

## **SPECTROPHOTOMETER**

# CM-3630

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The missing link to total quality Designed to measure the paper industries' needs.

Introducing Konica Minolta's high-efficiency solution for precise whiteness and color measurement





# Exactly what you've been waiting for:

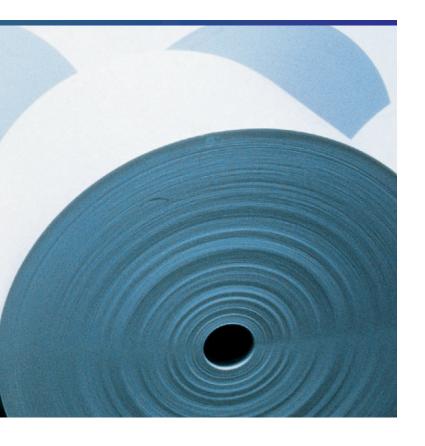
Introducing our state-of-theart Spectrophotometer CM-3630 for the edge in paper quality control.

Highly competitive markets, such as the paper, pulp and cellulose industry, require a commitment to top quality throughout. With Konica Minolta's state-of-the-art Spectrophotometer CM-3630 and the appropriate software you can precisely monitor production at all times..

Designed to keep an eye on the optical properties of pulp and paper during the complete production process, the optical system and geometry of the CM-3630 can measure brightness, opacity, fluorescence, color, whiteness and tint.



# Finally a professional solution to ensure uncompromised quality



ISO standards

The CM-3630 ensures adherence to ISO optical standards and a wide array of national standards worldwide. It provides exact conformity with ISO standards 2469 and 2470 for measuring ISO brightness. With software, brightness, opacity whiteness and yellowness indices can be calculated and displayed in accordance with several international and national standards such as: ISO, SCAN, DIN, TAPPI, CPPA, and AFNOR.

#### Whiteness Measurements

To get correct measurement readings of paper with Optical Brightening Agents, the amount of UV radiation must be controlled and adjusted. Several methods are available for adjusting UV radiation. To prevent the triplet effect exhibited by some special Optical Brightening Agents, the CM-3630 allows you to switch the light source between full power and soft flash mode.

Your professional quality agent right on the production line: Uncompromised quality thanks to perfect adherence to ISO standards.

#### Data compatibility

The CM-3630's numerical UV control system combined with its user calibration option allows easy adjustment of the instrument parameters to your current measurement system. Such precision guarantees that your brightness measurements will perfectly correspond with the data you've collected over the years.

### **Quick Opacity Measurement**

Measuring opacity can be done in a matter of seconds: Simply position the opacity jig on the white side and measure. Then rotate the opacity jig to the black side, measure again – that's it!





#### Patented\* Numerical UV Control

Numerical UV Control (NUVC) makes calibration and adjustments to whiteness and tint a swift and quick procedure. In fact, the whole process is much faster than current methods used in conventional instruments. Since it's all done digitally, exact and reliable results are assured. And with the total absence of moving parts in the spectrophotometer's optical system, it is absolutely robust and completely maintenance-free! With patented NUVC, Konica Minolta has turned the once time-consuming and error-prone calibration process into a quick, accurate and reliable procedure.

\*US Patent No 5,636,015.

#### Technical Data

CM-3630

Illumination/viewing system Reflectance: d:0° (diffused illumination, 0-degree viewing)

Conforms to ISO 2469, JIS P8148, DIN 53145-1 and

DIN 53145-2 standards.

Light-receiving element Silicon photodiode array (dual 40 elements)

Spectral separation device Diffraction grating Wavelength range 360nm to 740nm

Wavelength pitch 10nm

Reflectance range 0 to 200%; resolution: 0.01% Pulsed xenon lamps (x 3) Light source

Measurement time Approx. 1.5 seconds (for measurements of fluorescent colors,

at 9600 bps)

Minimum measurement interval Approx. 4 seconds when reflectance measured; approx. 5 seconds when fluorescent

color is measured

Measurement/illumination area ø30 mm/ø34 mm

Inter-instrument agreement Mean  $\triangle$  E\*ab 0.2 based on 12 BCRA Series II color titels compared to

values measured with master body

Repeatability Spectral reflectance: Standard deviation within 0.1%

Colorimetric values: Standard deviation within ∆ E\*ab 0.02

(condition; white calibration plate measured 30 times at 10-second intervals)

Spectral reflectance: Within +/- 0.10%/°C Temperature drift Color difference: Within △ E\*ab 0.05/°C

Instantaneous numerical adjustment

UV adjustment Control method Directly connected to a computer

RS-232C format Interface

100-240V AC, 50-60Hz 25W AC (with a dedicated AC adapter) Power

Size (WxHxD) 300 x 585 x 315 mm

Weight 15.5 Ka

13 to 33°C, relative humidity 80% or less (at 33°C) with no condensation Operation temperature/humidity range

Operating temperature/humidity range of products for North America: 13 to 33°C,

relative humidity 80% or less (at 31°C) with no condensation

Standard accessories White Calibration Plate CM-A133, Zero calibration box CM-A119, AC Adapter, RS-232C cable IF-A12, Accessory Case CM-A209,

Dust Cover CM-A118, Unit Driver CM-A108

Optional accessories Color Data Software SpectraMagic NX CM-S100w, Opacity jig CM-A134, RS-232C

cable IF-A13



#### **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

The specifications and appearance shown herein are subject to change without notice.



Certificate No.: JQA-QMA15888 Registration Date: October 26, 2018 KONICA MINOLTA, Inc., Sakai Site Product design, manufacture/manufacturing management, calibration, and service



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