



KONICA MINOLTA

News Release

Konica Minolta to Launch the CM-3700A Plus, the Flagship Spectrophotometer Model Delivering High Accuracy and Reliability

Providing Stability and Reassurance to Users Who Demand Superior Quality

Tokyo (December 18, 2024) - Konica Minolta, Inc. (Konica Minolta) today announced that the Company will launch the CM-3700A Plus, the flagship spectrophotometer model.

In quality control in the manufacturing industry, color management using measuring instruments is crucial. Due to their superb reliability and multifunctionality, Konica Minolta's colorimeters are used for various applications, including quality control, production, and R&D, in industries where color measurement and management are required, such as automobiles, electrical equipment, smartphones, cosmetics, paints, plastics, building materials, and textiles.



The CM-3700A Plus is the successor model to the CM-3700A that has been highly evaluated and widely used by many companies globally as the reference standard instrument for measuring the colors of objects. This new flagship spectrophotometer model delivers high accuracy and reliability; world-class accuracy has been realized by harnessing Konica Minolta's optical technologies. The CM-3700A Plus also comes with new functions, such as an easy-to-position camera viewfinder and a sample thermometer to measure the temperature concurrently with colors, thereby realizing more rigorous color management. Given that it will be used as a reference standard instrument in color management, the CM-3700A Plus is designed to ensure high compatibility with the conventional model and stably produce reliable measurement values over the long term by using highly durable parts, thereby helping to improve product quality in manufacturing.

Values Provided by the CM-3700A Plus Spectrophotometer

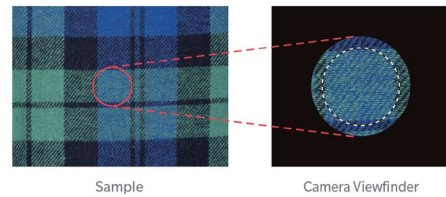
1. Highly accurate measurement

The CM-3700A Plus features significantly improved repeatability^{*1} of black, which is particularly difficult to measure with high accuracy, compared to the conventional model. Because differences in measurement values between instruments are exceedingly small (inter-instrument agreement is very high) at ΔE^*_{ab} 0.08 or less,^{*2} the CM-3700A Plus is advantageous when using multiple instruments or instruments at multiple locations across the supply chain. Data compatibility with the conventional model CM-3700A enables the continued use of measurement data that has previously been accumulated. This new model also ensures high durability in terms of

temperature change and aged deterioration by using a polychromator unit housing made of stainless steel.

2. Improved operability and convenience

The CM-3700A Plus is equipped with a camera viewfinder, a new feature that enables easy positioning*³ of the object to be measured from the PC monitor. Images can be saved together with measurement data, and measurement positions can be checked on images. The CM-3700A Plus is also equipped with a wide transmittance chamber to enable smooth loading and unloading of measurement objects and accessory storage space, for a more user-friendly design.



3. Functionality and software for high reliability

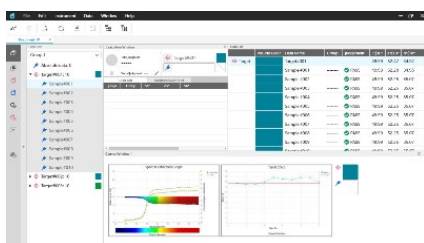
(1) Higher measurement efficiency and advanced color management

The CM-3700A Plus enables the concurrent measurement of SCI and SCE,*⁴ almost halving the measurement time compared to the conventional model. Equipped with an environmental thermo-hygrometer and a sample thermometer, this new model enables checking and recording of the temperature and humidity and sample surface temperature*⁵ of the measurement environment concurrently with color measurement.

(2) Reassuring services

The CM-3700A Plus is manufactured in Japan under a consistent quality control system. It is also equipped with a WAA (Wavelength Analysis & Adjustment) function, which compensates for wavelength shifts in measurement values due to external factors, including impacts during use and changes in ambient temperature. Together with annual calibration and maintenance, it offers a sense of reassurance and high accuracy.

(3) Color data management using the SpectraMagic NX2 color data software



The SpectraMagic NX2*⁶ color data software enables color management and data classification using various color indices and graphs, and communication with business partners using color values. In addition, with a premium license of Ver. 1.4 or later it is possible to monitor the status of instruments using the daily inspection

application, which is a new function.

Main Specifications

The information, specifications, and product appearance provided in this news release are subject to change without notice.

Illumination/viewing system	Reflection measurement	di: 8°, de: 8° (diffused illumination, 8° viewing angle)
		SCI (specular component included)/SCE (specular component excluded) switchable, concurrent measurement enabled
		Conforms to JIS Z 8722 Condition: Geometric Condition c, ISO 7724/1, CIE No. 15 (2004), ASTM E 1164, and DIN 5033 Teil 7
	Transmittance measurement	di: 0°, de: 0° (diffused illumination, 0° viewing angle)
		Conforms to JIS Z 8722 Condition: Geometric Condition g, CIE No. 15 (2004), ASTM E1164, and DIN 5033 Teil7

Measurement/ Illumination area	Reflection measurement	LAV: $\Phi 25.4/\Phi 28$ mm LMAV: $\Phi 16/\Phi 20$ mm MAV: $\Phi 8/\Phi 11$ mm SAV: $3 \times 5/5 \times 7$ mm
	Transmittance measurement	Approx. $\Phi 20/\Phi 25$ mm
Wavelength measurement range		360 nm–740 nm
Repeatability	White	Color value: Standard deviation within ΔE^*_{ab} 0.005 Spectral reflectance: Standard deviation within 0.05% (When a white calibration plate is measured 30 times at 10-second intervals after white calibration)
	Black	Color value: Standard deviation within ΔE^*_{ab} 0.02 Spectral reflectance: Standard deviation within 0.02% (When a BCRA Black tile (reflectance: 1%) is measured 30 times at 10-second intervals after white calibration)
Inter-instrument agreement		Within ΔE^*_{ab} 0.08 (Based on average for 12 BCRA Series II color tiles; LAV/SCI. Compared to values measured with a master body under Konica Minolta standard measurement conditions)
Size (W×H×D)		Approx. 307 × 271 × 600 mm
Weight		Approx. 20 kg

About Konica Minolta's Sensing Business

Konica Minolta's Sensing Business offers various products and solutions in the fields of light source color measurement and object color measurement based on the optical technologies developed in its former camera business and continually refined thereafter. The products and solutions offered by Konica Minolta contribute to ensuring quality and improving productivity at customers' manufacturing sites, and many products are used as de facto standard color measurement instruments. Notably, Konica Minolta has more than a 50% share in the global market for display image quality measurement and inspection (estimated by Konica Minolta), and has a solid presence as the market leader.

Konica Minolta has actively promoted investments to strengthen its competitiveness. In 2012, the Company acquired Instrument Systems GmbH (Germany) which develops high-end optical measuring instruments and has an outstanding track record in the high-performance measurement of displays and LED lighting devices. In 2015, the Company acquired Radiant Vision Systems, LLC (U.S.) which excels at high-resolution 2D measurement instruments for displays, image processing software, and automatic appearance inspection systems. In 2019, the Company acquired Eines Systems (Spain), a market leader in the field of visual inspection of automobiles. In 2020, the Company acquired Specim, Spectral Imaging Ltd. (Finland), a leading company in the field of hyperspectral imaging (HSI^{*7}).

In the Industry Business, including the sensing business, Konica Minolta's development, manufacturing, and customer support have come together to co-create value by building strong relationships with customers with core technology as its strength. The Company has set the fields it will focus on in the future as "display," "mobility," and "semiconductor manufacturing," strategically invest mainly in the strengthening businesses of sensing, performance materials, IJ components, and optical components (industrial applications), and promote business development that is more closely linked to the customer's manufacturing value chain.

*1: Repeatability refers to the measurement error when the same specimen is measured repeatedly under the same conditions. It is an index for measurement accuracy. The lower the value, the higher the reliability of measurement values.

*2: An average for 12 BCRA Series II color tiles.

*3: For connection with a PC, SpectraMagic NX2 Ver. 1.5, software which is separately sold, is required.

*4: SCI: Abbreviation for "Specular Component Included." In this measurement method, specularly reflected light is included in the diffused illumination. The colors of materials are evaluated regardless of the surface condition.

SCE: Abbreviation for "Specular Component Excluded." In this measurement method, only diffuse reflected light is measured. Colors close to those of visual observation are evaluated.

*5: The sample temperature is measured only during reflectance measurements.

*6: SpectraMagic NX2 is separately sold software.

*7: HSI is a method that uses a camera with narrow bandwidth over a wide spectral range from the visible to mid-infrared wavelength region to identify substances in an area. It is expected to be used for applications such as recycling, material/resource identification, food analysis, environmental safety, product surface condition analysis, etc.

* Product names and other names indicated in this news release are registered trademarks or trademarks of each company.

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