



KONICA MINOLTA

Spectrophotometer **CM-3700A**

Reference grade spectrophotometer for
reflectance and transmission



Giving Shape to Ideas

Maximum Performance

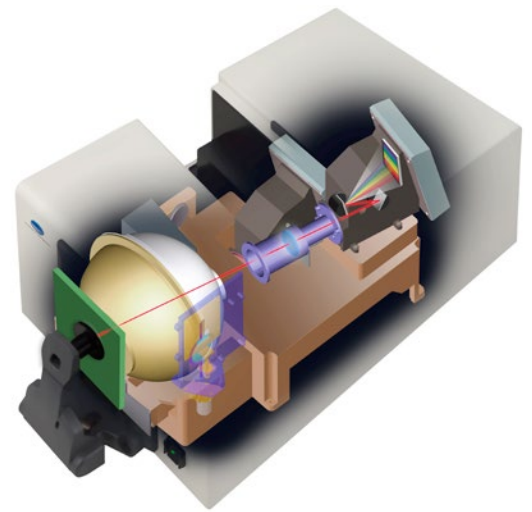
Colour Measurement

The CM-3700A is proof of Konica Minolta's leadership in advanced optical technology and measuring instruments. "State of the Art" in every functional detail the CM-3700A is designed for maximum performance to act as a reference instrument in a global colour management network, for specifying digital colour standards to a supply chain or where the very highest level of accuracy is required.



Superior Build Quality

Manufactured without compromise, the entire optical double-monochromator-system is designed to exceed the requirements of international standards. Only aluminium and stainless steel are used to build the chassis of our flagship instrument, its optical system is mounted on a solid aluminium alloy block providing long-term stability and preventing even slight temperature deformation. The integrating sphere is made from solid aluminium, coated to a meticulous standard in-house with barium sulfate which is specially selected for the purity of its whiteness as a near perfect diffuser.



Superior Accuracy and Stability

The superiority of the CM-3700A in terms of absolute accuracy and long term stability, especially on very dark or high chromaticity colours has been recognised by top ranking institutes and leading companies throughout the colour industry. Attention to detail and high level build quality results in exceptional inter instrument agreement from the moment the CM-3700A leaves production. This makes it the ideal instrument for global colour management systems, particularly those using digital colour standards.



UV-filter to characterize optical brightening agents

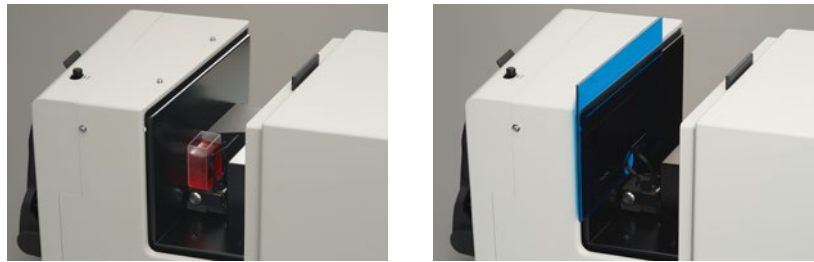
For measurement of samples treated with optical brightening agents (OBA), the UV-cut filter enables motorized adjustment of the UV content for measurements of materials such as paper, detergents, coatings, textiles and other materials containing OBAs.



High-Precision and High-Versatility

→ Reflectance and transmittance colour measurement in one device

To measure the spectral characteristics of transparent or translucent samples, the large and accessible transmittance chamber of the CM-3700A offers a high level of flexibility in terms of measurable sample size. Specially designed accessories are available for the optimum accuracy and repeatability of measurements of liquid samples or PET-preforms.



Sideless transmittance chamber for unlimited sample length (Maximum thickness: Approx. 50 mm).

! Top 5 Features

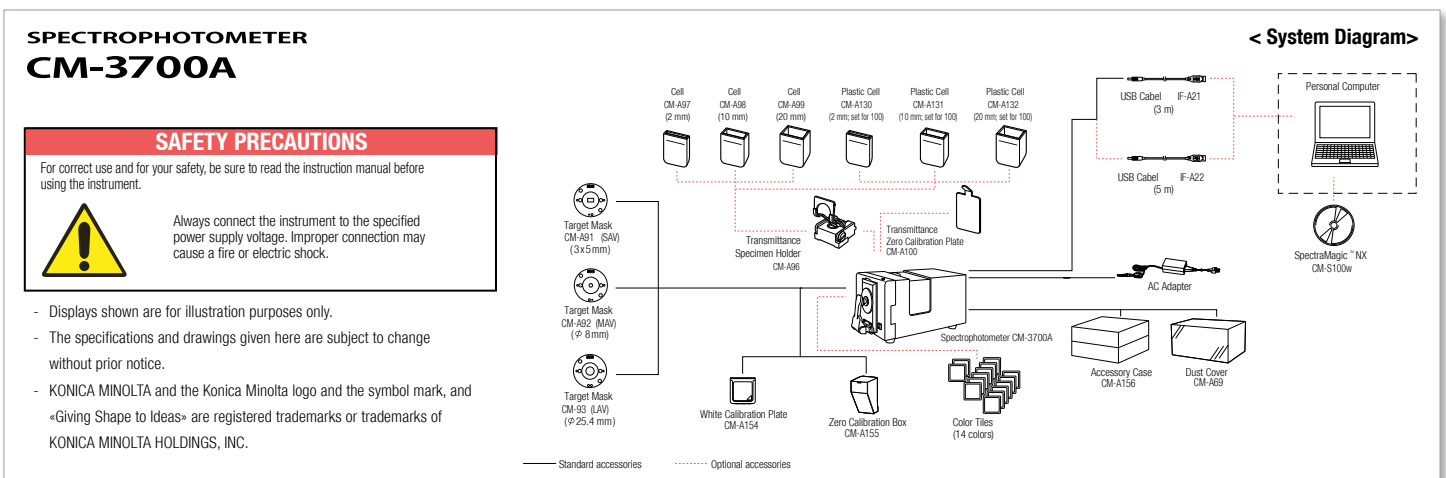
1. Maximum Performance Colour Measurement (exceeding international standard requirements)
2. Superior Build Quality
3. Superior Accuracy and Stability
4. Unmatched Inter-Instrument-Agreement
5. Perfect solution for colour management in global supply chains



Specifications	Spectrophotometer CM-3700A
Illuminating/viewing system	d:8° (diffused illumination; 8° viewing angle); switchable: di:8° SCI (specular component included) or de:8° SCE (specular component excluded); meets ISO and DIN standards for d:8° geometry; also meets CIE and ASTM standards for d:0° geometry. Transmittance: d:0° (diffuse illumination/0° viewing angle)
Detector	Silicon photodiode array with flat holographic grating
Wavelength range	360 nm to 740 nm
Wavelength pitch	10 nm
Half bandwidth	Approximately 14 nm
Photometric range	0 to 200%; Resolution: 0.001%
Light source	Pulsed xenon arc lamp
Measurement time	0.6 to 0.8 sec. (to start of data output)
Illumination/measurement areas	Reflectance: Changeable between LAV, MAV, and SAV LAV: ϕ 28 mm illumination / ϕ 25.4 mm measurement MAV: ϕ 11 mm illumination / ϕ 8 mm measurement SAV: 5 x 7 mm illumination / 3 x 5 mm measurement Transmittance: Approx. ϕ 20 mm
Repeatability	When white calibration plate is measured 30 times at 10-sec. intervals after white calibration has been performed : Spectral reflectance: Standard deviation within 0.05% Chromaticity: Standard deviation within ΔE^*ab 0.005 When black tile (BCRA Series II; reflectance: 1%) is measured 30 times at 10-sec. intervals after white calibration has been performed: Spectral reflectance: 380 to 740 nm: Standard deviation within 0.02% 360 and 370 nm: Standard deviation within 0.04% Chromaticity: Standard deviation within ΔE^*ab 0.05
Inter-instrument agreement (LAV)	Mean ΔE^*ab 0.08 (typical) Average for 12 BCRA Series II colour tiles. Max ΔE^*ab 0.3 (corresponds to ΔE_{CMC} 0.2) for any of 12 BCRA Series II colour tiles compared to values measured with master body
Temperature drift	Spectral reflectance: Within $\pm 0.10\%/^{\circ}C$ Colour difference: Within ΔE^*ab 0.05/ $^{\circ}C$
UV adjustment	Computer controlled; continuously variable
Specimen conditions for transmittance measurements	Sheet, plate, or liquid form up to a maximum thickness of approximately 50 mm and unlimited sample length
Interface	USB 1.1
Power	AC 100 to 240V 50/60Hz 25VA (using included AC adapter)
Operating temperature/humidity range ^{*1}	13 - 33°C, relative humidity 80% or less (at 33°C) with no condensation
Storage temperature/humidity range	0 - 40°C, relative humidity 80% or less (at 35°C) with no condensation
Dimensions (W x H x D)	271 x 274 x 500 mm (10-11/16 x 10-3/4 x 19-11/16 in.)
Weight	18 kg (39.7 lb.)
Standard accessories	White Calibration Plate; Target Mask (3 x 5 mm); Target Mask (ϕ 8 mm); Target Mask (ϕ 25.4 mm); Zero Calibration Box; AC Adapter; USB Cable (3 m); Accessory Case; Dust Cover
Optional accessories	Colour Data Software SpectraMagic NX; Transmittance Specimen Holder; Glass Cells (2 mm, 10 mm, 20 mm); Plastic Cells (2 mm, 10 mm, 20 mm); Transmittance Zero Calibration Plate and others

*1 Operating temperature/humidity range of products for North America : 13 to 33°C, relative humidity 80% or less (at 31°C) with no condensation

- Specifications are subject to change without prior notice.



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March 3, 1995



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Registration Date:
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