fleyevision range

The worldwide
market leader
for label and booklet
converting solutions

abg International

fleyeVision 5

The new dimension of vision systems
- simple handling – highest inspection speed
- 100% inspection

fleye
by abg

Features of fleyeVision

fleyeVision does not only inspect text and images regarding print defects, dust, register shift and »hickies«, but also detects and grades all common barcodes, verifies OCR fonts and checks Braille dots as well.

The image will be taken by a digital line scan camera with a resolution between 2048 and 8196 pixels as a colour or a grey scale picture.

The real image processing will be done inside the computer: The taken images will be compared with a previous created master image

(Golden image). The verification of the master image by a .pdf file is an additional feature. By using the two camera option it is possible to inspect the front side and the back side of the web at the same time.

Stand-Alone-System

fleyeVision is designed as a Stand-Alone-System, to be retrofitted

to your existing inspection rewinder. Because of the PC based technology the system is very maintenance friendly and gives excellent reliability.

At the same time it is very easy to handle for everyone:

All the necessary data will be entered by using touch button on the screen. The operator will be guided step by step through the setup.

> **The fleyeVision 5 – product range - a powerfull, 100% print inspection aligned to your individual requirements – to an excellent price-performance ratio.**

How it works:

After the start up of the machine the reference images will be taken and the register shift will be determined. If required non relevant areas can be excluded from the inspection.

At the same time you can set different inspection sensitivity for selected areas. After the start the camera will inspect 100% of the labels, detected errors can trigger a stop of the machine, a logging or an automatic discharge depending on your requirements. On a unidirectional machine fleyeVision will store errors which are detected during the
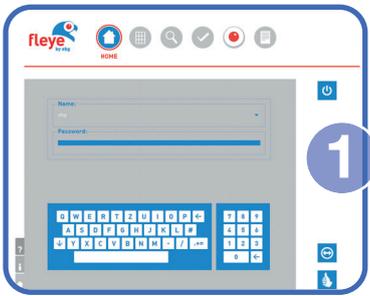
slowdown in memory. When the error image reaches the stop position, the error location and error size will be displayed on the touch screen and the operator can take corrective action.

Further errors will be processed one by one. On bidirectional machine the detected error will be automatically positioned back, just before the camera. After correction the label will be re inspected. This guarantees the 100% inspection of the entire web. Acceptable errors can be taught into the system during the inspection procedure.
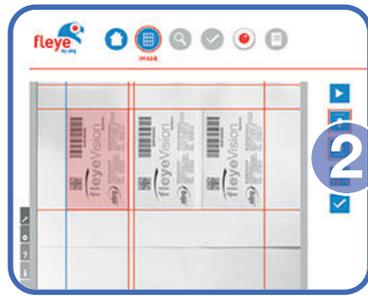
For safety reasons the software will compare the relearned images against the reference, whereby the difference will be highlighted in red. Because of the our own specially developed software and illumination we achieve an inspection speed up to 350 m / min with a good inspection quality.
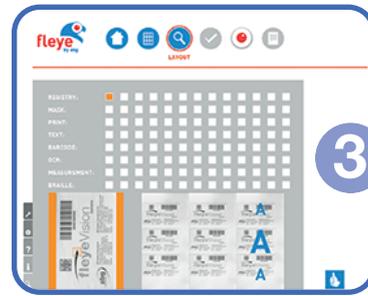
Wide web inspection up to 1.200 mm web width

> **fleyeVision is fully expandable and can be used for labels and other printed products. It inspects in line on your rewinder – fast and comprehensive.**

1

2

3

4

5

1 Complete user and job management
2 Easy label based setup
3 Clear definition of inspection areas
4 Master and error image comparison
5 Obvious error correlation in case of a defect

Field of application of fleyeVision 5 - inspection:

On a printing press:
- Live inspection during the printing
- early detection of print defect
- documentation of the whole production and inspection of front and back side at the same time.

On a converting machine:
- 100% Inspection of all products · Stop · positioning on the splice table and display the error on the screen · error handling by operator

On a pharma inspection rewinder:
- 100% inspection of all products
- highest safety level in case of defects
- Stop of the machine and repositioning the error in front of the camera system
- Error handling and re inspection of the same label to guarantee the 100% safety

- **simple user guidance**
- **Touchscreen-operation with multitouch functionality**
- **Online-help for each step**

Confidence is good - Security is everything!

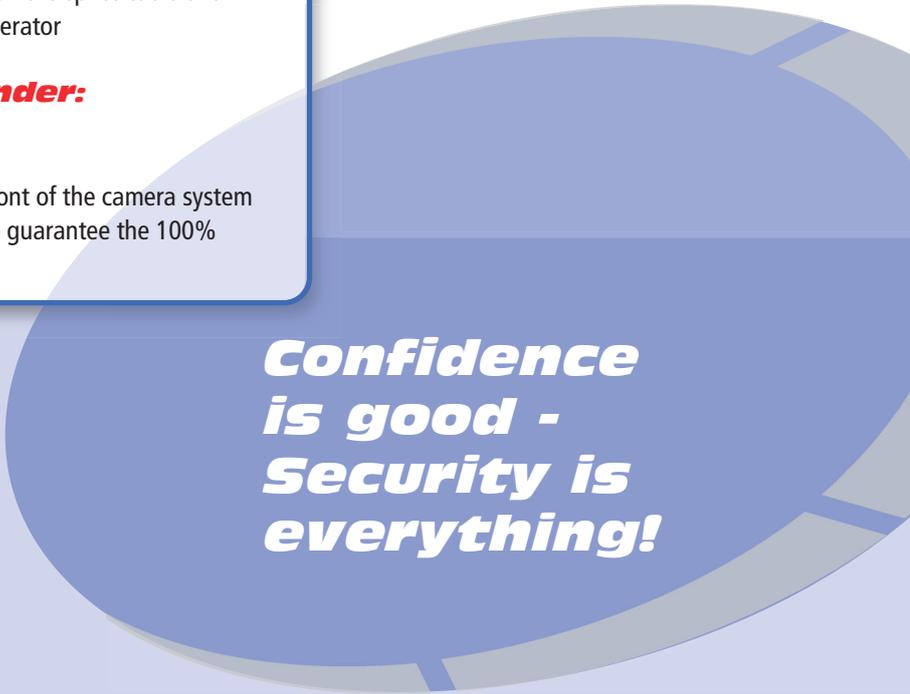## fleyeVision in a fully automatic production line

Optional

A comprehensive record function ensures the complete documentation of the inspection process. The printed report contains the master image, the chosen camera settings, the number of the ac- cepted errors, the number of stops as well as the inspected labels.
All information is stored in a secured data file. With our editor you are able to design the layout of the report in accordance with your specific company requirements.

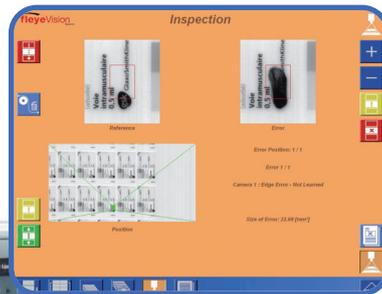The password- and user data handling is based on CF 21 Part 11 (FDA).

fleyeVision entryLevel
missing label detection...

The reasonable entrance into digital print inspection for your converting- or printing machine

A system that replaces missing label-, splice- and flag- sensors and as well detects basic print defects without any difficulties

The system is very compact and can be retrofitted to nearly every converting- or printing machine.

Detection of:

- missing labels
- splice (coloured)
- matrix
- flags
- coarse printing errors (from 2mm^2)
- paper- and clear on clear labels (optional)
- inspection speed up to 350 m / min
- very easy operation

Technical features

camera:	grey scale line scan camera
resolution:	1024 Pixel
speed:	up to 350 m / min
web width:	330 mm, 430 mm, 530 mm
Trigger controller:	integrated
operating:	Touchscreen PC
illumination:	indirect LED light

fleyeVision printMachine

100 % inspection on the printing press

The fleyeVision printMachine inspects in line on your printing press – fast, complete and 100% safe.

Because of the fast error detection you avoid waste and save time and money …

fleyeVision printMachine Does not only inspect text and pictures regarding defects, dust, register shift and »hickies«, are all detected as well as popular barcodes verification.

fleyeVision printMachine avoids waste on your printing press by fast detection of problems/errors during the printing process.

The protocol manager

Inspection with FleyeVision 5 on the printing press

↓

Displays and reports all errors in one data for each single roll.

↓

A report label can be printed which includes roll number, job name etc.

↓

Editing of the roll report in the quality department (correction of errors, minimizing the no. of stops in the converting line)

↓

Transfering the data to the converting machine.

↓

Stop, display and remove of all errors.

↓

The protocol manager provides a complete workflow between printing press, quality management and converting machine.

Offline inspection of the report by the quality management and editing of the error list

Report processing at the converting line

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- **Display of the printing status via indicator light.**
- **Warning in case of waste by an alarm**
- **automatic web inspection**
- **early error detection**

fleyeVision printMachine

because of automatic web inspection and early error detection your printing process is more efficient.

Print inspection of different machines

fleyeVision Proof

The Offline-inspection solution

fleyeVision Proof offers a simple possibility to inspect the printing results offline. The digital template will be compared with a sample print from your printing machine or a sample of your received material.

All labels of the sample print will be compared fast and easily which improves your companies process security.

Easy handling based on our successful fleyeVision inspection system.

You will learn in next to no time!

How it works:

- Scan of the sample/reference with a scanner (A3-A1)
- automatic comparison of the scan against the digital template
- display and protocolling of the deviations
- direct comparison of master and PDF on the screen
- error will be highlighted clearly and shown to the operator
- clear report print out for the quality management

Following errors will be detected:
- missing letters • missing text
- closed letters • missing ink
- spots, scratches etc.
- smearing colour • colour deviations

Available modules for all systems

fleyeVision OCRControl

- our special designed software reads and decodes alphanumeric signs
- nearly every font can be learned
- readability, completeness and quality will be checked
- Inspection of static and ascending and descending numbers
- direct online comparison against a database
- creates result files (documentation of each single number)

fleyeVision barcodeControl

- reading and decoding of the below 1D und 2D barcodes
- **1D-Codes:** BC412, Codabar, Code128, Code 39, PZN, Code93, EAN8, EAN13, Interleave2/5, Pharma, Planet, Postnet, RSS, UPC_A, UPC_E
- **2D-Codes:** Datamatrix, QRCode, PDF417, MicroPDF, Maxicode
- veryfing of static or variabale barcodes (ascending and descending barcodes)
- comparison against a database
- grading of the barcode based on the ANSI standard

fleyeVision brailleControl

With fleyeVision brailleControl by AB Graphic braille dots will be inspected on labels or printed web.
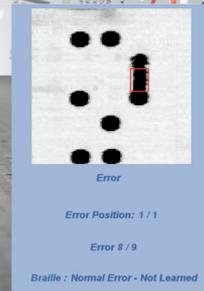
will be displayed on an additional screen.

The operator can monitor if the inspected braille text matches the reference image, in respect to dots that are missing, smeared or destroyed.

In addition it makes sure that no other impressions between the dots will influence the braille text. Master and current image will both be displayed on the monitor, the detected errors are highlighted and can be enlarged.
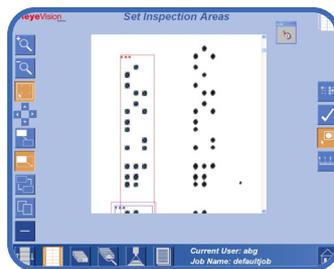
This is usable either as an additional option for the »Standard-print inspection« or without another inspection. In both cases a special line scan camera will be used only for the Braille inspection along with a special illumination and a special new designed software. If braille and »normal« print defects will be inspected, two cameras are necessary.

During the inspection the braille text will be inspected completely separated from the other print. So the braille dots

Error
Error Position: 1 / 1
Error 8 / 9
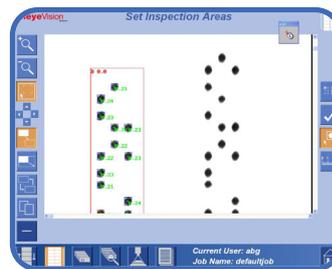Braille : Normal Error - Not Learned

brailleControl

The defective label can now be spotted on the web easily, judged and can be replaced if needed. As a result you get a 100% inspected roll which contains only accurate labels.

For retrofitting the brailleControl system the machine must be modified to install the second camera.
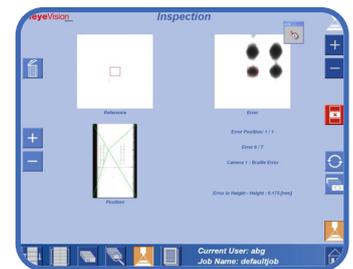
Please contact our service department to ensure the brailleControl will fit on your machine.
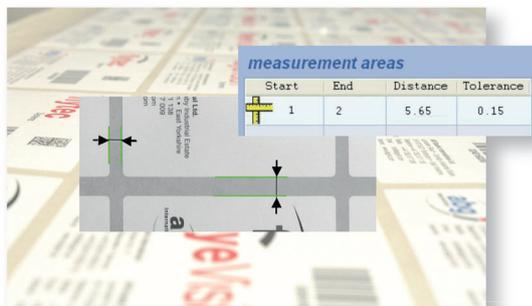
Simple set up of the inspection areas

Measuring the distance between the the dots

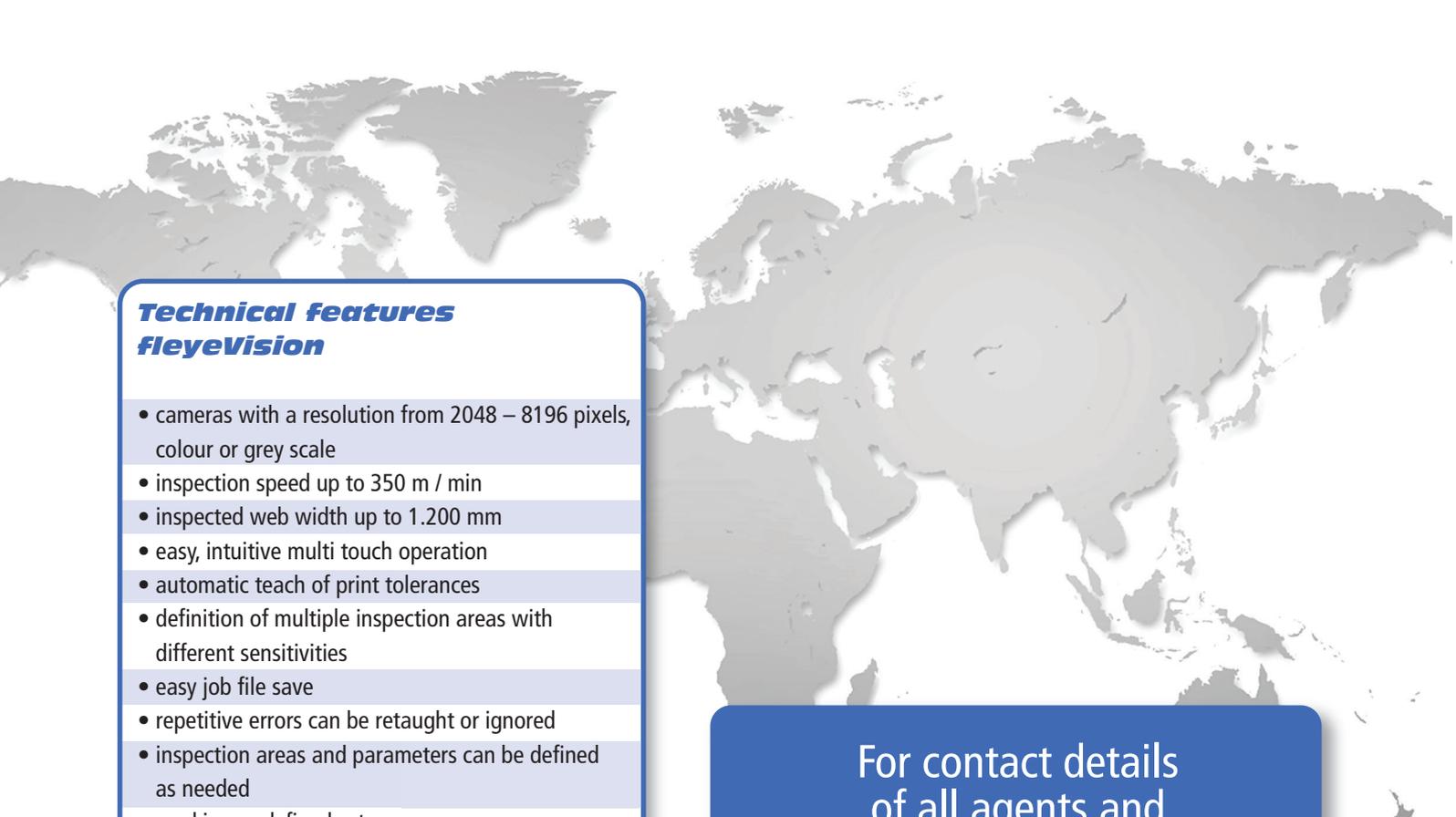Clear error display

fleyeVision gapControl

integrated measuring module for:
- print to print
- die to print
- booklet apply position
- longitudinal slitting position of the web to the label edge etc.
- direct input of the tolerances (+/-) and result documentation

measurement areas			
Start	End	Distance	Tolerance
1	2	5.65	0.15

fleyeVision pdfComparison

- direct comparison of digital template against taught master image
- absolutely secure final inspection
- clear display of master image and PDF
- zoom for easy error check

Technical features
fleyeVision

- cameras with a resolution from 2048 – 8196 pixels, colour or grey scale
- inspection speed up to 350 m / min
- inspected web width up to 1.200 mm
- easy, intuitive multi touch operation
- automatic teach of print tolerances
- definition of multiple inspection areas with different sensitivities
- easy job file save
- repetitive errors can be retaught or ignored
- inspection areas and parameters can be defined as needed
- read in pre-defined setups
- can be fully integrated as a Stand-alone-System in all inspection machines
- positioning controller available for each machine type
- optional barcode- und OCR-modules, comparison against PDF file
- optional inspection of braille
- optional documentation of all errors and job data

For contact details
of all agents and
distributors, visit
www.abgint.com

**AB Graphic International
GmbH**
Thomas-Edison-Straße 10
D - 52499 Baesweiler · Germany
t: +49 2401 60 20 0
f: +49 2401 60 20 79
e: info@abgint.de
www.abgint.de

AB Graphic International b.v.
Argonweg 49 · NL-1362 AB Almere
t: +31 (0) 36 / 53 66 244
f:+31 (0) 36 / 53 63 195
e: info@abgint.nl
www.abgint.nl

AB Graphic International Ltd
Lancaster Road
Carnaby Industrial Estate
Bridlington, East Yorkshire
YO15 3QY, England
t: +44 (0) 1262 67 11 38
f: +44 (0) 1262 67 70 09
e: info@abgint.com
www.abgint.com

AB Graphic International Sarl
6-8 Avenue de Creil
60300 Senlis, France
t: + 33 (0)3 44 53 99 81
f: + 33 (0)1 48 25 65 29
e: info@abgint.fr
www.abgint.fr

AB Graphic España
Joaquim Castells, 1
08980 Sant Feliu De Llobregat
Barcelona, Spain
t: + 34 936 854 435
e: ab-graphic@ab-graphic.es
www.abgint.com

AB Graphic International Inc
1760 Britannia Drive
Unit 7, Elgin
IL 60124, USA
t: + (1) 909 230 6640
f: + (1) 909 230 6650
e: info@abgintusa.com
www.abgint.com