

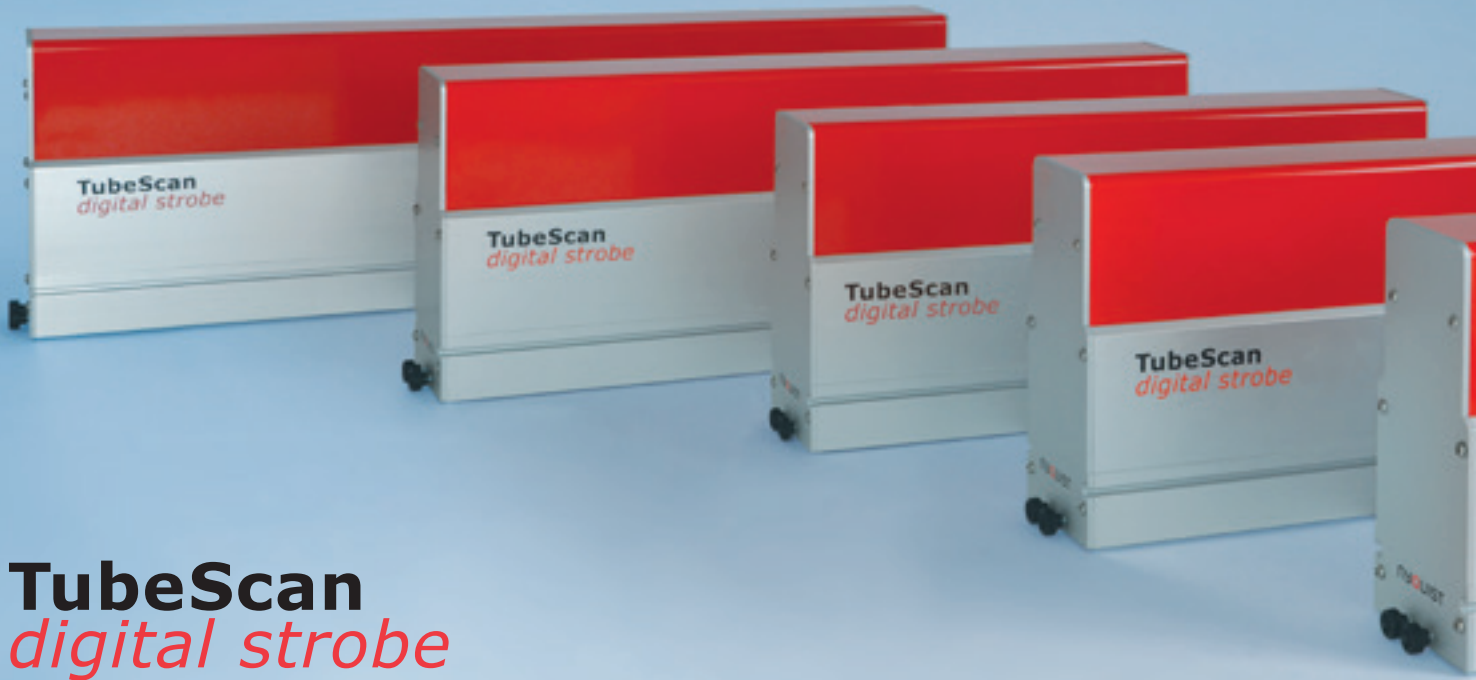
100%

TubeScan digital strobe

Технические характеристики

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TubeScan *digital strobe*

Digital strobe for print inspection

TubeScan *digital strobe+*

Counting and Completeness

100% print inspection to detect missing labels, matrix residues and coarse defects larger than approx. 5 mm

Your benefits

- ▲ No time-consuming sensor adjustments
- ▲ Detection of missing labels, coarse print defects and matrix residues (defect size Ø approx. 5 mm)
- ▲ Accurate counting of repeats, labels and missing labels for up to 20 lanes
- ▲ Generation of a 24 volt defect signal to trigger an alarm or marking system
- ▲ Optional placement control module with defect queue for automatic control of a rewinder

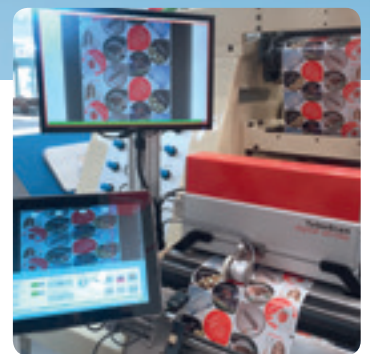
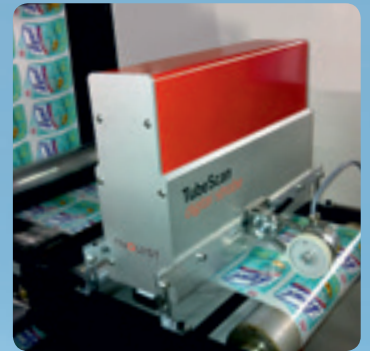
TubeScan *digital strobe++*

100% high-resolution print inspection

to detect fine print defects, splashes, register and color deviations, etc.

Your benefits – in addition to *digital strobe+*

- ▲ Detection of fine print defects, register defects and large color variations
- ▲ Secondary inspection zones allow defining specific areas at higher or lower inspection tolerances
- ▲ Automatic label contour detection
- ▲ Masking function to ignore defined areas
- ▲ Surface inspection
- ▲ Job save function for repeat orders
- ▲ Real-time display of the detected defects on HD monitor



Options TubeScan *digital strobe*++

- ▲ Relative distance monitoring based on edges or shapes
- ▲ Generation of PDF roll reports
- ▲ Dynamic roll map for the visualization of all defects in the current production roll
- ▲ Snapshot recording at defined intervals
- ▲ PDF Toolbox
 - a) for master image comparison
 - b) import of inspection zones defined in pre-press, such as masking, die-cutting contours, secondary inspection zones, static or variable 1D / 2D barcodes and alphanumeric sequences

TubeScan models	Length of housing
<i>digital strobe</i> 180	310 mm (12.2")
<i>digital strobe</i> 250	310 mm (12.2")
<i>digital strobe</i> 330	410 mm (16.1")
<i>digital strobe</i> 430	510 mm (20.1")
<i>digital strobe</i> 550	610 mm (24.0")
<i>digital strobe</i> 660	760 mm (29.9")
<i>digital strobe</i> 760	840 mm (33.0")
<i>digital strobe</i> 850	960 mm (37.8")

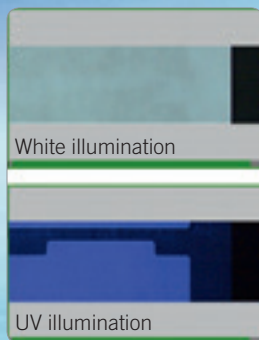
Intelligent print inspection

Introducing 100% print inspection that has never been as simple and cost-efficient as offered by the TubeScan product series.

From simple 100% web monitoring, detection of missing labels and matrix residues to high resolution 100% print inspection within a workflow – now you are able to realize all your needs with one modular system.

Performance characteristics

- ▲ Can take and display up to 30 images per second in live mode – seamless monitoring of every repeat in real time
- ▲ Maximum speed range: 150m/min – 500m/min (450ft/min – 1500ft/min) – depending on the model
- ▲ Maximum web width: 180 mm – 850 mm (7" – 44") – depending on the model
- ▲ Various camera models available up to 4k resolution
- ▲ Optical resolution starting from 55 µm



UV inspection for luminescent applications

- ▲ Switch between standard white light inspection and UV inspection
- ▲ Inspect luminescent areas such as coatings, adhesives, silicones
- ▲ Inspect features printed with UV and fluorescent inks

→ Security print



Transparent labels on transparent or opaque liners

- ▲ Use the special contour light to create an image contrast when producing transparent labels on clear or even white paper liners
- ▲ Detect almost invisible missing labels and matrix residues, especially on blank labels
- ▲ Switch between standard white light inspection and contour light inspection

→ Clear-on-clear

→ Clear-on-paper

→ Sleeves/tubes

Barcodes, OCR

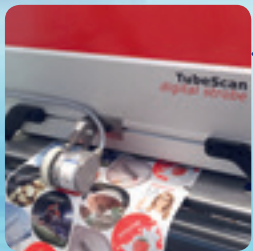
- ▲ Static and dynamic inspection of 2D / 3D barcodes
- ▲ Static and dynamic evaluation of alphanumeric sequences (OCR)

Standard features of all models

- ▲ 100% web viewing during make-ready and production
- ▲ Superb image quality due to high camera resolution
- ▲ Automatic repeat synchronization across the entire speed range of the machine
- ▲ No health risk, less tiring compared to conventional monitoring using strobe lights
- ▲ Fast and easy job setup
- ▲ Very reliable and stable operation
- ▲ Cost-efficient

Further options (see also page 7)

- ▲ 100% print inspection
- ▲ Secondary inspection zones for individual tolerances
- ▲ Automatic label contour detection
- ▲ Masking function to ignore definable areas
- ▲ Surface inspection
- ▲ Relative distance monitoring
- ▲ Placement control for rewinders
- ▲ Generation of PDF roll reports
- ▲ Switchable UV-illumination (wavelength 365 nm)
- ▲ Inspection workflow QLink
- ▲ Dynamic barcodes and OCR
- ▲ PDF Toolbox



Pinhole detection

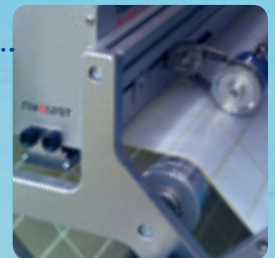
- ▲ Detect tiniest pinholes in aluminum foil and other opaque webs
- ▲ Switch between direct white light illumination for standard print inspection and back light illumination for pinhole detection

- Aluminum lids
- Blister packs



Distance monitoring/position monitoring

- ▲ Monitor the distance between die-line and print
- ▲ Monitor the position of printed objects
- Die-cutting
- Slitting
- Embossing

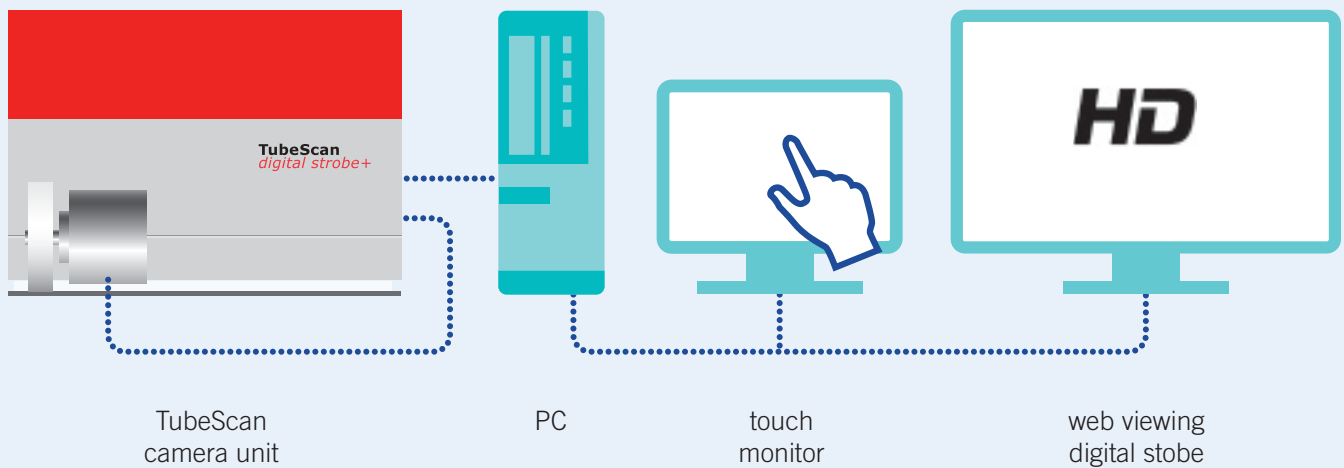


Inspection of highly reflective materials

- ▲ Use the adjustable backing bar (with optional idler rolls) for bright-field or dark-field inspection
- Cold foil / hot foil applications
- Holograms
- Coatings



System overview



Backing bar

Adjustable backing bar for liner-based materials



Adjustable roller backing bar for sensitive materials without liners



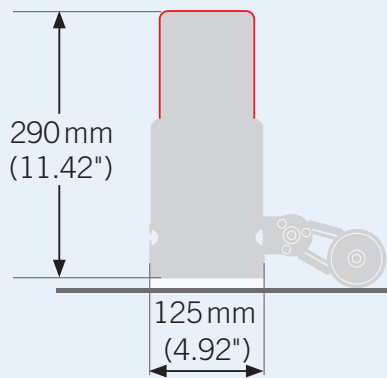
Back light illumination

The backing bar can be equipped with integrated back light illumination

- ▲ Option A using a light line with high intensity
 - Pinhole detection
 - Buried antennae structures in RFIDs
 - Equalization of textured surfaces such as Tyvek®

- ▲ Option B using an area light for the detail camera of the **TubeScan eagle view**
 - Monitoring of the back print register
 - Equalization of textured surfaces such as Tyvek®

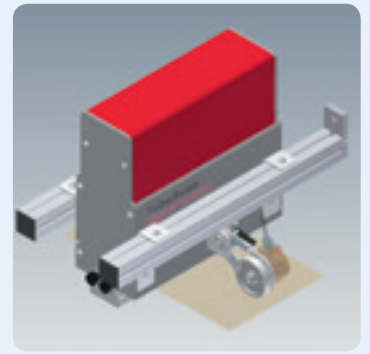
Dimensions



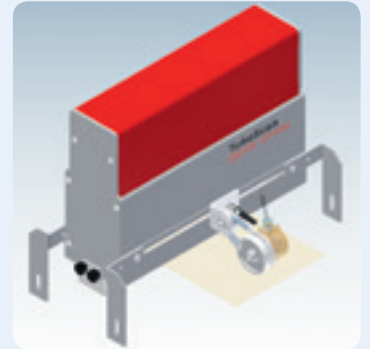
Cross section
(Width of housing depends
on web width)

Mounting

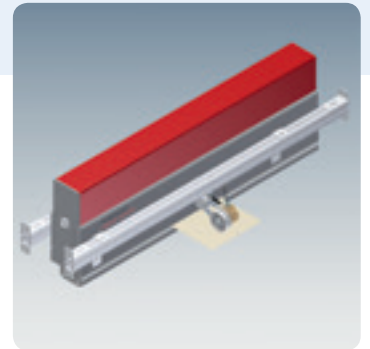
Cantilever mount,
for housings up to
510 mm of length



Front
mounting
brackets



Customized
double-sided
mounting



Technical data for all TubeScan systems

Web width in mm	180	250	330	430	550	660	760	850
Web width in inch	7	10	13	17	22	26	30	34
Touch monitor	minimum 15"							
HD monitor	minimum 22" (other sizes upon request)							
Image rate	up to 30 images per second							
Maximum lateral web movement	± 10 mm							
Automatic image synchronization	yes							
Operating temperature	0° – +35°C (+32° – +95°F)							
Supply voltage	100 V - 240 V, 50 - 60 Hz							
Shaft encoder with layon wheel	RS422 channel A+B							
10 opto-isolated outputs 24 V, 80 mA max.	DefectFound, InspectionActive, SlowDown, FinalStop, ...							

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