KONICA MINOLTA

Spectrophotometer

CM-3700A Plus

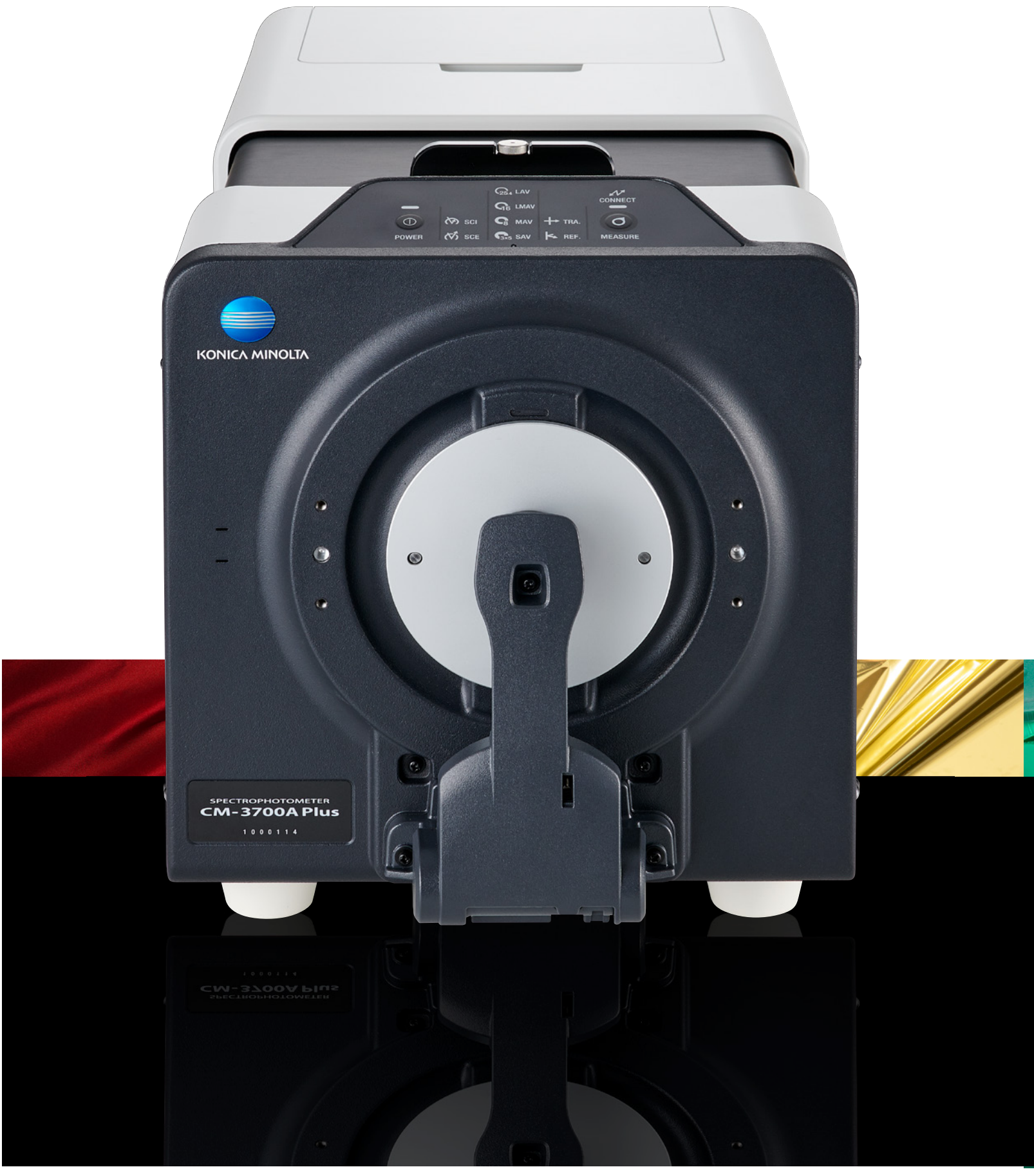
Konica Minolta's Flagship

Benchtop Spectrophotometer

Giving Shape to Ideas

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 colour control, the new CM-3700A Plus offers a significantly improved Inter-Instrument Agreement, which enables even more precise colour 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**

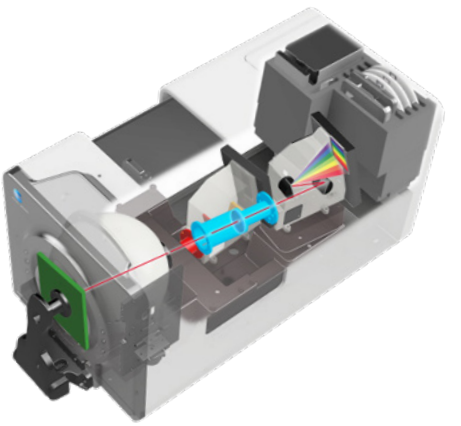
  The new optical system is made of stainless steel with a very low coefficient of thermal expansion for improving durability.

- **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 colours**

  Samples with very low reflectance can now be measured with higher accuracy. In particular, the repeatability of black colour 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 colour 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

Innovation in measurement & 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.

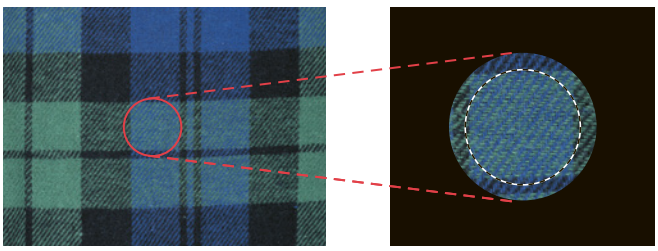
Four pre-tapped mounting holes are positioned on the front.

■ 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..

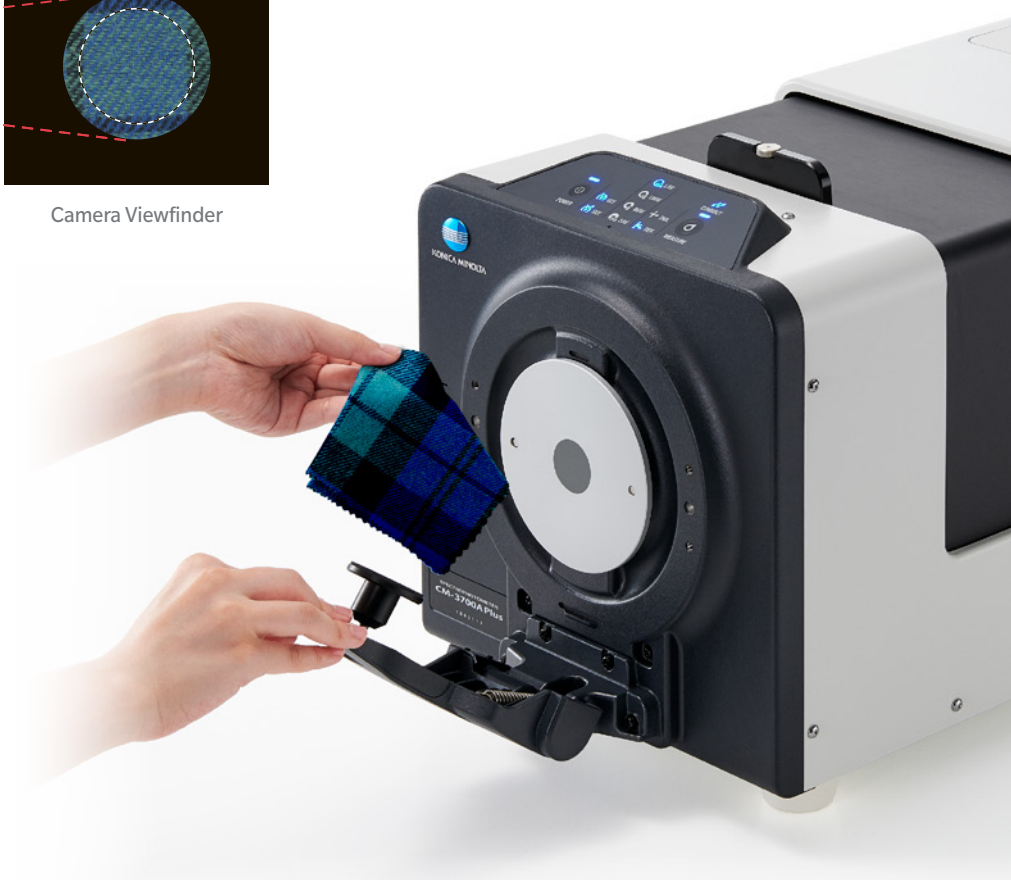
■ Camera viewfinder

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

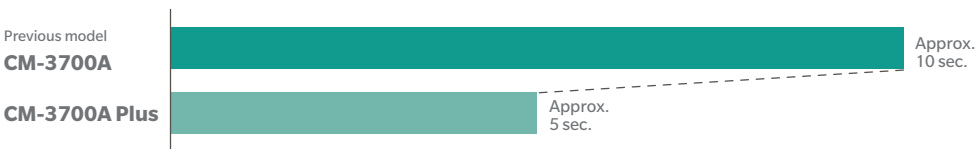
Camera Viewfinder



■ 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)



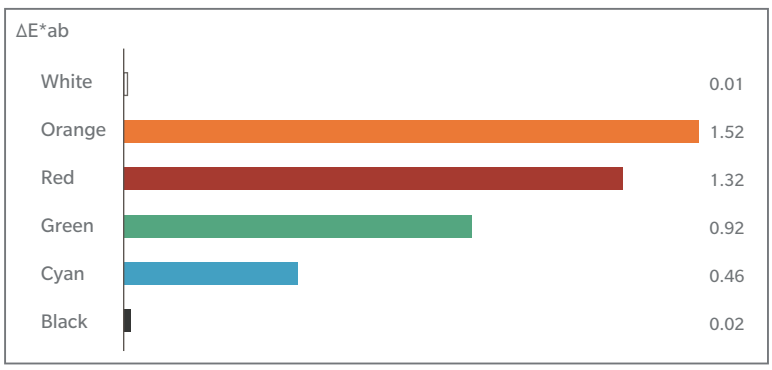
* Total time of SCI and SCE measured separately for the previous model; time of simultaneous measurement for CM-3700A Plus

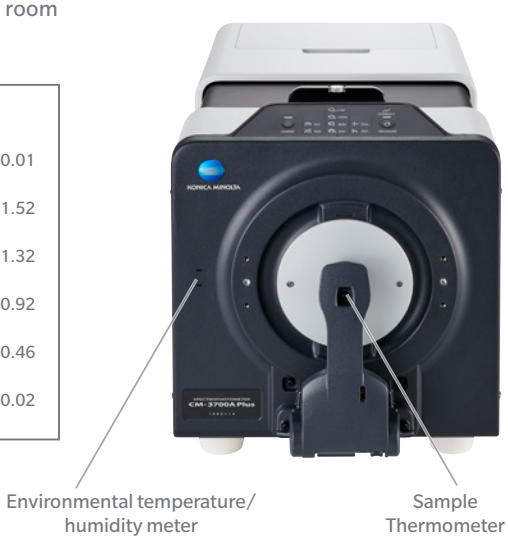
Functions for high reliability

■ Environmental temperature/humidity meter and sample thermometer

Since highly saturated colours 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 colour management, particularly for highly saturated colours that are sensitive to temperature fluctuations.

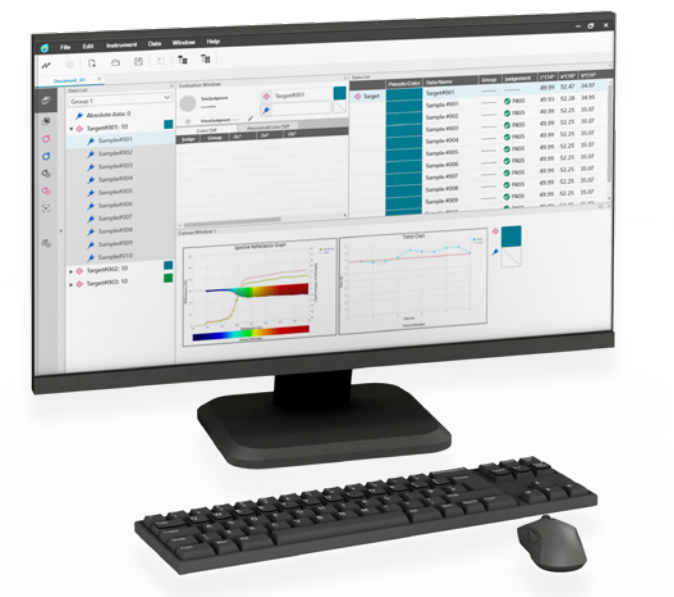
Temperature characteristics when colour tiles are varied by 10°C near room temperature (ΔE*ab) *Based on Konica Minolta's test conditions





■ Colour Data Software SpectraMagic™ NX2 (Option)

SpectraMagic™ NX2 is a colour 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 colour difference and spectral graphs, facilitating effective colour management based on various values and indicators for informed decision-making.



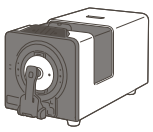
You can see the details in the catalog from the code on the right.

SpectraMagic™ NX2 website

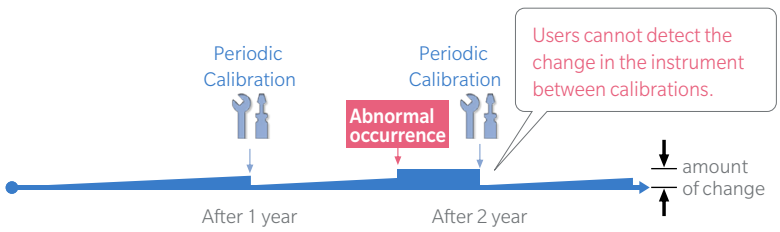
■ Enhanced instrument reliability

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.

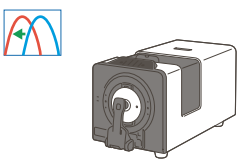
[Without WAA]



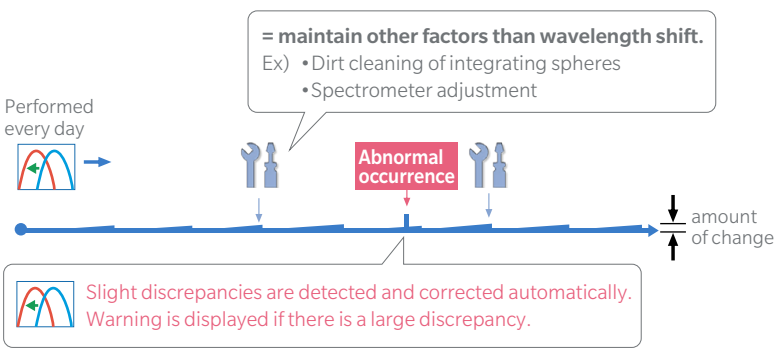
Slight errors can't be noticed until annual calibration.



[With WAA]



Maintain equipment in good condition until annual calibration.

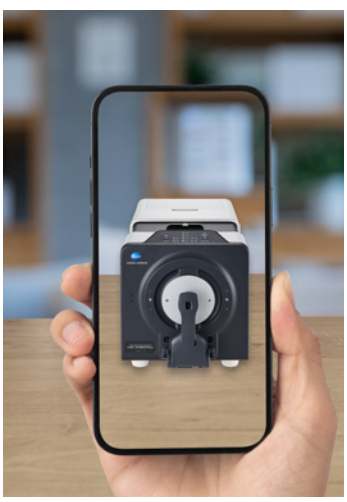


Try CM-3700A Plus with Augmented Reality

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

iOS

Android



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

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

Specification

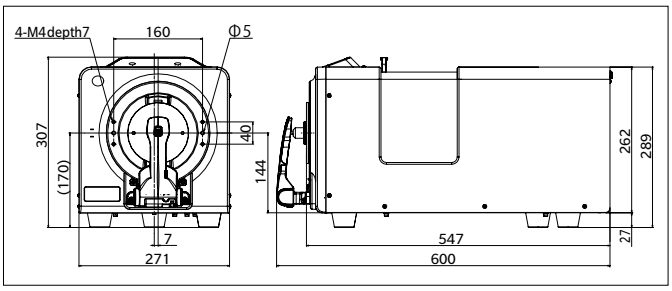
Illumination/ viewing system	Reflectance	di:8°, de:8° (diffuse illumination/8° viewing angle)
		SCI (specular component included)/SCE (specular component excluded) switchable & simultaneously
		Conforms to CIE No.15(2004), ISO 7724/1, ASTM E 1164, DIN 5033 Teil 7 and JIS Z 8722 condition c standard.
	Transmittance	di:0°, de:0° (diffuse illumination/0° viewing angle)
		Conforms to CIE No.15(2004), ASTM E 1164, DIN 5033 Teil 7 and JIS 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 : 3x5 mm measurement / 5x7 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 Serles 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 colour 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 LMAV, MAV : ±0.8°C LAV : ±0.5°C
Measurement time		SCI or SCE : Approx. 2 s SCI or SCE with measuring sample temparature : Approx. 4.5 s SCI+SCE : Approx. 5 s SCI+SCE with measuring sample temparature : Approx. 5 s Transmittance : Approx. 2 s
Minimum interval between measurements		SCI or SCE : Approx. 3 s SCI or SCE with measuring sample temparature : Approx. 5 s SCI+SCE : Approx. 6 s SCI+SCE with measuring sample temparature : 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/copiable 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		Colour 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; Colour 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.

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.

ISO Certifications of KONICA MINOLTA, Inc., Sakai Site

ISO 9001
JQA-QMA15888
Design, development, manufacture/ manufacturing management, calibration, and service of measuring instruments

ISO 14001
JQA-E-80027
Design, development, manufacture, service and sales of measuring instruments

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