

### Main specifications

Model	FD-7	FD-5
Illumination/viewing system	45°a: 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; Spectral irradiance: 360 to 730 nm   Spectral reflectance: 380 to 730 nm	
Wavelength pitch	10 nm	
Half bandwidth	Approx. 10 nm	
Measurement area	Ø3.5mm	
Light source	LED	
Measurement range	Density: 0.0D to 2.5D; Reflectance: 0 to 150%	
Short-term repeatability	Density: $\sigma 0.01D$ Colorimetric: Within $\sigma \Delta E00 0.05$ (When white plate is measured 30 times at 10-second intervals after white calibration has been performed)	
Inter-instrument agreement	Within $\Delta E00 0.3$ (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)	
Displayed values	Colorimetric values, color-difference values, density values, density-difference values, dot area ratio, dot gain, PASS/FAIL judgment, illuminance, correlated color temperature	
Measurement conditions	Corresponding to ISO 13655 Measurement Conditions M0 (CIE Illuminant A), M1 (CIE Illuminant D50), and M2 (illumination with UV-cut filter); User-defined illuminant	
Illuminants	A, C, D50, D50, D65, D65, F2, F6, F7, F8, F9, F10, F11, F12, User-defined illuminant	
Observers	2° Standard Observer, 10° Standard Observer	
Color spaces	L*a*b*, L*C*h, Hunter Lab, Yxy, XYZ and color-difference in these color spaces	
Color-difference equations	$\Delta E^*ab$ (CIE 1976), $\Delta E^*94$ (CIE 1994), $\Delta E00$ (CIE 2000), $\Delta E$ (Hunter), CMC (l:c)	
Indexes	WI (ASTM E313-96); Tint (ASTM E313-96); ISO Brightness (ISO 2470-1); D65 Brightness (ISO 2470-2); Fluorescence index	
Density	ISO Status T, ISO Status E, ISO Status A, ISO Status I; DIN16536	
Storable data	Colorimetric target data: 30 data; Density target data: 30 data	
Display language	English, French, German, Spanish, Japanese, Chinese (Simplified)	
Scanning measurements*2	Scanning measurement of a color chart can be performed.	N/A
Interface	USB 2.0	
Output data*2	Displayed values; Spectral reflectance data; Spectral irradiance data	Displayed values
Power	Rechargeable internal lithium-ion battery (Number of measurements per charge: Approx. 2,000 when new); AC adapter; USB bus power	
Dimensions (W x D x H)	70 x 165 x 83mm (Body only); 90 x 172 x 84mm (With target mask attached)	
Weight	Approx. 350g (Body only); Approx. 430g (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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9242-4897-10 BALAPK①



# NEW Spectrodensitometer FD-7/FD-5

## 3-in-1 next-generation measurement tool

Color

Density

Illumination



Streamlines color adjustment  
in printing, even on substrates  
with fluorescent whitening agents

The essentials of imaging

# 3-in-1 lightweight, handheld spectrodensitometer that measures color, density, and illumination.

L\*a\*b\*      CMYK      Lv, T<sub>cp</sub> (Color temperature)

## An ideal instrument for the printing and digital-imaging industries.

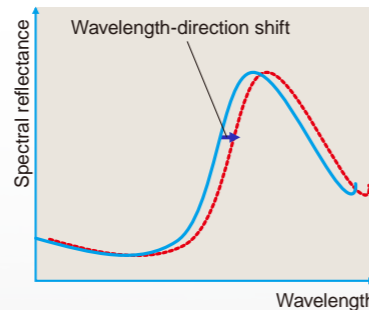
### Color

#### Uniquely corresponds to Measurement Condition M1 of ISO 13655

The world's first M1 type. Konica Minolta's original VFS (Virtual Fluorescence Standard) technology enables L\*a\*b\* measurements corresponding to ISO 13655 Measurement Condition M1 (CIE Illuminant D50). In addition, color measurements corresponding to ISO 13655 Measurement Conditions M0 (CIE Illuminant A) and M2 (illumination with UV-cut filter) can also be taken.

#### Industry's first automatic wavelength compensation function

- Wavelength compensation is performed automatically at the time of white calibration, so there is no extra work required.
- Wavelength compensation, which could previously be performed only through manufacturer servicing, can now be performed daily, drastically increasing the reliability of measurement values.



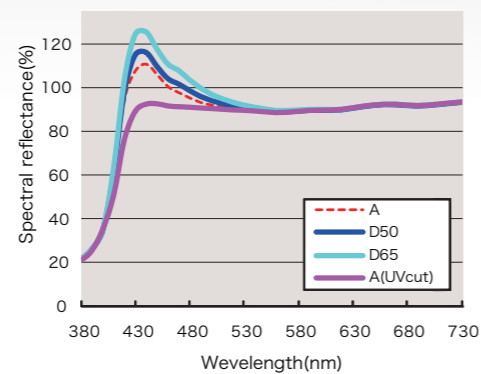
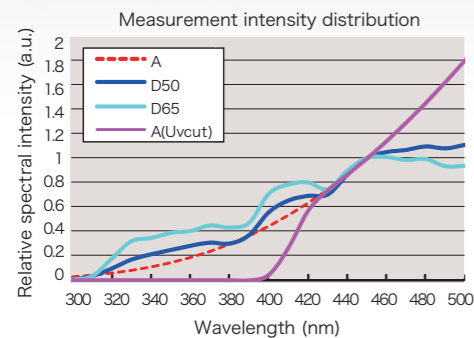
#### Scan measurements can be performed.\*1

- Manual scan measurements can be performed when the instrument is connected to a PC.
- With optional software basiCColor catch all, the colorimetric values, density values, and spectral reflectance values of various test charts (MediaWedge ECI2002, IT8.7/3, etc.) can be measured in a single operation.



#### Enables color measurements that correspond more closely with visual evaluation.

When using conventional instruments to measure materials printed on substrates containing fluorescent whitening agents (FWA), large differences between the results of measurements and visual evaluation may occur. With the new FD-7/FD-5, measurement results correspond more closely to visual evaluation results, including the effects of any FWA in the paper.



#### Spectral output\*1

Since both spectral reflectance data (380 to 730 nm) under various light sources and spectral irradiance data (380 to 730 nm) of environmental lighting can be measured and output to a computer, it makes the FD-7 ideal for research and development applications.

\*1: Function available only on FD-7.

Long-life LED lamp light source



### Density

#### World's lightest\*2

- The main body weighs only about 350g, and even with the target mask attached it's only about 430g, lighter than any previous spectrodensitometer.
- This reduces the load on the user's arm during work, improving efficiency when taking measurements over a long time.

\*2 Display-equipped spectrodensitometer.  
As of November 1, 2010

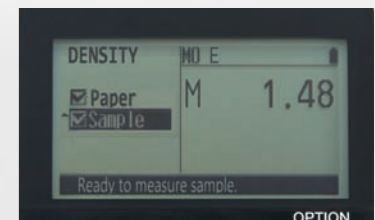


#### Worry-free after-sales service

- Worldwide service centers provide rapid support when needed.
- A comprehensive service network is in place to ensure that your instrument is always in top shape.

#### Simple operation

- Measurements of density, dot area ratio, dot gain, color, and illumination are simple.
- Operation is performed by just following the instructions in the LCD screen, so anyone can take measurements easily.



### Illumination

#### Illumination environment light can be measured.\*1

- The illumination and color temperature of the illumination environment lighting in a color viewing booth or from other color evaluation equipment can be measured.
- Colorimetric values under the measured light source (colorimetric values more closely corresponding to on-site visual evaluation) can be calculated, resolving color complaints from customers and reducing time and labor in providing customers with the colors they want.



#### Printing Color Management Software basiCColor catch all (Optional accessory)

- Screen can be easily customized with data list view, pass/fail screen, 3D graph, etc.
- Compatible with various test charts (MediaWedge, ECI2002, IT8.7/3, etc.)
- Can be used for process control of offset printing processes (ISO 12647-2).

Operating Environment	
OS	Windows® XP (32-bit) Windows® Vista (32-bit) Windows® 7 (32-bit)
Memory	64MB or more
USB	USB 2.0x1

