Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

BENCHTOP GRATING SPECTROPHOTOMETER

CS6010

Benchtop Spectrophotometer · Reflectance d/8 · Transmittance d/0 · LED lamp · 360–780 nm

CS6010 Benchtop Spectrophotometer measures reflectance and transmittance colour of solids, plastics, films, liquids and powders in one instrument. A long-life LED light source with 400 nm cut-off filter, a 154 mm integrating sphere and simultaneous SCI/SCE measurement give stable, repeatable CIE Lab and ΔE results for colour formulation and colour quality control. Entry LED model of the series: three apertures, reflectance and transmittance colour for routine laboratory QC.

d/8 reflectance | d/0 transmittance | LED | 360–780 nm | SCI + SCE | ΔE*ab ≤ 0.15 inter-instrument | Haze ASTM D1003 | 7" touch screen | USB

Document type: **Technical Specification Sheet**
Product: **CS6010 Benchtop Spectrophotometer**
Format: Print layout · A4 landscape

CS6010 product page | Spectroscopy & Color — overview | Spectroscopy & Color catalogue | Request quote



CS6010 · benchtop spectrophotometer · reflectance and transmittance port

REFLECTANCE d/8 · SCI + SCE · Ø30/25.4 · Ø10/8 · Ø6/4 mm	TRANSMITTANCE d/0 · SCI + SCE · haze ASTM D1003
REPEATABILITY ΔE*ab ≤ 0.02	INTER-INSTRUMENT ΔE*ab ≤ 0.15

MODEL
CS6010

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

CONTACT
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CS6010 · product overview

One benchtop instrument for reflectance colour, transmittance colour and haze

CORE TECHNOLOGY

Long-life LED light source with 400 nm cut-off filter — UV included or excluded, for fluorescent and optically brightened samples.

Grating and 256-element double-array CMOS sensor — full spectrum 360–780 nm in 10 nm steps, 5 nm half bandwidth.

Built-in temperature sensor with compensation and an independent light-source monitor for stable long-term results.

Automatic aperture recognition — Ø25.4, 8 and 4 mm apertures in standard delivery; custom apertures on request.

Reflectance and transmittance spectra with accurate CIE Lab values for colour formulation and colour communication.

Quality-control and sample modes, standards and tolerances stored in the instrument (2 000 standards, 20 000 samples).

Haze measurement per ASTM D1003 in transmittance mode (with the optional transmittance test component).

PC software for colour difference, indices, reports and data export.

PRODUCT HIGHLIGHTS



Reflectance
d/8 geometry for opaque plastics, coatings, textiles, paper and solids; SCI and SCE in one measurement.



Transmittance
d/0 geometry with the transmittance test component for films, sheets, glass and liquids in cuvettes.



Liquids, powders, pastes
Cuvettes, powder cell and sample holders cover liquid, powder and solid samples.



Measuring apertures
Ø25.4, 8 and 4 mm reflectance apertures, recognised automatically by the instrument.

APPLICATIONS



Automotive



Leather & textiles



Plastics & masterbatch



Paints, inks & pigments



Food



Laboratories & R&D

GEOMETRY	LIGHT SOURCE	REPEATABILITY	INTER-INSTRUMENT
d/8 reflectance · d/0 transmittance	LED · 400 nm cut-off	ΔE*ab ≤ 0.02 (reflectance, Ø25.4 mm)	ΔE*ab ≤ 0.15

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CS6010 · technical parameters

LED · 400 nm cut-off · d/8 and d/0 · 360–780 nm · SCI/SCE

TECHNICAL PARAMETERS

Optical geometry	Reflectance: d/8 (diffuse illumination, 8° viewing), SCI and SCE simultaneously Transmittance: d/0 (diffuse illumination, 0° viewing), SCI and SCE UV included / UV excluded
Standards	CIE No.15, ISO 7724/1, ASTM E1164, DIN 5033 Teil 7
Integrating sphere	Ø 154 mm
Light source	Combined LED lamp, 360–780 nm; 400 nm cut-off
Spectral separation	Grating
Sensor	Double-array CMOS image sensor, 256 elements
Wavelength range	360–780 nm
Wavelength pitch	10 nm
Half bandwidth	5 nm
Reflectance range	0–200 %
Measuring apertures	Reflectance: Ø30/25.4 mm, Ø10/8 mm, Ø6/4 mm Transmittance: Ø30/25.4 mm Automatic aperture recognition; custom apertures on request
Specular component	Reflectance: SCI & SCE · Transmittance: SCI & SCE
Colour spaces	CIE Lab, XYZ, Yxy, LCh, CIE LUV, Hunter Lab, Munsell, s-RGB, βxy, DIN Lab99
Colour difference	ΔE*ab, ΔE*uv, ΔE*94, ΔE*cmc (2:1), ΔE*cmc (1:1), ΔE*00, ΔE (Hunter), DIN ΔE99

Colorimetric indices	WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM E313), metamerism index MI, APHA/Hazen/Pt-Co, Gardner, Saybolt, colour code ASTM D1500, 555 index, staining and colour fastness, colour strength, opacity, 8° gloss, haze (ASTM D1003)
Observer	2° and 10°
Illuminants	D65, A, C, D50, D55, D75, F1–F12, CWF, DLF, TL83, TL84, TPL5, U30
Displayed data	Spectrum and values, chromaticity values, colour difference values and graph, pass/fail, colour offset
Measuring time	approx. 2.4 s (SCI + SCE approx. 5 s)
Repeatability	Reflectance Ø25.4 mm/SCI: spectral SD ≤ 0.05 %, ΔE*ab ≤ 0.02 Transmittance Ø25.4 mm/SCI: spectral SD ≤ 0.05 %, ΔE*ab ≤ 0.03 (white tile, 30 measurements at 5 s intervals)
Inter-instrument agreement	Ø25.4 mm/SCI: ΔE*ab ≤ 0.15
Display	7" TFT capacitive touch screen
Interfaces	USB
Data storage	2 000 standards, 20 000 samples
Light source life	5 years, > 3 million measurements
Power supply	DC 24 V, 3 A adapter
Dimensions (W × D × H)	370 × 300 × 200 mm
Net weight	approx. 9.6 kg
Operating environment	0–40 °C, 0–85 % RH, non-condensing
Storage environment	-20–50 °C, 0–85 % RH, non-condensing

CS6010 · accessories and sample handling

Standard delivery and optional components

ACCESSORIES



Reflectance sample holder

STANDARD



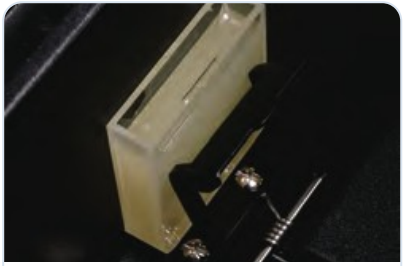
Apertures Ø25.4 / Ø8 / Ø4 mm

STANDARD



Transmittance test component

OPTIONAL



Cuvette holder for liquids

OPTIONAL



Cells for liquids, powders and pastes

ON REQUEST

Standard delivery

Instrument	CS6010 benchtop spectrophotometer
Calibration	White calibration tile, black calibration cavity
Apertures	Ø25.4 mm, Ø8 mm, Ø4 mm
Transmittance	Transmission black baffle
Sample handling	Sample holder
Software and cables	PC software, USB cable, DC 24 V power adapter
Documents	User guide

Optional

Transmittance test component	Required for transmittance and haze measurement
Micro-printer	Printing of results at the instrument
Inversion component	Instrument inversion component for sample positioning
Culture dish	For powders, granules and pastes
Custom apertures	On request

Cuvette size and powder cell are selected according to the sample; COLO confirms the set with the quotation.

REFLECTANCE APERTURES
Ø30/25.4 · Ø10/8 · Ø6/4 mm

TRANSMITTANCE APERTURE
Ø30/25.4 mm

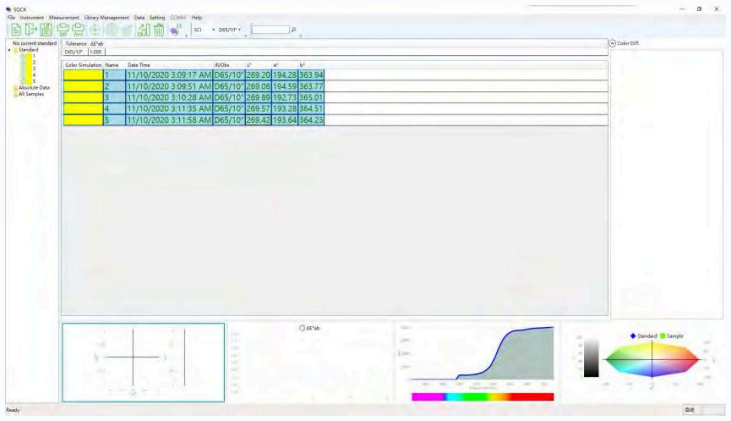
SAMPLE TYPES
Solids · films · liquids · powders

MEASURING TIME
≈ 2.4 s · SCI + SCE ≈ 5 s

CS6010 · configuration and support

Ordering information, configuration checklist and contact

SOFTWARE, CONFIGURATION AND SUPPORT



PC software · colour difference, spectrum and colour plot

Ordering information

Model	CS6010 Benchtop Spectrophotometer
Light source	Combined LED lamp, 360–780 nm; 400 nm cut-off
Measurement	Reflectance d/8; transmittance d/0 and haze with the optional transmittance test component
Power	DC 24 V, 3 A power adapter

Configuration checklist

Samples: opaque solids, films, liquids or powders — defines apertures and holders.

Measurement: reflectance, transmittance, haze or all three.

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

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 configuration, accessories and delivery time with the quotation.

QUICK CONTACT

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COLO.SCIENCE · COLOUR MEASUREMENT SUPPORT

Need help choosing apertures, sample cells or the right colour data?

Send your sample type (solid, film, liquid or powder), the colour space and ΔE formula you report and any reference values — we propose the configuration 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.