



A Baumer Company

Ready for GS1 DigitalLink

Integration-Kit for **Print-Inspection**

For Labelling machines, Form-fill-seal machines and more

Why Our Integration Kit?

Highly automated processes with flexible inline digital printing require camera inspection and flexible interfaces. The heterogeneous production conditions and installation situations call for a flexible modular solution that can grow with the requirements. With the QualiReader PI, QualiVision offers a modular system that simplifies project planning, service and operation through system integration and standardisation of interfaces.

Scope of Supply

Fully automatic print and inspection system consisting of:

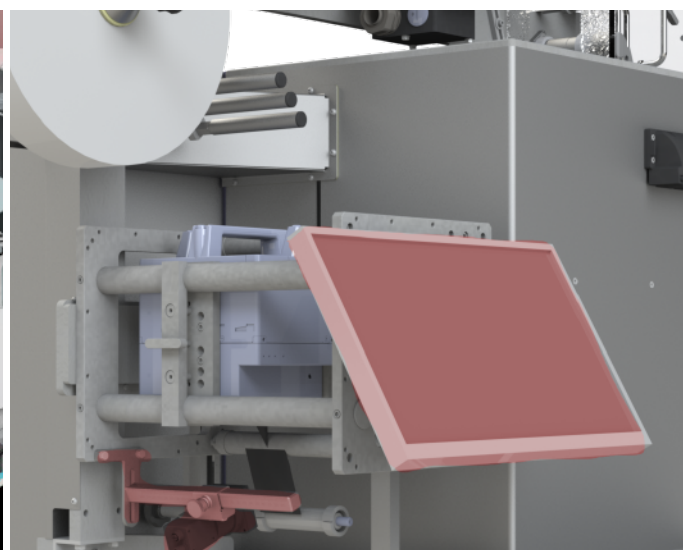
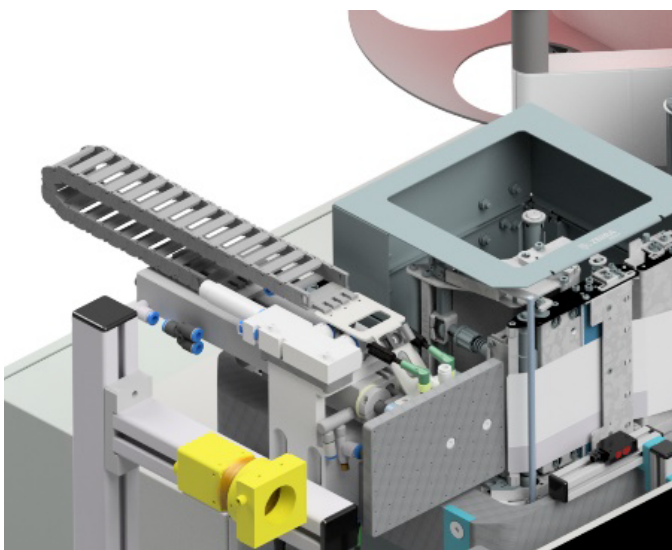
- Integrated software solution for certified print
- Camera with illumination
- Small control cabinet with controller, UPS, I/O interface
- Touch-HMI

Labeller with printer

The QualiReader PI controls the thermal transfer printer, the camera checks the print image, label position and checks whether the pre-printed label corresponds to the current label status (mix-up control)

Form-Fill-Seal machine with direct print on bag

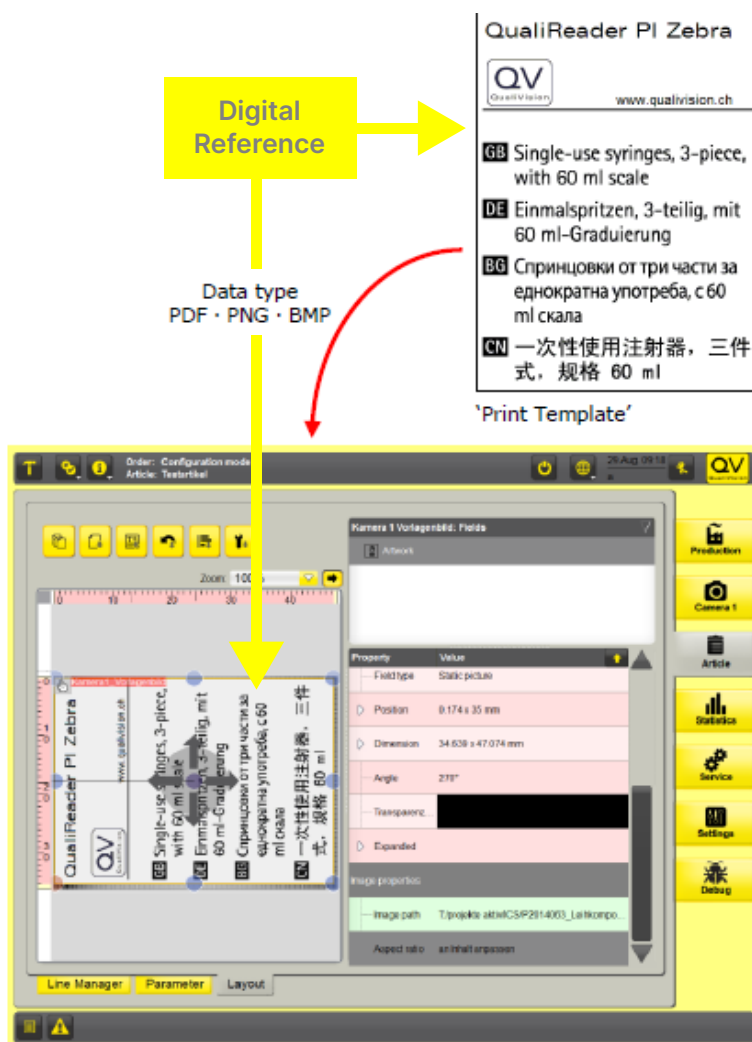
Form-Fill-Seal machine with direct print on bag
Printing and inspection of variable product data on film, whereby the printed data is checked with pinpoint accuracy and the position of print to pre-print is measured. Defective products are tracked and ejected in the correct position.



The unique QualiVision solution is that the print layout is also used as a digital reference for the camera inspection ('single source of truth'). Design the label in the integrated label layouter and your QualiVision inspection system is ready to go. QualiReader® PI checks each printed product and compares it with the digital artwork. This eliminates manual processes and saves time.

- Automatic one-step teach-in directly from digital layout
- 100% inspection of any data (fixed and variable)
- All-in-one solution for full-area quality assurance of imprints

Setup inspection for new print layout in just two steps:



1. Setup of a new article

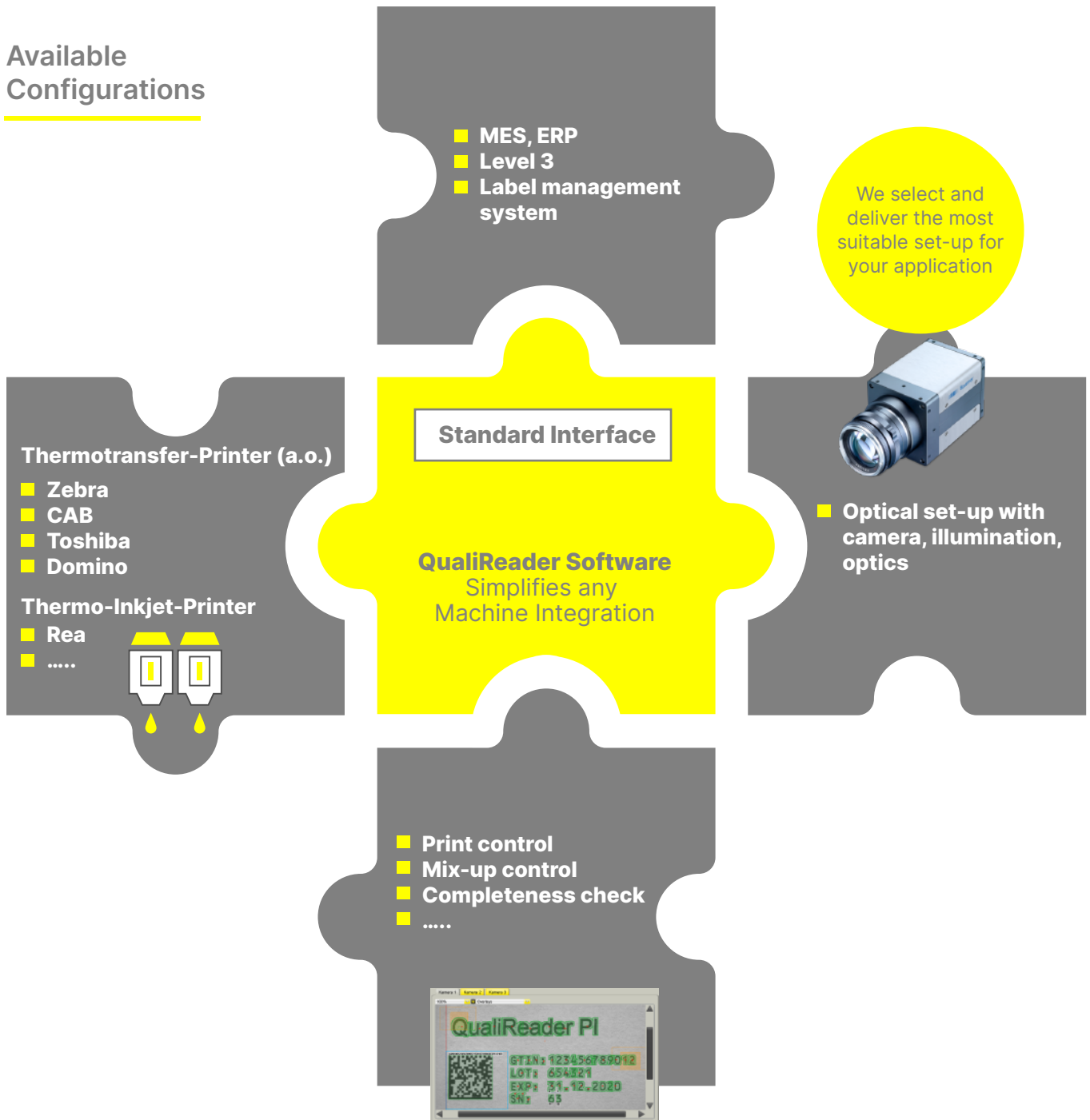
- Define Printing Layout
- Save Article

2. Run production

- Set order data
- GO

With the Start of production, the printer and camera will be setup automatically

Available Configurations



Benefits

- **Flexible machine integration** for new machines and retrofit
- **Proven solution for various printing technologies and cameras**
- **Minimum set-up time** thanks to automated one-step teach-in
- **Full-surface print quality control:** 1D/2D codes, texts (independent of character sets, e.g. Chinese, Arabic,...), symbols, graph
- **Recognising of application problems** (folds, position) and other inspection tasks
- **Integrated order/article management**
- Centralised **audit trail** of printer and image processing system
- **Standardised interfaces** (HMI, level 3 interface)
- Fast printing and inspection, even of serialised data

Product features / Datasheet

Process Data

Foil/label/product speed	Up to approx. 120 m/min
Inspection width / resolution	Standard image sections matrix cameras 90×45, 100×73, 180×135, for line scan cameras 120, 220mm, larger areas on request / resolution depending on application approx. 500-1200dpi
Image capture technology	Typically 1 camera, but there can also be more. Depending on the requirements and space available, line scan or matrix cameras with suitable lighting systems
Horizontal process interface	Adaptable machine-/device interface for process control, triggering, result as well as error output and product tracking via digital EAs, ProfiNET, OPC-UA, TCP socket, ...
Vertical process interface	Standard interfaces for article and order management and control for Level3 systems, MES, ERP, LMS and production data acquisition. Customer customisations are made possible via translation adapter software.
Reporting	Order data with statistics, audit trail, serial number reports as PDF, CSV, XML, ...The reports can be customised.

Labelling

Print image creation	Fixed, variable and serialised data: text, codes, images
Labelling system	Inkjet (TIJ, CIJ), thermal transfer, UV-DoD, DOD, laser, etc. ReajetHR, Hapa, Zebra, CAB, Domino, Amaco, ALFAService, SATO, Toshiba, etc.

General functionality

Software	Configurable standard software QualiReader
Networking services	Several QualiReader systems can be connected in a line - line management.
Controller, HMI operation	Controller is selected depending on the required computing power Monitor touchscreen (set-up via touch): Standard multi-touch or hygienic design
Article and order management	Management and testing of articles. Optional order management and article version management.
Print layout system	Integrated print layout tool, layout can optionally be imported as job data. Layout consisting of font, codes, images, variable links, ... can be set up with touch. GS1 digital link ready.
Serialisation	GS1, China-Code, IFA, UDI
User management	Standard 4 Level (compliant with 21 CFR Part 11), internal or with Active Directory

Inspections

Range of functions	Completeness, correctness and positional accuracy of fixed and variable data: text, codes, images
Print image control	Graph-based checking also of international character sets (Chinese, Arabic, ...), pictograms, symbols without manual teach-in. Fixed data within order Teachin from 'Digital reference'. Checks of individual points (decimal point) > 0.01mm ² .
Code reading	Reading, comparing, decoding of 1D/2D incl. stack codes. Inline grading estimation.
Code grading estimation	Yes (depending on the minimum bar width). 1D code bar width > 0.15mm, 2D codes module size >0.25mm
Scripture reading (OCR/OCV)	Typically only used for serialised printing. Fonts should be optimised for reading. Font size typically >1.4mm
Submix control	Methods: Script/code reading or image comparison
Quality inspections	Optional VisionTools: General inspection tasks such as label position measurement, steripoint inspection, ... can be seamlessly integrated.

Further options

Qualification (IQ, OQ, PQ)	Validatable software modules for applications in the pharmaceutical, medtech and cosmetics sectors
Production data acquisition (PDA)	Standard OPC-UA interface for production data acquisition and order/article management