



KONICA MINOLTA

Spectrophotometer

CM-3700A Plus



Konica Minolta's
Flagship Benchtop Spectrophotometer

Spectrophotometer **CM-3700A Plus**



■ High-precision measurement

The CM-3700A Plus is the flagship benchtop spectrophotometer from Konica Minolta, incorporating the very pinnacle of optical technologies.

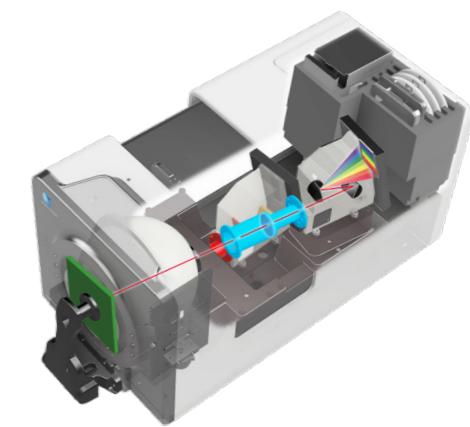
Compared to previous model CM-3700A, which was introduced to help comply with many businesses that require advanced color control, the new CM-3700A Plus offers a significantly improved Inter-Instrument Agreement, which enables even more precise color management. Also, adjusting the UV cut filter allows for highly accurate measurements of samples containing optical whitening agents, such as paper and pulp.

- **Focussed on Stability**

The new optical system is made of stainless steel with a very low coefficient of thermal expansion for improving durability.

- **Barium sulfate coating for reliable measurement**

Konica Minolta uses barium sulfate to stabilize the diffuse illumination within the integrating sphere and reflection characteristics, using original coating method developed with our own advanced technology.



- **Unparalleled repeatability of Black and dark colors**

Samples with very low reflectance can now be measured with higher accuracy. In particular, the repeatability of black color is greatly improved when compared to the previous model.

■ High Inter-Instrument Agreement and better compatibility with previous models

The CM-3700A has achieved a high inter-instrument agreement of ΔE^*ab 0.08 or less. This enables more precise color management of multiple units and locations in the supply chain.

In addition, the difference to measured values with the CM-3700A is minimal, allowing the reference data used in the CM-3700A to be transferred to the CM-3700A Plus, facilitating a more efficient transition process.



Pursuing high-precision and reliability
Flagship Benchtop spectrophotometer

Pursuit of precise measurement and usability

■ The measurement status and setting options

The measurement conditions are displayed on the status panel. Additionally, equipped with four pre-tapped mounting holes on the front, allowing for flexible jig placement according to your needs.



Four pre-tapped mounting holes are positioned on the front.

■ Transmittance specimen chamber and Accessory Storage Space

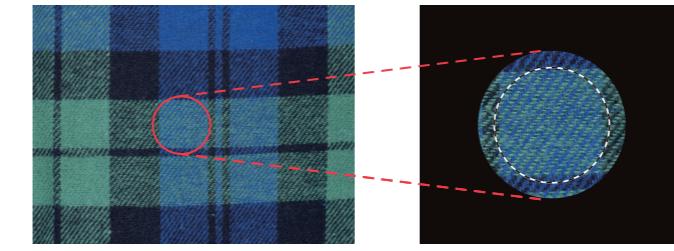
The improved transmittance specimen chamber design makes it easier to measure liquid and transparent samples. The main body has the space to store accessories such as white calibration plate, zero calibration box, target mask, etc..



■ Camera Viewfinder

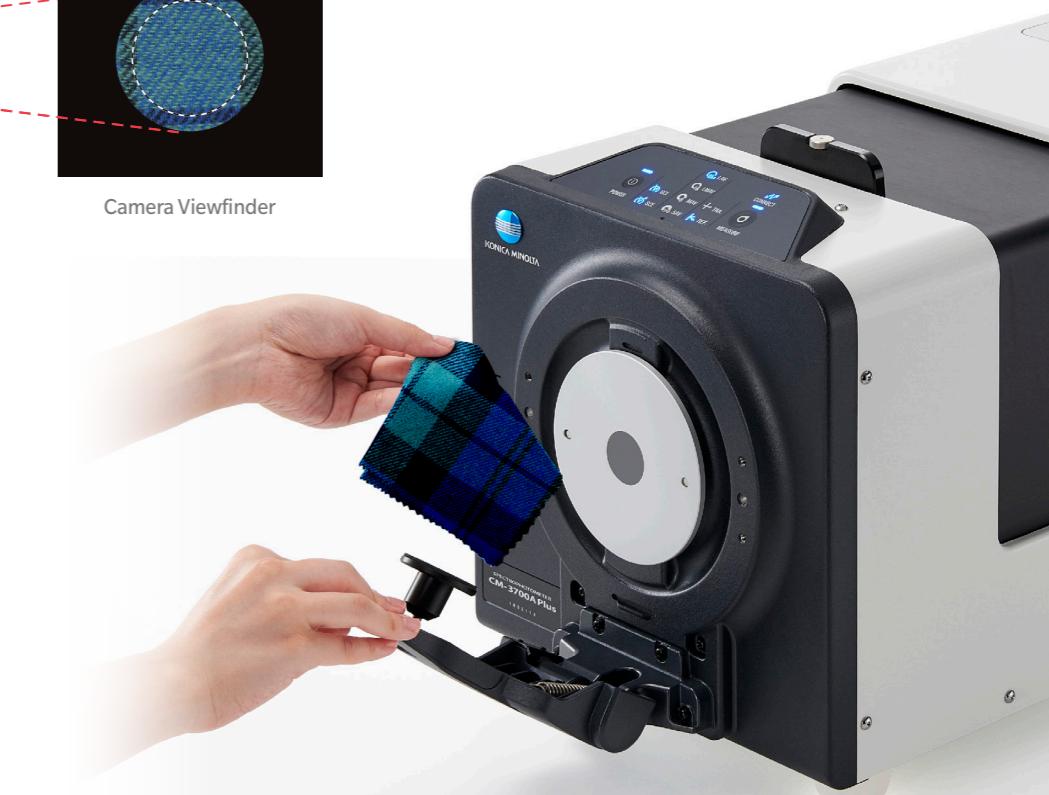
The camera viewfinder feature allows you to view the sample directly on your PC screen to ensure precise positioning. Captured images can be saved with corresponding measurement data to improve management and auditing of data.

*SpectraMagic NX2 software (option) is required.



Sample

Camera Viewfinder



■ More efficient measurement process

The simultaneous measurement of SCI/SCE enables faster measurement, with a 50% reduction in measurement time compared to the previous model, significantly enhancing the efficiency of the operational process.

Measurement time comparison (for SCI/SCE measurements)



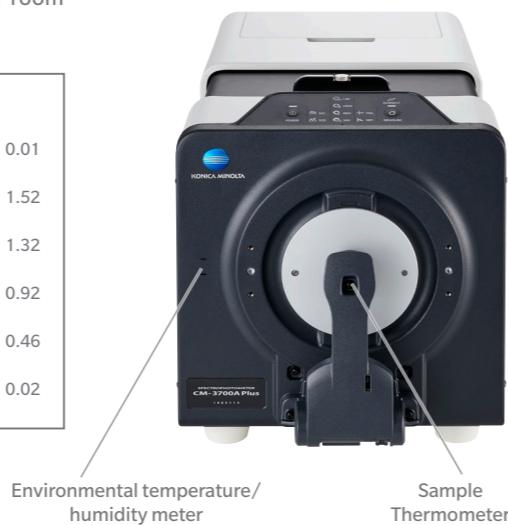
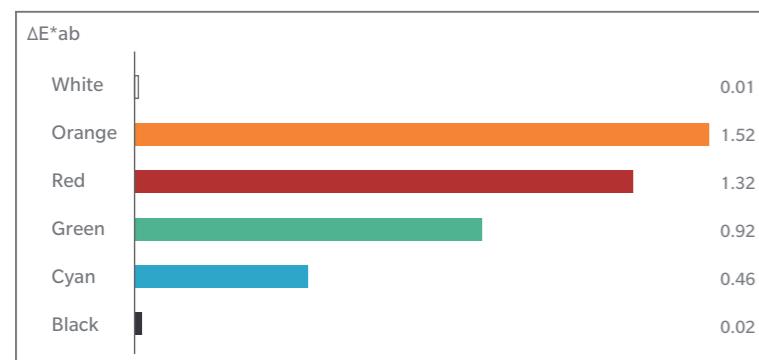
* Total time of SCI and SCE measured separately for the previous model; time of simultaneous measurement for CM-3700A Plus

Functions for high reliability

■ Environmental temperature/humidity meter and sample thermometer

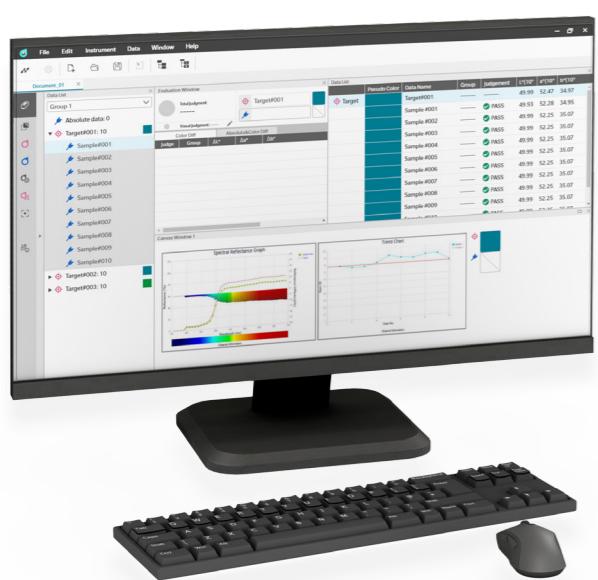
Since highly saturated colors are particularly sensitive to temperature effects the CM-3700A Plus is equipped with an environmental temperature/humidity meter and a sample thermometer. This feature enhances color management, particularly for highly saturated colors that are sensitive to temperature fluctuations.

Temperature characteristics when color tiles are varied by 10°C near room temperature (ΔE^*ab) *Based on Konica Minolta's test conditions



■ Color Data Software SpectraMagic NX2 (Option)

SpectraMagic NX2 is a color management software that offers users a customizable screen display and a wide range of functions for operating and transferring data between their spectrophotometer and computer for in-depth analysis. The software allows users to display data lists and generate color difference and spectral graphs, facilitating effective color management based on various values and indicators for informed decision-making.



You can see the details in the catalog from the code on the right.

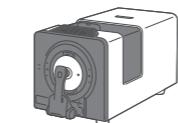
[SpectraMagic NX2 website](#)



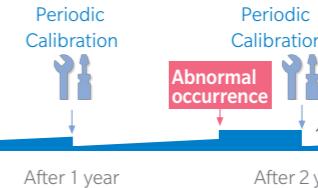
■ Enhanced instrument reliability

WAA (Wavelength Analysis & Adjustment), which is a part of the periodic calibration service is Konica Minolta's unique technology that maintains the stability of the instrument and ensures reliable use until the next calibration. Additionally, each CM-3700A Plus is hand built in Japan by master technicians using a stringent quality control process.

[Without WAA]

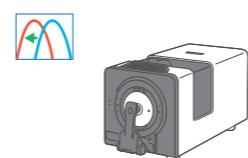


Slight errors can't be noticed until annual calibration.

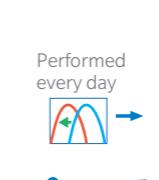


amount of change

[With WAA]



Maintain equipment in good condition until annual calibration.



amount of change



Try CM-3700A Plus with Augmented Reality

Scan the 2D code to see product size and design on your smartphones.

▼ iOS

▼ Android



* Please refer to the specification for the dimensions of the product.

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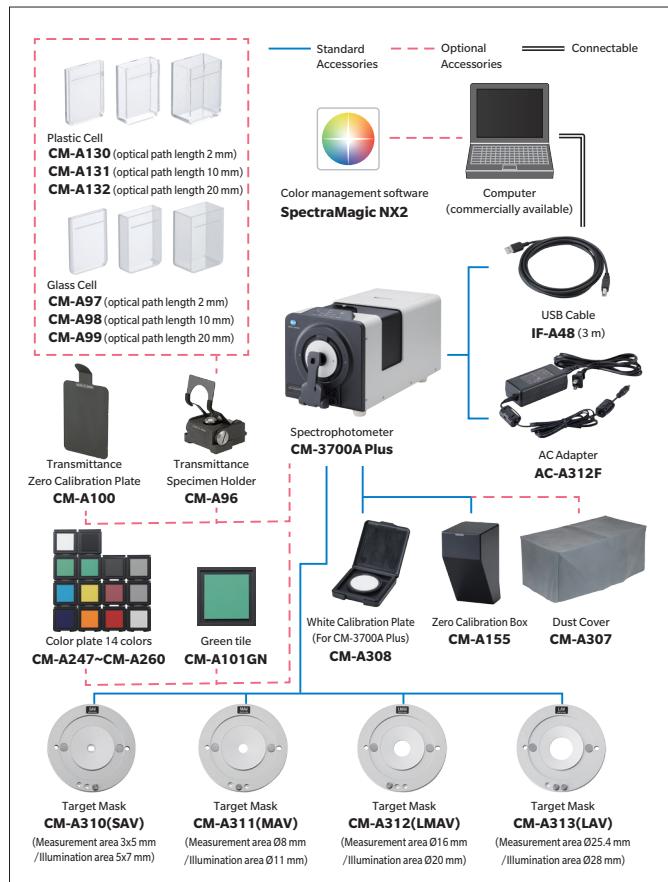
* Depending on your environment, it may not be displayed.

Specification

| | | |
|---------------------------------------|---------------|---|
| Illumination/ viewing system | Reflectance | di:8°, de:8° (diffuse illumination/8° viewing angle) SCI (specular component included)/SCE (specular component excluded) switchable & simultaneously Conforms to CIE No.15(2004), ISO 7724/1, ASTM E 1164, DIN 5033 Teil 7 and IIS Z 8722 condition c standard. |
| | Transmittance | di:0°, de:0° (diffuse illumination/0° viewing angle) Conforms to CIE No.15(2004), ASTM E 1164, DIN 5033 Teil 7 and IIS Z 8722 condition g standard. |
| Integrating sphere size | | ø152 mm/6 inches |
| Detector | | 38-element silicon photodiode array |
| Spectral separation device | | Diffraction grating |
| Wavelength range | | 360 to 740 nm |
| Wavelength pitch | | 10 nm |
| Half bandwidth | | Approx. 14 nm average |
| Measuring range | | 0 to 200%; Resolution: 0.001% |
| Light source | | Pulsed xenon arc lamp |
| Measurement/ illumination area | Reflectance | Changeable between SAV, MAV, LMAV and LAV SAV : ø5 mm measurement / ø5x7 mm illumination MAV : ø8 mm measurement / ø11 mm illumination LMAV : ø16 mm measurement / ø20 mm illumination LAV : ø25.4 mm measurement / ø28 mm illumination |
| | Transmittance | Approx. Ø20 mm / ø25 mm |
| Repeatability | White | Colorimetric values : 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 | Colorimetric values : Standard deviation within AE ab 0.02 Spectral reflectance : Standard deviation within 0.02% (When a black tile (BCRA Series II; 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) |
| UV adjustment | | UV setting : UV cutoff filter: 400 nm Computer controlled: continuously variable, 0.0%~100.0% (1000step) |
| Sample temperature measurement | | Accuracy (Within operating temperature/humidity range) SAV : ±1.2°C MAV, LMAV : ±0.8°C LAV : ±0.5°C |
| Measurement time | | SCI or SCE : Approx. 2 s SCI or SCE with measuring sample temperature : Approx. 4.5 s SCI+SCE : Approx. 5 s SCI+SCE with measuring sample temperature : Approx. 5 s Transmittance : Approx. 2 s |
| Minimum interval between measurements | | SCI or SCE : Approx. 3 s SCI or SCE with measuring sample temperature : Approx. 5 s SCI+SCE : Approx. 6 s SCI+SCE with measuring sample temperature : Approx. 6 s Transmittance : Approx. 3 s |
| Transmittance chamber | | Maximum sample thickness : Approx. 50 mm Maximum sample length : Unlimited (no sides when transmittance chamber cover is open) Sample holder (optional) for holding sheet samples or containers of liquid samples can be installed/removed |
| Camera viewfinder function | | Using internal camera. * Image viewable/copyable using optional software such as SpectraMagic NX2 |
| Internal Performance Check*1 | | WAA (Wavelength Analysis & Adjustment) Technology |
| Ambient temperature sensor | | Yes |
| Interface | | USB2.0 |
| Power | | Dedicated AC adapter |
| Size (HxWxD) | | Approx. 307(H) x 271(W) x 600(D)mm |
| Weight | | Approx. 20.0kg |
| Operating temperature/ humidity range | | Temperature: 13 to 33°C, Relative humidity: 80% or less (at 33°C) with no condensation |
| Storage temperature/humidity range | | Temperature: 0 to 40°C, Relative humidity: 80% or less (at 35°C) with no condensation |
| Standard Accessories | | White Calibration Plate; Target Masks (SAV, MAV, LMAV, LAV); Zero Calibration Box; USB Cable (3 m); AC Adapter |
| Optional Accessories | | Color Data Software SpectraMagic NX2; Transmittance Specimen Holder; Cells (Glass; 2 mm, 10 mm, 20 mm); Plastic Cells (2 mm, 10 mm, 20 mm); Transmittance Zero Calibration Plate; Color Plates; Green tile; Dust Cover |

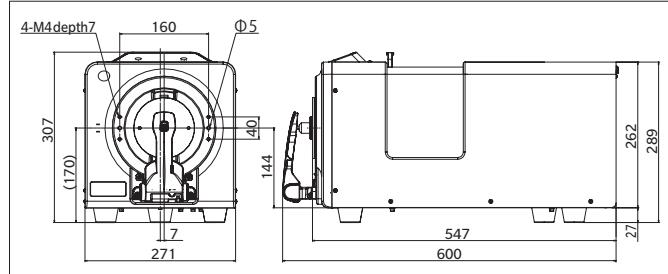
*1 The WAA function enables wavelength diagnosis and wavelength correction of the instrument.
This function is available free of charge for the first year after purchase, and can be continued after the second year by having the instrument serviced and calibrated.

System Diagram



* Depending on the location, some accessories may not be available.

Dimensions (Units: mm)



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- Displays shown are for illustration purposes only.



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| Goyang-si, Korea Cheonan-si, Korea | |

Addresses and telephone/fax numbers and e-mail address are subject to change without notice.
For the latest contact information, please refer to KONICA MINOLTA Worldwide Offices web page:

<https://konicaninolta.com/instruments/network>