

Corrosion Inspector

Measurement and evaluation of corrosion phenomena on coated test panels



FEATURES

- Color or monochrome scanner system
- Test panel size max. 100 mm x 200 mm
- Resolution 22 µm/mm, 1151 dpi
- Automatic and interactive measurement of corrosion phenomena, like area, width, filament length, red rust, delamination, multi-impact.
- Corrosion evaluations on corrosion test panels according to
 - Filiform corrosion according to ISO21227-4
 - Delamination and corrosion acc. to ISO 4628-8
 - Cross-cut classification according to DIN EN ISO 2409
 - Edge corrosion characteristic according to MBN 10494-6
 - Blistering according to DIN EN ISO 4628-2
 - Stone impact resistance test according to DIN EN ISO 20567-1
 - Counting of all filaments, maximum length l, r
 - Evaluation according to GSB, ACT II, Qualicoat

DESCRIPTION

During the development of coating systems with improved corrosion resistance as well as for quality control of coated components, a large number of coated test plates are produced. These plates are scribed and then weathered in special climate chambers to start the corrosion. Conventionally, the resulting corrosion phenomena are then manually and visually evaluated, often using a magnification glass with an integrated scale, a very tedious work, which is error-prone and subjective.

The Corrosion Inspector scans a standardized test plate in 0.8 seconds with an optical resolution of 22 µm/pixel. The coaxial line illumination, either as a bright field or as a dark field, ensures the high contrast image of the corrosion structures. The software automatically detects the shape, length and corrosion area and evaluates it according to the relevant standards.

The system was developed for rapid and objective corrosion evaluations with high sample throughput. The automatic evaluation including documentation in an image and Excel sheet takes 5 seconds. The system supports color and monochrome grayscale images.

Bright-field and dark-field illumination

To detect the relevant microstructures, [bright-field or dark-field illumination](#) is used.

With bright-field illumination, the light strikes the sample surface perpendicularly. Flat surfaces facing the sensor appear bright, the light hitting the edges is reflected away from the sensor. They appear dark.

With dark-field illumination, the light is directed onto the test surface with an angle. Only light from e.g. edges that cause the light to reflect into the sensor appear bright, flat surfaces e.g. facing the sensor appear dark.

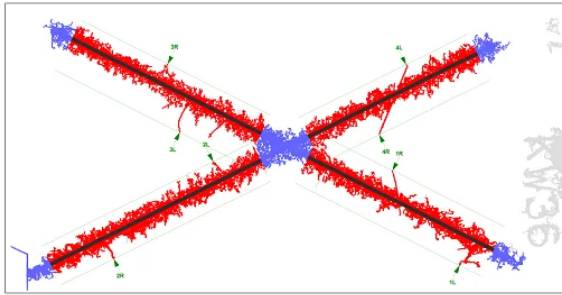
Analysis and Control Software SKan-CI

The software SKan-CI offers a simple control for the scanner system. After scanning the test sample, you have a wide range of image processing functions to get the best input for the analysis.

SKan-CI automatically recognizes a predefined set of scribe patterns and also automatically assigns, measures and ranks the corrosion phenomena. When desired, the interactive and manual measurement of corrosive phenomena can be performed by the operator.

The program saves the accepted corrosion analysis results as images and tabular data, together with the treatment and analytical processing information, for retrieval, comparison and documentation.

The software supports also the offline evaluation, without a connection to the Corrosion Inspector hardware. After loading a stored image, grayscaled or color, the corrosion phenomena can be evaluated with all available methods. This allows an independent reanalysis or a new evaluation.



TECHNICAL DATA

Corrosion Inspector

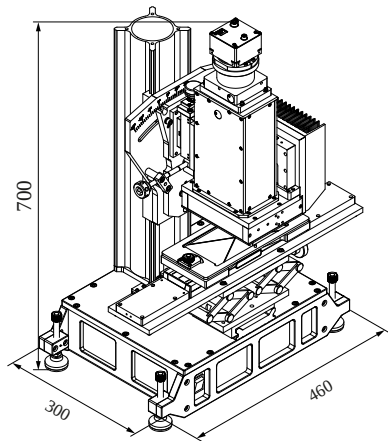
Sensor Head

Line Sensor	3 x 4080 (RGB) pixels
	2048 pixels
Field Of View	90 mm
	80 mm
Resolution	22 µm / pixel, 1151 dpi
	40 µm / pixel, 650 dpi
Features	White Balance / Shading Correction, LUT
Illumination	Integrated coaxial LED line light

Translation unit

Scan length	200 mm
Scanning velocity	up to 300 mm/s
Object weight	up to 4 kg

Dimensions (for a complete dimensional drawing please refer to the downloads section)



ORDER OPTIONS

Order code	Color	Pixels	Resolution	Scan Width	Illumination
SK-LASM-80-40-49-J01 -		2048 pixels	40 µm / pixel, 650 dpi	80 mm	Red, 640nm
SK-LASM-C-90-22-J010 x		3 x 4080 (RGB)	22 µm / pixel, 1151 dpi	90 mm	White, 5000K

TECHNOTES

- [Line Scan Camera Basics \(10\)](#)
[What are Line Scan Cameras? How do you create an image? etc.](#)
- [What are Line Scan Cameras?](#)
[Introduction and advantages of Line Scan Cameras](#)
- [Creating an image using Line Scan Cameras](#)
[How to create an image, definition of line frequency, and how to improve an image](#)
- [Optical resolution](#)
[Definition and comparison to conventional area cameras](#)
- [Synchronization](#)
[Reasons for synchronization and definition of different synchronization modes](#)
- [Shading correction and white balance](#)
[Why do you need shading correction and how to use white balance](#)
- [Sensor alignment](#)
[How to properly align the line scan camera sensor](#)
- [Blooming and Anti-Blooming Correction](#)
[What is blooming and how to correct it](#)
- [Spectral sensitivity](#)
[Spectral sensitivity of different line sensors](#)
- [True color imaging technologies](#)
[Color Calibration of RGB cameras](#)
- [Bright and dark-field illumination](#)
[Details about the different illumination techniques.](#)
- [Choosing the appropriate camera interface](#)
[How to chose between GigE, GigEVision, USB3.0 and CameraLink.](#)
- [Setting up a Line Scan Camera](#)
[Evaluation of correct focus](#)
- [Article - On the trail of rust](#)
[Evaluate corrosion test panels quickly and objectively.](#)
- [Automation of corrosion test evaluation](#)
[Solved cut by cut – new method for automatic cross-cut evaluation](#)

DOWNLOADS



[Article_CorrosionAnalyzer.pdf \(Technote\)](#)

[Article_CorrosionInspector-2.pdf](#)

ACCESSORIES

SKAN-CI

Program for scanner control and evaluation of corrosion phenomena

This is a printout of the page <https://sukhamburg.com/products/linescancamera/scannersystems/ci.html> from 5/2/2024

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