 nm / 684.3 nm) |
| Wavelength reproducibility | ± 0.2 nm (ASTM E275, filter BG 20, 2 mm, λ = 528.7nm / 684.3 nm) |
| 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 %/hour |
| Temperature dependence | < 5·10 ⁻⁴ AU/°K (D = 0.2, λ = 550 nm) |
| Option | Kinetics mode |

Color measurement (software JETI color)

| | |
|------------------|--|
| Wavelength pitch | 5 nm / 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 |

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