

## Technical data

### System performance

Max. web speed	500 m/min (1,640 ft/min)
Max. web width	520 mm (20,5 inch)
Material	paper, film, aluminum, (opaque, transparent, reflective)
Ambient temperature	0° - 35 °C (32 – 95 °F)
Min. flaw size	0.02 mm <sup>2</sup> (0.00003 inch <sup>2</sup> ) with 3% gray scale value tolerance

### Camera

Type	colour line chip camera
Number	1 – 2
Resolution	4096 pixel

### Illumination unit

Type	high power LED
Number	1 – 3 for opaque, transparent and reflective material

### HMI screen

Type	19“ TFT touch screen
Resolution	1280 x 1024 pixel
Signal input	DVI

### Live view monitor

Type	19“ TFT
Resolution	1280 x 1024 pixel
Signal input	DVI

### Supply voltage

Power supply	115 / 230V AC / 50-60 Hz
Rated current	depends on application

### Inputs

Function	reel change
Power supply	24 V DC
Input current	7 mA

### Outputs

Function	alarm signal (error, warning, ok)
Power supply	24 V DC
Input current	100 mA per output, short-circuit proof

## Innovations for your success!



### Seeing what is important

- \_ 100% print inspection
- \_ Web viewing
- \_ Quality workflow



### Quickly in register

- \_ Register control
- \_ Sensor for low-contrast colours and varnishes



### Fine colour matching

- \_ Spectral colour measurement
- \_ Densitometric ink setting



### Individualised quality

- \_ Print defect detection
- \_ Inspection of variable data
- \_ Register control

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narrow web  
**100% print inspection**  
including **100% web viewing**  
combined with  
**individual workflow solutions**

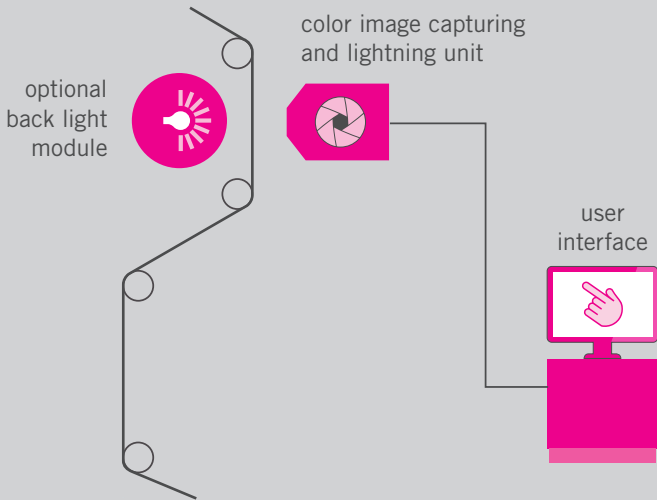


**twin\_check**  
*narrow*

**vision** digital  
register **colour**

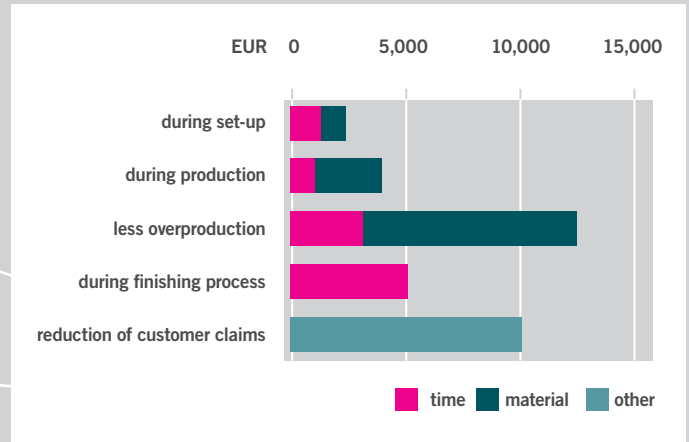
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## System overview



## Return on investment

Annual cost savings in label printing approx. 35,000 EUR



## Simply better!

**twin\_check narrow** combines uncompromising 100% print inspection with first-class web monitoring of the complete narrow web print repeat. It applies among others to the fields of labels, shrink sleeves, packaging, mailings and transactions printing.

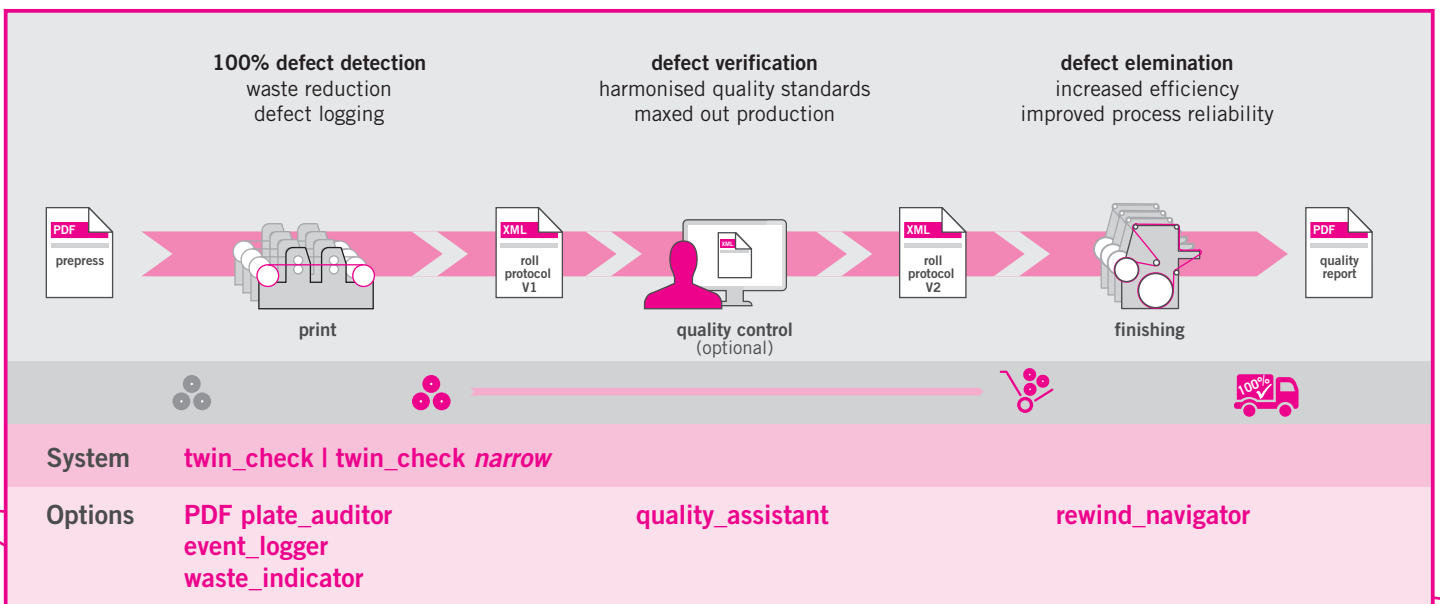
On the one hand, **twin\_check narrow** helps to reduce waste significantly by causes of faults can be corrected immediately after occurrence. On the other hand, it provides the basis for defect tracking with the aim to deliver 100% error-free print. So you gain a

competitive edge as more and more brand owners expect it of their suppliers!

**twin\_check narrow** is ready for each print job in just a few moments and the integrated web monitoring function provides a crystal clear image of the entire print format. During production, the print inspection indicates only those errors which are relevant to you, so that the operator may immediately decide what to do. Additionally, the errors are logged for further processing.

Conclusion: **twin\_check narrow** puts you in a position to deliver 100% quality. You have satisfied customers; discounts and claims caused by quality issues are things of the past and you will find new customers easily. And at the same time, you radically cut costs due to waste reductions, while improving your process. So, **twin\_check narrow** pays off in a very short time!

## Workflow solutions for your 100% print quality



## Basic functions

### Quick operation thanks to easy and intuitive menu navigation

**twin\_check narrow** and all functions are centrally operated via touch screen. Due to the intuitive user interface it takes only two or three clicks to get to the desired result. Setting up a new job is finished in less than 30 seconds.

### High-speed image capture for perfect results

The system can be used for web widths up to 2,800 mm (110 inch) and machine speeds up to 800 m/min (2,600 ft/min) due to state-of-the-art high performance colour line chip cameras. The collected data is the basis for web monitoring function as well as print inspection.

## 100% print inspection – for a more efficient printing process

### Inspection of all materials

The high-power LED illumination is designed for the inspection of all opaque printing materials. The system can be equipped with additional illumination units for the inspection of transparent or reflective material.

### High-performance defect detection reliably finds any print defect

Our high-performance image processing algorithms detect defects from gray scale value tolerance of 3% and an allowable indication of 0.05 mm<sup>2</sup> (0.000075 inch<sup>2</sup>) – even before they cause any waste.

### Flexible sensitivity masks put an end to false alarms

Annoying false alarms are a thing of the past now. Intuitive masking functions allow the inspection of any print job or print image area with different sensitivities. Particularly critical areas are inspected in a particularly critical manner; while insignificant areas can be ignored.

### Defect analysis with intelligent defect classification

**twin\_check narrow** detects the most varied types of defects, such as partial missing print, nip-off edges, anilox roll defects, changes in colouring or nonrecurring splashes. Most importantly, it differentiates between process related and sporadic defects. Defects occurring sporadically can be simply suppressed, if necessary. This unique, print defect specific classification supports the operator efficiently regarding defect analysis.

### Clearly structured defect displays make fast decisions possible

The inspection results are displayed in a roll map on the main screen according to the position on the print format and defect class. Each relevant defect is clearly documented in the defect catalogue with a maximum of three images: the first defect image, the image with the largest defect and the last defect image. These clear displays, combined with the easy handling, encourage the operator to make a fast and money-saving decision before countless feet of waste are produced.



Main screen with print format preview (a), live image (b), roll map (c) and last defect image (d)



User interface defect catalogue with classified defects (a) and enlarged display of the selected defect image (b)

## 100% web monitoring – and you have everything under control

### Your printing press is under control due to live print repeat preview

The live image of the complete print repeat will immediately be displayed on the user interface after the start of the printing press. This is especially important for orientation and control during the set-up phase but also when the inspection is activated. The operator can touch the high-resolution

live image on the screen to zoom in for more details. Sharp colours and a crystal clear image contribute to an easy and certain decision-making.



Main screen with print format preview (a), live image (b) and easy positioning of the image section on the live monitor by touch (c) in the print format preview or by fine positioning

## Modular options – for even more efficiency

### Workflow solutions for 100% print quality

#### PDF\_plate\_auditor prevents faulty production

With the **PDF\_plate\_auditor**, the pre-press PDF can be compared to the printing image of the machine. Already during the set-up phase, the special structural comparison not only reveals defects of the printing plate/cylinder, but also wrong languages or contents. This allows you to reduce unnecessary and expensive waste to a minimum.

#### event\_logger provides a protocol without gaps

For each roll produced, the **event\_logger** starts an XML file and captures all detected defects related to the lane by recording the defect class, running metre and the defect image together with the corresponding reference image. In addition to that, further process-relevant information such as for example a change of the inspection sensitivity, are being kept. The resulting roll protocol can be downloaded automatically

into the existing IT structure. From there, they can be printed out in a clearly structured form or transferred to different applications for statistic analyses.

#### waste\_indicator delivers accurate defect signals

Regardless if a system to tag waste is activated in your printing press, if a material discharge is initiated or if another process is to be informed with regard to waste, the **waste\_indicator** reliably assumes this task. An accurate 24 V signal is provided for the whole web or alternatively for up to 12 lanes separately.

#### quality\_assistant harmonises quality standards

Not every defect which you would like to recognise during the printing process automatically causes waste. In order to get the maximum out of any production, the **quality\_assistant** allows you to quickly and efficiently evaluate the quality of your

product according to harmonised quality criteria. This optional step can be carried out either at a central workplace or directly at the rewinder.

#### rewind\_navigator increases finishing efficiency

Based on the roll protocol, the **rewind\_navigator** triggers your rewinder in a way that the defects to be eliminated are placed precisely at the slice table. Until the next defect, the rewinder can continue operating at maximum speed and thus saves precious time.

#### Remote maintenance module

With the aid of the remote maintenance module, the system can be inspected simply and quickly via remote diagnosis.