# BLISTER & PRODUCT INSPECTION

SPECTRA High Resolution (HR)

■ Description

The high resolution product inspection system **SPECTRA High Resolution** is used for quality assurance in the pharmaceutical industry. Utilising 3CMOS cameras, it offers extraordinarily high colour separation which enables the safe fulfilment of tasks involving challenging colour and contrast conditions. In combination with the largest software package, it provides unique inspection parameters and options. Inspection of products with minimal differences in colour and shape within the same blister at high speed are no challenge for the system.
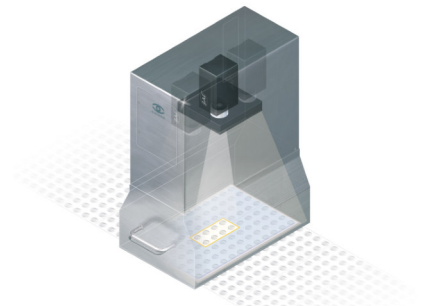
■ Area of Application

Applicable Objects:

▪ Tablets
▪ Oblongs
▪ Sugar-coated tablets
▪ Soft and hard gel capsules
▪ Medical Strips
▪ Special shapes
▪ Dialpacks etc.
▪ Sealed products

Inspection Criteria:

▪ Colour
▪ Presence
▪ Size
▪ Shape
▪ Perimeter
▪ Position

▪ Broken products
▪ Overfilling
▪ Surface defects
▪ Consecutive error
▪ Particles
▪ Print on product

■ Highlights

▪ All blister geometries and combinations of product and packaging material can be recognised
▪ All parameters can be used simultaneously
▪ Homogenous, reproducible and adjustable illumination – 16 levels available
▪ Prime hardware and superb software package based on real-time operating system QNX®
▪ Inspection of various products in same blister possible
▪ Multi-camera systems for challenging applications
▪ Applicable for post-seal inspection

■ System

The utilisation of the real-time operating system QNX® enables high-speed data transfers and high failure safety.

Security is further enhanced thanks to other aspects of the system:
The modular build enables the expansion for future and increasing requirements. Thus, the system is future-proof.
The system is fully compliant to 21 CFR Part 11; format versions are saved separately. The memory contains up to 50 images which are the basis for an individual suggestion of parameter settings. This offers a higher level of security than standardised settings that the user needs to adjust according to his inclination. It also offers higher user comfort.

To increase the image resolution, multiple camera systems are used. The multiplexer can handle up to 15 cameras. For highest colour precision, a water cooling system is installed.

The adjustable illumination and guided teach-in process make the system adaptable to almost every combination of product and packaging material and blister geometries. Only specialist applications need to undergo an in-house sampling at scanware.


■ Hardware

The Camera Link interface enables a safe data transfer even of large data. Compared to USB and FireWire, Camera Link enables a greater cable length.
The evaluation unit offers high performance so all parameters can be used simultaneously at high speed.

Evaluation unit

Housing	42 HP, 3.5 RU
Power supply	24 V DC PELV/SELC (safety extra low voltage) 18 – 30 V max. allowed voltage range
Standard I/O System	D-I/O 24
Expanded I/O System	TCP/IP, Integrated PLC
Hard drive	240 GB SSD
Frame grabber	scanware frame grabber for up to two Camera Link cameras, compactPCI serial
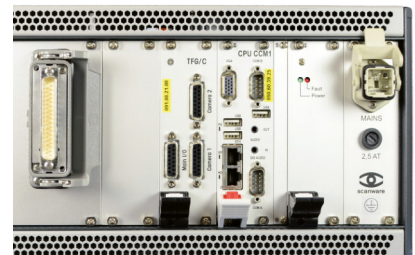
Illumination

Illumination unit	scanware, with up to 3,000 LEDs per unit
Illumination adjustment	scanware, 2x 16 levels*
Illuminant	SMD-W-LED
Illumination types	Toplight, backlight, sidelight, diffuse light
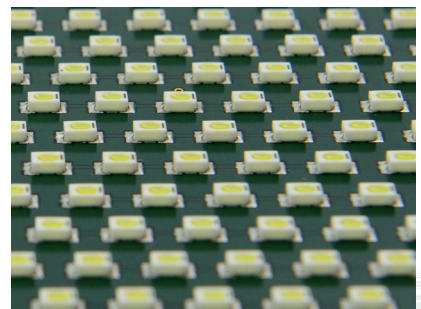
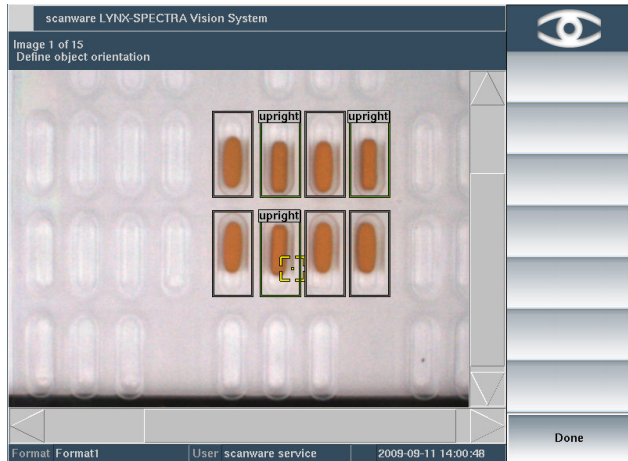* = Toplight and backlight are set separately over two individual channels

■ Software

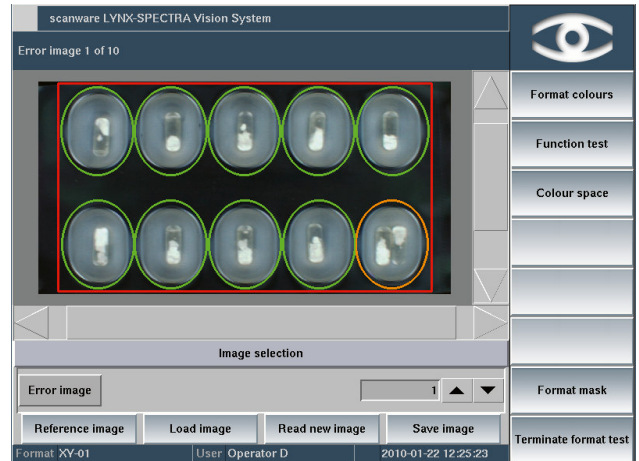The expert. Highest colour separation with elaborate options.
Thanks to using QNX®, the software runs in real-time. All features can be used simultaneously – at high speed.

The recognition of upright objects reduces product ejections. Upright objects are identified as correct rather than ejected as too small.

The use of x/y measurement is important for various products, for example Medical Strips. For hard gel capsules with heterogeneous filling, varieties in distribution of products within the capsules can be evaluated.
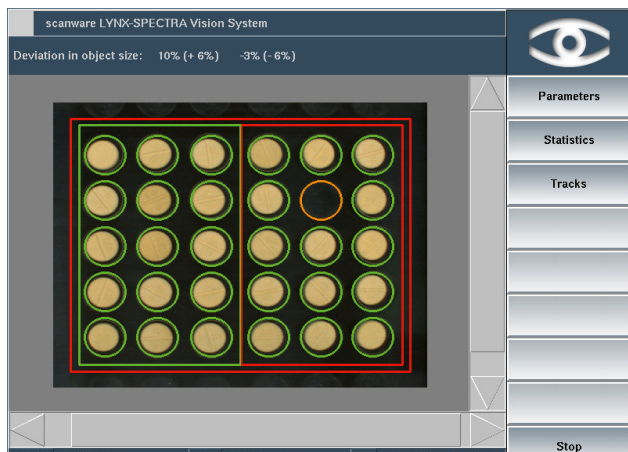
With intermitting machines, the trigger instance varies depending on speed and other technical factors.
To outbalance these, automatic mask tracking can be used.
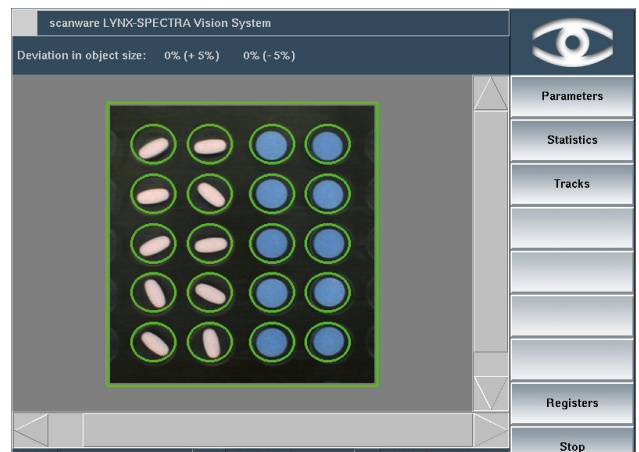
Products with various shapes in the same blister can be inspected simultaneously. To do so, product-specific parameters are set.

■ Further Application Options

Japan Quality
Using multiple cameras, the product inspection according to Japan Quality standards is possible. **SPECTRA High Resolution** recognises diminutive optical errors and tiny particles.

Special shapes
The software of **SPECTRA High Resolution** is equipped with a special algorithm for form recognition. Using multiple cameras, different products within one blister and a variety of shapes with minimal distinction can be recognised.
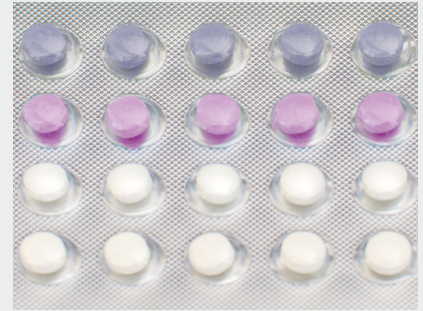
Minimal colour varieties
The system's color separation power enables the distinction between colors that are the same to the naked eye. Thus, different colors in the same blister can be separated absolutely correct. No other system comes close to this precision and security.

■ Technical Data

Camera technology	3× high-speed CMOS cameras
Camera interface	Camera Link
Camera resolution	3× 2, 5 or 12 megapixels

Max. number of images per minute	55 fps
Colour resolution	16 million colours
Objects per image	224
Format storage	>1,000
Number of cameras	1-6

* = Valid for Japan Quality which uses 4 cameras

■ Quality is visible.

- Modular build for a multitude of installation options
- Real-time operating system QNX® for security and speed
- Uniform graphical interface and easy-to-follow menu structure
- Hard- and software are expandable and upgradable

- Fully 21 CFR Part 11 compliant
- Wear-free, electronically controllable scanware W-LED illumination
- Easy to install on all common packaging machinery
- Communication with machine via a VDMAXML_P or OPC UA protocol
- Simultaneous use of numerous inspection parameters

- Variety of statistical tools
- Development of special tasks and requirements on your request
- Availability of all parts guaranteed for 10 years
- Service offering solutions and support within 24 hours

Management   **Packaging**   **Blister & Products**   **Codes, Text & Graphics**   **Track & Trace**   **Support**

scanware