

CM-5

PRODUCT SPECS:

What are the specs for the product?

Illumination/viewing system	Reflectance:	di:8°, de:8° (diffuse illumination: 8° viewing) SCI (specular component included)/SCE (specular component excluded) switchable Conforms to CIE No. 15, ISO 7724/1, ASTM E 1164, DIN 5033 Teil 7, and JIS Z 8722 (Condition c)
	Transmittance:	di:0°, de:0° (diffuse illumination: 0° viewing)
Integrating sphere size	Ø152 mm	
Detector	Dual 40-element silicon photodiode arrays	
Spectral separation device	Planar diffraction grating	
Wavelength range	360 nm to 740 nm	
Wavelength pitch	10 nm	
Half bandwidth	Approx. 10 nm	
Measurement range	0 to 175 % (Reflectance or transmittance); Output/display resolution: 0.01%	
Light source	Pulsed xenon lamp	
Measurement time	Approx. 1 s (to data display/output); Minimum measurement interval: Approx. 3 s	
Measurement/illumination area	Reflectance:	Changeable by changing mask and settings. LAV: Ø30 mm/Ø36 mm; MAV (optional): Ø8 mm/Ø11 mm; SAV (optional): Ø3 mm/Ø6 mm
	Transmittance:	Ø20 mm
Repeatability	Spectral reflectance: Standard deviation within 0.1% (400 nm to 740 nm) Chromaticity value: Standard deviation within ΔE^*_{ab} 0.04 * When a white calibration plate is measured 30 times at 10-second intervals after white calibration	

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	after white calibration	
Inter-instrument agreement	Within ΔE^*_{ab} 0.15 (Typical) (LAV/SCI) (Based on 12 BCRA Series II color tiles compared to values measured with a master body under Konica Minolta standard conditions)	
Transmittance chamber	No sides (unlimited sample length); Depth (maximum sample thickness): 60 mm Sample holders (optional) for holding sheet samples or containers of liquid samples can be installed/removed	
Display	5.7-inch TFT color LCD	
Display languages	English, Japanese, German, French, Italian, Spanish, Simplified Chinese	
Operating temperature/humidity range	13 to 33°C, relative humidity 80% or less with no condensation	
White/100% calibration	Automatic white (reflectance)/100% (transmittance) calibration using internal white calibration plate (Not applicable to 100% calibration when using cells for transmittance measurements of liquids.)	
Interfaces	USB 1.1 (Connection to PC; USB memory stick); RS-232C standard (Connection to serial printer)	
Observer	2° Standard Observer or 10° Standard Observer	
Illuminant	A, C, D50, D65, F2, F6, F7, F8, F10, F11, F12, ID50, ID65 (simultaneous evaluation with two light sources possible)	
Displayed data	Spectral values, spectral graph, colorimetric values, color-difference values, color-difference graph, pass/fail judgment, pseudo color, color assessment	
Color space	L*a*b*, L*C*h, Hunter Lab, Yxy, XYZ, Munsell, and color differences in these spaces (except for Munsell)	
Index	Reflectance:	MI; WI (ASTM E 313-73, ASTM E 313-96); YI (ASTM E 313-73, ASTM E 313-96, ASTM D 1925); ISO Brightness; B (ASTM E 313-73)

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	Transmittance:	Gardner; Iodine Color Number; Hazen/APHA; European Pharmacopoeia; US Pharmacopoeia
User index	User-defined index	
Color-difference equation	ΔE^*ab (CIE 1976), ΔE^*94 (CIE 1994), $\Delta E00$ (CIE 2000), ΔE (Hunter), CMC (l: c)	
Pass/fail judgment	Tolerances can be set to colorimetric values (except Munsell), color-difference values, or reflectance index values	
Storable data	Measurement data: 4,000 measurements; Target color data: 1,000 measurements	
USB memory stick* storage	Storage of measurement data and target color data. Storage/reading of measurement condition settings * Security-enabled USB memory sticks cannot be used.	
Power	AC 100 to 240 V, 50/60 Hz (using exclusive AC adapter)	
Size	Slide cover closed: 385 (W) × 192 (H) × 261 (D) mm Slide cover open: 475 (W) × 192 (H) × 261 (D) mm	
Weight	Approx. 5.8 kg	
Operating temperature/humidity range	13 to 33°C, relative humidity 80 % or less (at 35°C) with no condensation	
Storage temperature/ humidity range	0 to 40°C, relative humidity 80 % or less (at 35°C) with no condensation	