COLORSCAN CIS-12

On-line color measuring system

Quality made
in Germany

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COLORSCAN CIS–12

Monitoring of colorimetry

Task

Up to now, the human eye was still the most effective means of assessing colour at the inspection stage, but there was always a very real risk of overlooking slight variations in colour there. The ability to concentrate usually declines rather sharply, even over a short period of time. Fatigue or illness affects even a qualified percher's ability to assess colour. Moreover, the naked eye can only spot slight colour inconsistencies when they are close together. When a piece is unevenly dyed, the colour across and along it varies gradually as a rule over many metres of cloth. The human eye has great difficulty therefore in detecting such subtle variations.

Once the material has been made up into garments, even the slightest difference in shade between two pieces sewn together will create a very bad impression. The percher really has no option but to cut samples at regular intervals from the piece, and compare them.

Product–highlights

✓ Traversing, noncontact spectrometer for use on a running web
✓ Objective measurement of color and degree of whiteness
✓ Display of the color values in the internationally–standard CIE Lab system
✓ All common standard illuminants can be selected
✓ All standard DE–formulas can be selected
✓ Pass / Fail assessment

Customer benefits

✓ Highest accuracy of color measurement
✓ Highest repeatability of color measurement
✓ High measurement density
✓ Easy to use
✓ Fast Pass / Fail assessment
✓ Sorting goods at your fingertips
✓ Sampling for lab testing no longer required
✓ Fast payback
✓ Used worldwide

Traversing scanner with halogen lamp and spectrometer

Solution

A spectrophotometer that runs to and fro across the on-line cloth, and takes measurements at the left, centre, and right, the scanner aligning itself automatically to each selvedge. In doing so, the CIS-12 logs continuously any variations in shade, both across the piece, and along its length. If required, the sensor can also take absolute measurements at one specific point on the cloth.
If required, cross-web profiles can also be displayed graphically. The internationally-standard CIE lab-system is used to establish the colour values (every type of standard illuminants, various DE-formulas, degree of luminosity).
A CIS-12 compares successive colour values with, for instance, a reference measurement taken at a given point at the centre of the piece (or a manually entered target figure). It then highlights any departures from the reference measurement, or set-point, and documents any colour variations relative to piece length. A pass / fail assessment can also be issued by entering specific tolerances.

Traverse assembly with colour scanner

KNOWLEDGE

We have a common goal: Maximum performance from your Mahlo System. To that end we are at your side, right from the installation of the equipment and advice on how to maintain it, through to the training of your employees. Our instructors get your people in shape in matters of operating and servicing. So that you can solve your problems even faster.

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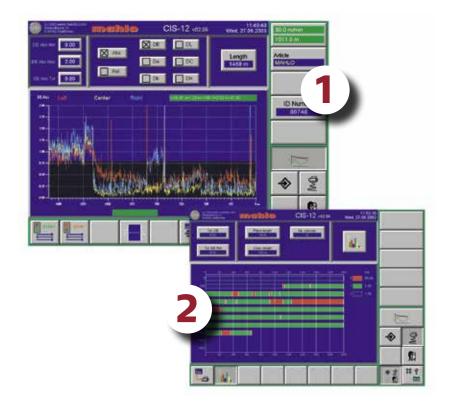   CONVERTING

VISUALIZATION

EVERYTHING AT A GLANCE

Product-highlights

✓ Precise and descriptive
  display of color trends
✓ Menu-controlled
  service settings
✓ Password protection:
  unauthorized users are
  denied access to the program
✓ Integrated audio response

Customer benefits

✓ Continuous inspection,
  classification and logging
✓ Storable recipes for various
  types of fabric
✓ Menu prompt in all the
  usual languages
✓ Ergonomic user prompt
✓ Easy to operate

Outstanding functionality:

1. Trend display:

Colour variations at the left, centre, and right of the cloth, and along the piece length are reflected graphically on the display. The diagram at the left can be freely scaled, and the traces highlight instantly any departures from set tolerance. Measured data can be printed out, and attached to the piece, in order to provide a quality-related document. All measurements are filed and can be downloaded and printed out at any time.
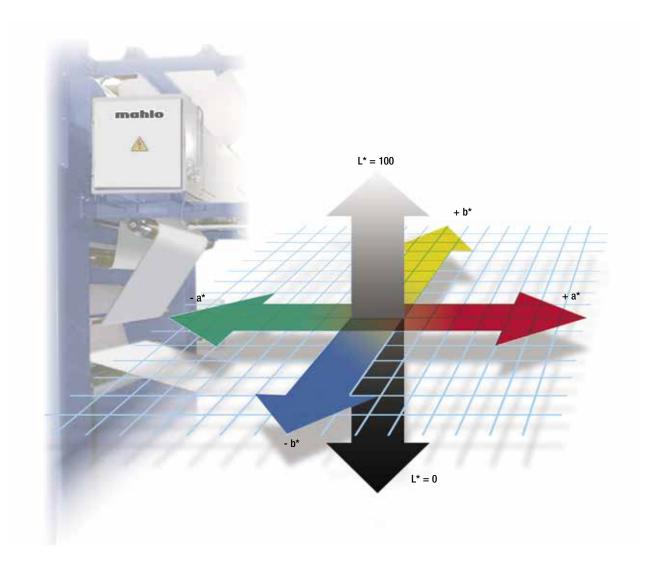
2. Lot sorting:

At the touch of a button, the system's cloth-grading facility can sort a batch or lot into shade-matching piece lengths.

Accurate measurement of colorimetry

1. A CIS-12 measures the colour of the cloth with standard geometry (CIE Lab-system).
2. Any variations in shade, chroma, and luminosity can be indicated separately.
3. The colours can be compared objectively on the basis of any inconsitencies.

L* = 100

+ b*

- a*

+ a*

- b*

L* = 0

CIS-12 at an intermediate inspection point

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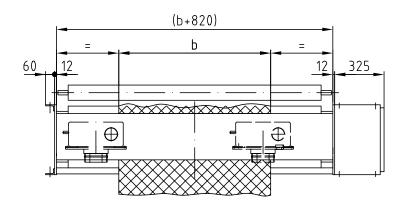
Colour scanner	Colorscan CIS−12
Scan geometry	0 ° / 45 ° circular, 18 mm scanning spot when stationary, 18 x 80 mm when in motion
Spectrometer	with halographic grating, and diode cells with 256 elements, temperature compensated
Spectral bandwidth	380 bis 780 nm
Spectral dispersion	3 nm
Lamp	steady−light, halogen lamp 10 W, 2500 h

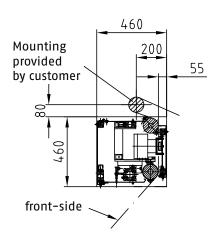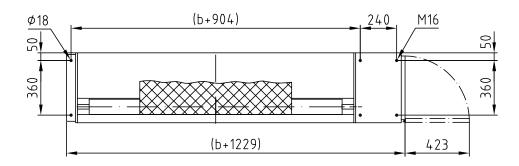| Traverse	Colorscan CIS−12
Dimensions	460 x 460 x (b + 1229 mm), bmax = 3200 mm (other widths on request)
Safe ambient temperature	5 − 45 °C (a versatile „modular" cooling system is available for higher temperatures)
Features	automatic selvedge sensors, guide rollers, linear module with frequency−converter drive, and position monitor, and enclosed compact, enclosed construction, option of V2A model (minus cooling fan) assembly with screens on both open sides
Max. rate of traverse	1,2 m/s

Computer panel	Colorscan CIS−12
Dimensions	505 x 400 x 250 mm
Safe ambient temperature	5 − 45 °C non condensible (an optional cooler is available for higher temperatures)
Power supply	230V, 50/60 Hz, 1 kVA
Control	industrial PC with touch−screen, colour LC−Display 15"

Dimensions

Traverse assembly COLORSCAN CIS-12
91-013626

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