Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

PORTABLE D/8 SPECTROPHOTOMETER

CS3020

Portable Spectrophotometer · d/8 · SCI + SCE · LED · 400–700 nm · Ø8, Ø4 or 1×3 mm · 3.5" touch screen

CS3020 Portable Spectrophotometer measures colour and colour difference of plastics, paints, inks, textiles, leather, paper and powders — in the laboratory, at the production line or at goods receipt. A 48 mm integrating sphere, concave grating and a 256-element dual-array CMOS sensor give stable spectral data in a 600 g instrument with a 3.5" touch screen and positioning camera. One aperture chosen for your samples — Ø8 mm, Ø4 mm or a 1 × 3 mm slot for very small areas — with Bluetooth for mobile work.

d/8 · SCI + SCE · LED · 400–700 nm · Ø8, Ø4 or 1×3 mm · ΔE*ab ≤ 0.05 repeatability · 3.5" touch screen · USB, Bluetooth

Document type: **Technical Specification Sheet**
Product: **CS3020 Portable Spectrophotometer**
Format: Print layout · A4 landscape

CS3020 product page · Spectroscopy & Color — overview · Spectroscopy & Color catalogue · Request quote

GEOMETRY	APERTURE
d/8 · SCI + SCE	Ø8, Ø4 or 1×3 mm
REPEATABILITY	**INTER-INSTRUMENT**
ΔE*ab ≤ 0.05	ΔE*ab ≤ 0.2



CS3020 · portable d/8 spectrophotometer with touch screen

MODEL
CS3020

ADDRESS / HQ
Polje ob Sotli 4
SI-3255, Slovenia

CONTACT
sales@colo.si
+386 70 713 437

CS3020 · product overview

Portable d/8 colour measurement for laboratory, production and goods receipt

CORE TECHNOLOGY

d/8 geometry with SCI and SCE measured together — the geometry used in colour standards worldwide, for glossy, textured and matt samples.

Combined full-spectrum LED light source (without UV) — light source life 5 years.

Concave grating and 256-element dual-array CMOS sensor, 400–700 nm in 10 nm steps, 48 mm integrating sphere.

Aperture Ø8, Ø4 or 1×3 mm — selected with the order to match your samples.

Built-in camera shows the measured spot on the screen for exact positioning.

3.5" capacitive touch screen with colour values, ΔE, pass/fail and spectral curve.

1 000 standards, 20 000 samples stored in the instrument; single or averaged measurement (2–99).

USB, Bluetooth to the PC software for standards, tolerances, trends and reports.

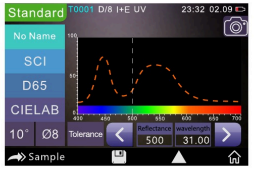
PRODUCT HIGHLIGHTS



Compact body
Stands stably on flat samples; measuring port on the base, camera view on the display.



Results on the instrument
Colour values, ΔE and pass/fail against stored standards on the 3.5" touch screen.



Spectral curve
Reflectance curve 400–700 nm for standard and sample, for colour matching and analysis.



PC software
Standards, tolerances, trends and reports on the PC; data transfer by USB, Bluetooth.

APPLICATIONS


Plastics


Paints & inks


Leather & textiles


Automotive parts


Food


Laboratories & QC

LIGHT SOURCE	COLOUR SPACES	SPHERE	WEIGHT
LED	CIE Lab, XYZ, LCh ...	Ø 48 mm	≈ 600 g · Li-ion battery

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CS3020 · technical parameters

d/8 · SCI + SCE · LED · 400–700 nm · Ø8, Ø4 or 1×3 mm

TECHNICAL PARAMETERS

Optical geometry	d/8 (diffuse illumination, 8° viewing), SCI and SCE
Standards	CIE No.15, ISO 7724-1, ASTM E1164, DIN 5033 Teil 7
Integrating sphere	Ø 48 mm
Light source	Combined full-spectrum LED light source (without UV)
Spectral separation	Concave grating
Sensor	CMOS image sensor, dual array, 256 elements
Wavelength range	400–700 nm
Wavelength pitch	10 nm
Half bandwidth	10 nm
Reflectance range	0–200 %
Measuring aperture	One, selected with the order: Ø8 mm, Ø4 mm or 1 × 3 mm slot
Specular component	SCI and SCE, measured together
Colour spaces	CIE Lab, XYZ, Yxy, LCh, CIE LUV, Hunter Lab, s-RGB
Colour difference	ΔE*ab, ΔE*uv, ΔE*94, ΔE*cmc (2:1), ΔE*cmc (1:1), ΔE*00, ΔE (Hunter)
Colorimetric indices	WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM E313), metamerism index MI, staining fastness, colour fastness, colour strength, opacity, 8° gloss

Observer	2° and 10°
Illuminants	D65, A, C, D50, D55, D75, F1, F2 (CWF), F3, F4, F5, F6, F7 (DLF), F8, F9, F10 (TPL5), F11 (TL84), F12 (TL83/U30)
Displayed data	Spectral curve and values, chromaticity values, colour difference values and graph, pass/fail, colour assessment
Measuring time	approx. 2.6 s (SCI + SCE approx. 3.2 s)
Repeatability	MAV/SCI: ΔE*ab ≤ 0.05; spectral reflectance s.d. ≤ 0.1 % (400–700 nm: 0.2 %) (white tile, 30 measurements at 5 s intervals after white calibration)
Inter-instrument agreement	MAV/SCI: ΔE*ab ≤ 0.2
Measurement mode	Single measurement, average of 2–99 measurements
Positioning	Built-in camera, image on the display
Display	3.5" TFT colour LCD, capacitive touch screen
Interfaces	USB, Bluetooth
Data storage	1 000 standards, 20 000 samples (one record holds SCI and SCE)
Power supply	Li-ion battery, 5 000 measurements within 8 hours
Light source life	5 years, > 3 million measurements
Dimensions (L × W × H)	184 × 77 × 105 mm
Weight	approx. 600 g
Environment	Operation 0–40 °C, 0–85 % RH (non-condensing), altitude < 2000 m; storage −20–50 °C

CS3020 · accessories and series

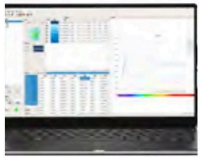
Standard delivery, optional components and the CS30 series at a glance

ACCESSORIES



White and black calibration cavity

STANDARD



PC software

STANDARD



Powder test box

OPTIONAL



Micro printer

OPTIONAL

Standard delivery

Instrument	CS3020 portable spectrophotometer
Aperture	One aperture, Ø8 mm, Ø4 mm or 1 × 3 mm (selected with the order)
Calibration	White and black calibration cavity
Care	Dust cover
Operation	Power adapter, built-in Li-ion battery, USB cable, user guide
Software	PC software (download)

Optional

Micro printer	Prints results directly from the instrument
Powder test box	For powders, granules and pastes

CS30 series — which model?

Model	CS3060	CS3020	CS3010
Light source	LED + UV	LED	LED
Apertures	Ø8 + Ø4 mm	Ø8, Ø4 or 1×3 mm	Ø8 mm
8° gloss value	yes	yes	—
Repeatability ΔE*ab	0.03	0.05	0.06
Inter-instrument ΔE*ab	0.15	0.2	0.4
Standards / samples	1 000 / 20 000	1 000 / 20 000	800 / 20 000
Connection	USB + Bluetooth	USB + Bluetooth	USB

All models: d/8, SCI + SCE, Ø48 mm sphere, concave grating, 400–700 nm, camera positioning, 3.5" touch screen, 184 × 77 × 105 mm, approx. 600 g.

CS3020 · configuration and support

Ordering information, configuration checklist and contact

SOFTWARE, CONFIGURATION AND SUPPORT



CS3020 · portable measurement on plaques, films, textiles and powders

Ordering information

Model	CS3020 Portable Spectrophotometer
Measurement	d/8, SCI and SCE, combined full-spectrum LED light source (without UV)
Aperture	One, selected with the order: Ø8 mm, Ø4 mm or 1 × 3 mm slot
Connection	USB, Bluetooth

Configuration checklist

Samples: size of the smallest area to measure, surface (glossy, matt, textured), powders or granules.

Colour data: colour space, ΔE formula, illuminant and observer you report.

Use: laboratory, production line or goods receipt; stand-alone or with PC software.

Existing data: reference standards or values to be transferred.

MANUFACTURER AND SUPPORT

COLO Lab Experts
Polje ob Sotli 4, SI-3255, Slovenia

Selection guidance: send your sample type and the colour values you report — we confirm the model, accessories and delivery time with the quotation.

QUICK CONTACT

colo.si
sales@colo.si
+386 70 713 437

COLO.SCIENCE · COLOUR MEASUREMENT SUPPORT

Not sure which portable model fits your samples?

Send your sample type, the smallest area to measure and the colour data you report — we propose the model and confirm it with the quotation.

Request quotation | sales@colo.si | +386 70 713 437

Specifications are subject to change without notice. Values refer to standard laboratory conditions.