Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

HAZE, TRANSMITTANCE AND TRANSMITTED COLOUR · ASTM AND ISO

CH1610

Colour Haze Meter · 0/d · grating 400–700 nm / 10 nm · haze + CIE Lab · Ø20/15/8/4 mm · 7" touch screen

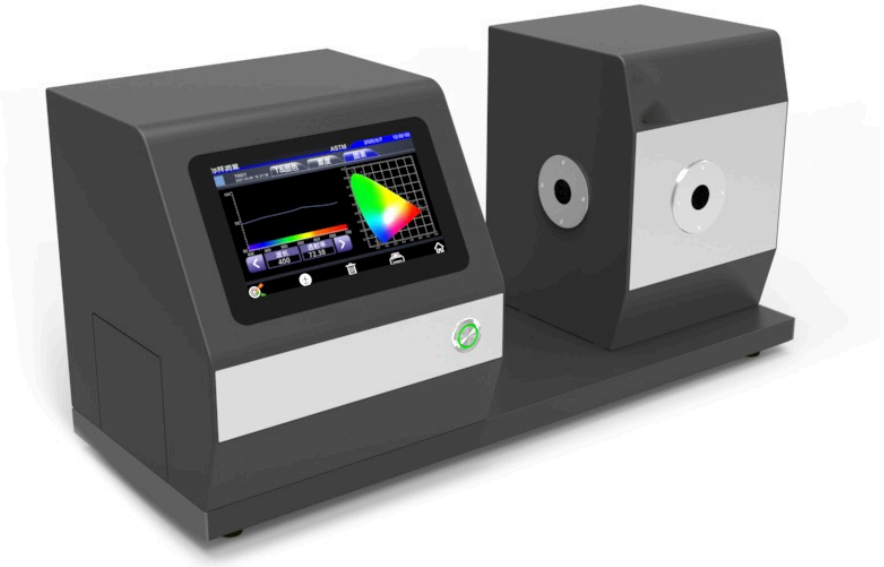
CH1610 Colour Haze Meter measures haze and total luminous transmittance of transparent and translucent materials — films, sheets, glass, display covers, packaging and liquids — according to ASTM D1003 and ISO 13468. A concave grating records the whole transmission spectrum, so the same measurement also gives the colour, yellowness and whiteness of the sample.

0/d geometry | Ø154 mm sphere | ASTM D1003 + ISO 13468 | Ø20 / 15 / 8 / 4 mm | Grating 400–700 nm | Haze repeatability 0.05 | Open sample area | CIE Lab · YI · WI | 7" touch screen | USB + serial

Document type: **Technical Specification Sheet**
Product: **CH1610 Colour Haze Meter**
Format: Print layout · A4 landscape

CH1610 product page | Spectroscopy & Color — overview | Spectroscopy & Color catalogue

Request quote



CH1610 · colour haze meter

GEOMETRY	HAZE RANGE
0/d · Ø154 mm	0–100 %
REPEATABILITY	**INTER-INSTRUMENT**
0.05 haze units	0.4

MODEL
CH1610

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

CONTACT
sales@colo.si
+386 70 713 437

CH1610 · product overview

Haze plus colour of transparent samples

CORE TECHNOLOGY

0/d geometry with Ø154 mm integrating sphere — parallel illumination, diffuse viewing; ASTM D1003 non-compensated and ISO 13468 compensated method (compensation port).

Concave grating and 256-pixel dual-array CMOS sensor — full transmission spectrum 400–700 nm in 10 nm steps; haze, transmittance and colour from one measurement.

Apertures Ø20, Ø15, Ø8 or Ø4 mm — one aperture is selected with the order to match the sample; samples up to 105 mm thick.

Open measuring area — vertical and horizontal testing of small parts, large sheets, film and liquids in cells.

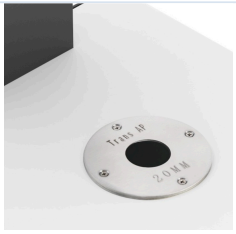
Haze repeatability 0.05, inter-instrument agreement 0.4 — on a standard haze plate, Ø20 mm aperture.

Light-source monitor and temperature sensor — changes of lamp and environment are compensated during measurement.

Colour of transmitted light — CIE Lab, XYZ, Yxy, LCh, sRGB, βxy, CIE Luv, Munsell, Hunter Lab, ΔE, YI, WI, Pt-Co, Gardner; 2° and 10° observer.

7" touch screen, 5 000 standards, 20 000 samples — USB, serial printer port; PC software for reports and quality management.

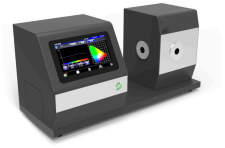
PRODUCT HIGHLIGHTS



Measuring apertures
Ø20, Ø15, Ø8 or Ø4 mm — chosen to suit the sample size.



Vertical or horizontal
Open measuring area for small parts, sheets and films.



Ø154 mm sphere, 0/d
Parallel illumination, diffuse viewing as ASTM D1003 requires.



PC quality software
Haze, transmittance and colour records, reports and tolerances.

APPLICATIONS



Films, sheets & packaging



Glass & window film



Display covers & optics QC



Liquids & resins

CH1610 · technical parameters

0/d · grating 400–700 nm / 10 nm · haze + CIE Lab · Ø20/15/8/4 mm · 7" touch screen

TECHNICAL PARAMETERS

Measuring geometry	0/d — parallel illumination, diffuse viewing
Standards	ASTM D1003 / D1044, ISO 13468, ISO 14782, ASTM E308, GB/T 2410, GB/T 3978, JJF 1303, CIE 15.2, JIS K 7105, JIS K 7361, JIS K 7136
Measuring method	ASTM D1003 non-compensated and ISO 13468 compensated method (compensation port)
Integrating sphere	Ø154 mm
Light source	Combined LED, 400–700 nm
Sensor	Concave grating, 256-pixel dual-array CMOS sensor
Wavelength range	400–700 nm, 10 nm interval, 10 nm half bandwidth
Measuring range	0–100 %
Measuring aperture	Ø20, Ø15, Ø8 or Ø4 mm (one aperture selected with the order)
Sample thickness	up to 105 mm
Measured values	Haze (ASTM D1003 / D1044, ISO 13468), total transmittance T (ASTM, ISO), WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger, Stensby), YI (ASTM D1925, ASTM E313), absorbance, Pt-Co, Gardner, CMYK, tint, metamerism index

Colour spaces	CIE Lab, XYZ, Yxy, LCh, sRGB, βxy, CIE Luv, Munsell, Hunter Lab
Colour difference	ΔE*ab, ΔE*94, ΔE*cmc (2:1), ΔE*cmc (1:1), ΔE*00, ΔE*uv, ΔE*CH
Observer · illuminants	2° and 10° · D65, A, C, D50, D55, D75, F1–F12, CWF, DLF, TL83, TL84, TPL5, U30, NBF
Measuring time · resolution	Approx. 1.5 s · 0.01 unit
Repeatability	Haze, Ø20 mm: standard deviation within 0.05 (standard haze plate of about 30, 30 measurements at 5 s intervals, after warm-up and calibration)
Inter-instrument agreement	Haze, Ø20 mm: within 0.4 against the reference value
Stability	Independent light-source monitor and temperature sensor
Display	7" TFT colour, capacitive touch screen
Interface · storage	USB, serial printer port · 5 000 standards, 20 000 samples
Power · lamp life	24 V DC / 3 A power adapter · More than 3 million measurements in 5 years
Dimensions, weight	487 × 260 × 298 mm (L × W × H), approx. 8.0 kg
Instrument languages	English, Chinese
Environment	Operation 0–40 °C, storage −20–50 °C

CH1610 · what it measures and which model

Haze, transmittance, clarity and colour of transparent materials

UNDERSTANDING THE VALUES AND CHOOSING THE MODEL

What the instrument measures

Haze is the share of transmitted light that is scattered more than 2.5° from the incident beam — it makes a clear film look milky. It is given in %.

Total transmittance is the share of light that passes the sample at all; a film can transmit a lot of light and still be hazy.

ASTM D1003 or ISO 13468 — two standard procedures; the ISO method uses a compensation port. Check which one your customer specifies.

Colour haze meter — also measures the colour of the transmitted light, e.g. yellowing of plastics or tinted glass.

Haze meter series — which model?

Model	CH1100	CH1210	CH1610	CH1810
Haze / transmittance	✓	✓	✔	✓
ISO 13468 method	—	✓	✔	✓
Colour (spectrum)	—	—	✔	✓
Clarity	—	—	—	✓
Repeatability	0.08	0.05	**0.05**	0.05
Bluetooth	—	—	—	✓

CH1100 for routine ASTM haze control; CH1210 when ISO 13468 is also required; CH1610 when the colour or yellowing of the transparent sample matters; CH1810 adds clarity, Bluetooth and the largest memory. Light transmittance meters CH1010 and CH1020 are compact instruments for glass and window film.

Standard delivery

Instrument	CH1610 colour haze meter with 7" touch screen
Aperture	One measuring aperture (Ø20, Ø15, Ø8 or Ø4 mm, as ordered)
Calibration	0 % calibration box
Power and data	Power adapter, USB cable; PC quality-management software available for download
Other	User guide

Options

Printer	Micro-printer
Fixtures	Test fixture, foot switch
Reference	Standard haze plate

Typical samples

Plastic films and sheets: haze and transmittance in production and incoming control.

Glass and glazing: haze of coated, frosted and laminated glass.

Displays and optics: covers, lenses, light guides and diffusers.

Packaging and liquids: bottles, containers and liquids in cells.

CH1610 · configuration and support

Ordering information, configuration checklist and contact

CONFIGURATION AND SUPPORT



CH1610 · measuring in vertical position

Ordering information

Model	CH1610 Colour Haze Meter
Geometry	0/d, Ø154 mm sphere
Aperture	Ø20, Ø15, Ø8 or Ø4 mm — state with the order
Interface	USB, serial printer port
Options	Micro-printer, test fixture, standard haze plate, foot switch

Configuration checklist

Samples: material, thickness and size — determines the aperture and vertical or horizontal testing.

Method: ASTM D1003 or ISO 13468, and whether colour, yellowness or clarity are also reported.

Data: tolerances, number of samples and transfer to PC or quality system.

SUPPLIER AND SUPPORT

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

Selection guidance: send the material, thickness and the values you report — we confirm the model, aperture and delivery time with the quotation.

QUICK CONTACT

colo.si

sales@colo.si

+386 70 713 437

COLO.SCIENCE · COLOUR AND APPEARANCE MEASUREMENT

Measuring haze of films, sheets or glass?

Send the material and the values you need — 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.