



STATE-OF-THE-ART MEASURING OF COLOUR AND DENSITY

Equipped with latest optical technology, the FD-5BT Spectrodensitometer not only offers high accuracy but also outstanding M1 (D50) measurement conditions, providing

results that come close to human visual impression for the quality you need and reducing errors in the colour workflow to minimise misprints.

▀ Fully in line with ISO 13655 measurement conditions (2009)

Thanks to Konica Minolta's original VFS (Virtual Fluorescence Standard), the spectrophotometer delivers measurements that correspond to D50. Konica Minolta's VFS makes the FD the only instrument that can measure fluorescent whitener additives for any chosen illuminant, including self-measured illuminants.

▀ Automatic wavelength compensation

With spectrophotometers, white calibration is performed as a part of everyday work; this calibrates the spectral reflectance coefficients (vertical axis). The FD-5BT is equipped with the industry's first "Automatic Wavelength Compensation" function, which automatically calibrates in wavelength direction (horizontal axis) when white calibration is performed on a regular basis, greatly improving the reliability of measurement values.

▀ Perfect tool for the printer

The FD-5BT provides ideal support for printers in their daily business. This lightweight instrument makes process and quality control much easier and more reliable. Its TARGETMATCH function, including backing conversion, helps printers achieve the correct colour on their production media. ISOCHECK enables fast quality control without additional software, while DeltaBrightness provides explicit information about the amount of optical brightener, speeding up the control of production media.

▀ Functions

- Auto wavelength compensation
- Scan measurement
- Colorimetric data on display and data output
- Interface to Konica Minolta ColorCare software
- Interface to Konica Minolta, EFI and Creo controllers
- Stand-alone function

TECHNICAL SPECIFICATIONS

Illumination/viewing system	45°±0°(annular illumination) *1 Conforms to CIE No. 15, ISO 7724/1, DIN5033 Teil 7, ASTM E 1164, and JIS Z 8722 Condition A for reflectance measurements
Spectral separation device	Concave grating
Wavelength range	Spectral reflectance: 380 to 730 nm
Wavelength pitch	10 nm
Half bandwidth	Approx. 10 nm
Measurement area	Ø3.5 mm
Light source	LED
Measurement range	Density: 0.0D to 2.5D; Reflectance: 0 to 150%
Short-term repeatability	Density: σ 0.01D; Without polarization filter: 0.0D ~2.5D, Yellow: 0.0D ~2.0D With polarization filter (optional): 0.0D ~2.5D, Yellow: 0.0D ~1.8D (When measurements taken 30 times at 10-seconds intervals after white calibration has been performed) Colorimetric: Within $\sigma\Delta E_{00}$ 0.05 (Without polarization filter) (When white plate is measured 30 times at 10-second intervals after white calibration has been performed)
Inter-instrument agreement	Within ΔE_{00} 0.3 (Average of 12 BCRA Series II color tiles compared to values measured with a master body under Konica Minolta standard conditions)
Measurement time	Approx. 1.4 s (single-point reflectance measurement without polarization filter)
Displayed values	Colorimetric values, color-difference values, density values, density-difference values, dot area ratio, dot gain, PASS/FAIL judgment
Measurement conditions	Corresponding to ISO 13655 Measurement Conditions M0 (CIE Illuminant A), M1 (CIE Illuminant D50), M2 (illumination with UV-cut filter) and M3 (M2 + polarization filter)
Illuminants	A, C, D50, ID50, D65, ID65, F2, F6, F7, F8, F9, F10, F11, F12, User-defined illuminant
Observers	2° Standard Observer, 10° Standard Observer
Colour spaces	L*a*b*, L*C*h, Hunter Lab, Yxy, XYZ and colour-difference in these colour spaces
Colour-difference equations	ΔE^*ab (CIE 1976), ΔE^*94 (CIE 1994), $\Delta E00$ (CIE 2000), ΔE (Hunter), CMC (l:c)
Indexes	WI (ASTM E313-96); Tint (ASTM E313-96); ISO Brightness (ISO 2470-1); D65 Brightness (ISO 2470-2); Delta Brightness ("Fluorescent Whitening Intensity")
Density	ISO Status T, ISO Status E, ISO Status A, ISO Status I; DIN16536; Spectral density for spotcolours
Advanced features	Greybalance (densitometric & colorimetric), ISOCHECK (QC against ISO or own standards), TARGETMATCH, Trapping, Plate measurement
Data Memory	Single data: Colorimetric target data: 30 data; Density target data: 30 data 50 color sets: 15 colorimetric target data per color set with 3 additional tone values each. ColorSets for standard printing conditions are already included.
Display language	English, French, German, Spanish, Japanese, Chinese (simplified)
Interface	USB 2.0
Output data *2	Colorimetric and densitometric values; Spectral reflectance
Power	Rechargeable internal lithium-ion battery (Number of measurements per charge: Approx. 2,000 when new); AC adapter; USB bus power
Dimensions (W × D × H)	70 × 165 × 83mm (Body only); 90 × 172 × 84mm (With target mask attached)
Weight	Approx. 350 (Body only); Approx. 430 (With target mask attached)
Operating temperature/humidity range	10 to 35°C, 30 to 85% relative humidity with no condensation
Storage temperature/humidity range	0 to 45°C, 0 to 85% relative humidity with no condensation

*1 Illumination for wavelengths under 400nm is unidirectional.

*2 Available when using PC software.

SAFETY PRECAUTIONS

For correct use and for your safety, be sure to read the instruction manual before using the instrument.

- Always connect the instrument to the specified power supply voltage.
- Improper connection may cause a fire or electric shock.

- Displays shown are for illustration purpose only.
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< Dimensions in mm >

with removable target mask attached

< System Diagram >

— FD-5BT Standard accessories - - - - - Optional accessories

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Belgium Office
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