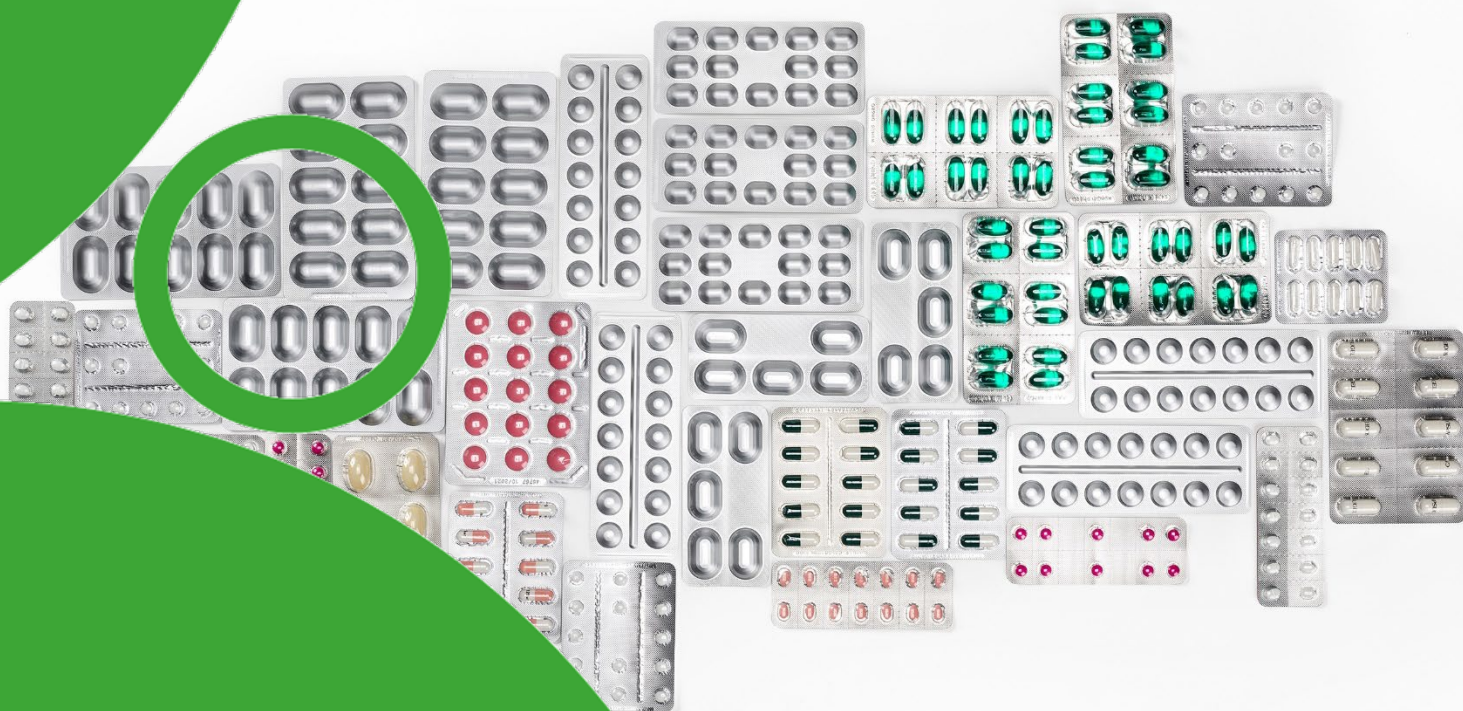


harleblister_

COLOUR VISION SYSTEM FOR BLISTER MACHINES



Vision Inspection Systems and PAT tools

Harleblister is the colour vision system for blister control

SEA Vision is a pioneer of vision systems for the control of blisters. It develops **reliable and innovative** solutions for the complete control of the correctness of products within the blister and of the packaging.

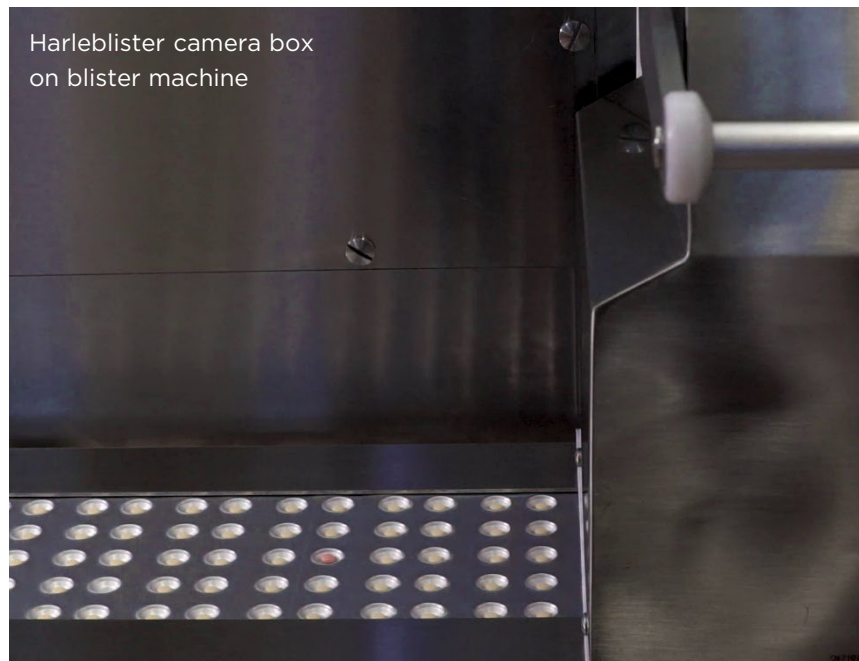
Control over
100% of the
products

Optimal controls
over any
product and
material

Operations
executed in real
time

High precision

Perfect machine
integration and
reject
management



Harleblister camera box
on blister machine

Harleblister is
complete,
reliable and
customizable

Harleblister is the vision inspection system **specific for blister machines**: designed to check every aspect of the product and the packaging, it identifies any type of defect, giving the machine the input to reject non-compliant products.

Capable of **controlling 100% of the product during the packaging process**, guaranteeing maximum production quality, **eliminating any mix-up risk** in order to preserve the health of the final user. It is designed to minimize rejections, limiting them to only the products that are non-compliant with absolute precision and reliability.

Harleblister can be installed on any type of blister machine currently present on the market **without impacting the production speed**, integrating itself perfectly thanks to its automation logic. The **in-house developed algorithms** are entirely proprietary and the dedicated instructions allows a smart use of the latest generation of hardware resources and guarantees **real time control** to harleblister, measurable in milliseconds.

In order to guarantee a perfect control for each specific application, material or machine configuration, harleblister is equipped an **optimal combination of optics and LED illuminators** according to the specific product.

Materials

Optimal controls over each product and material

There no solid oral product or thermoformable material that harleblister cannot control. The result is always optimal.

Harleblister can control all **oral solid products**:

- White and coloured tablets
- Uncoated tablets and pills
- Capsules - monochromatic
- Capsules - bicolored
- Soft-gel Capsules

Harleblister can handle **blisters of various materials**:

- Transparent PVC
- Opaque PVC
- Amber PVC
- Polypropylene
- PVDC
- Aluminium/Aluminium



Blister filled with tablets and capsules



Controls

Control every detail of your production

Harleblister executes the **inspection over 100% of the production** and is capable of detecting all possible defects on solids, all thanks to the wide range of controls that it offers. From the **correctness** and **integrity** of the single product until the **completeness** and **defectiveness** of the blister packaging: All **controls are customizable** and can be performed singularly or in simultaneous executions.

The system is designed to detect differences in size, form and colour, even minimal ones. Thanks to the **multiproduct management**, it is also possible to perform controls on products that are different between each other within the same blister.

QUALITY CONTROLS ON PRODUCT (tablet, capsule)

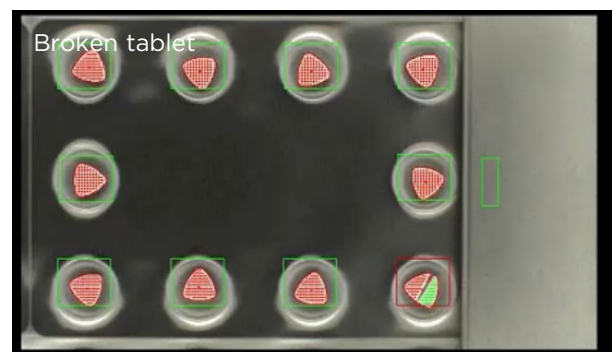
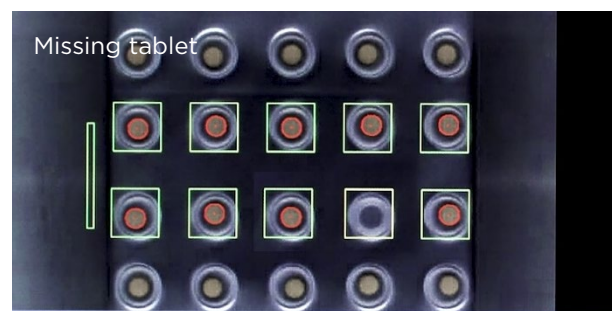
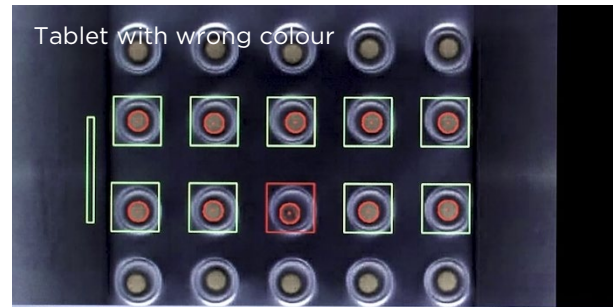
- Size
- Colour
- Form
- Integrity (split tablet, open capsule, presence of fragments or other)

CONTROLS ON BLISTER

- Verification of the correct number of products in the blister
- Presence of products in the cavity
- Presence of dust or impurities
- OCV/OCR control for the printed data on the cover material
- Code control (barcodes, 2D and alphanumerical codes) on the cover material
- Printing quality (PQV - Print quality verification) on the cover material
- Alucode (cover material verification)

OTHER CONTROLS

A wide experience matured in over 25 years allows the Harleblister to perform a large number of additional controls thanks to the **programmable measures tool**. An example? The verification of a text or of a logo printed on the tablet.



Software

Software features

The system is based on the use of cameras for the acquisition of product images which the software elaborates in **real time** by performing complex search operations, measures and comparison with reference models and tolerances. Depending on the result, the system **automatically communicates the rejection signal** for wrong products to the machine.

The design method is of the upmost importance for the productivity of the entire system: fast, reliable, harleblister is equipped with **smart algorithms** that takes full advantage of the installed hardware in order to severely **reduce the elaboration time** of the images, guaranteeing a **precise and secure result** at all times.

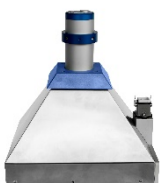
The development of **proprietary algorithms** significantly **reduces the image processing time**. The **spatial and temporal parallelization** of operations allows the efficient utilization of every CPU core and thread, resulting in **significant computing performance improvements**.

The elaboration time of the calculation is measurable in milliseconds and allows harleblister to perform controls **without effecting the machine speed** in any way.

The display clearly shows the results of every single control in real time, allowing the operator to have a **complete set of production data** that is always under control.

The **wizard** function makes the configuration of new controls quite simple: It guides the operator with step-by-step instructions through the programming of new formats and work articles in a simple and clear manner.

The system is **expandable** and additional controls can also be integrated at later time.



OCV|OCR camera



Blister
control camera



Display 15,6"

Hardware

Hardware features

Excellent software requires proper hardware. SEA Vision uses only **latest generation** components, such as **industrial computers** with **multicore, multithreaded** processors that are fully utilized by **proprietary algorithms** and instructions.

The optics and the illumination systems are specifically designed and assembled to adapt to the requested controls and to the specifications of the machine they are integrated into, always guaranteeing an optimal result.

The image acquisition is quick and precise with an optimized lighting management.

All used displays are touch-screen with an optimized interface that increases usability and interaction.



Wave | Industrial PC

Machine integration

Perfect machine integration, result of a wide experience.



Box with colour camera and LED perimeter illuminator



OCV|OCR control camera



Alucode control camera

A perfectly integrated solution

SEA Vision is a **pioneer in control vision systems** for blister control. Across 25 years, over **1700 systems** have been installed worldwide on blister machines produced by a wide range of manufacturers across over 70 countries.

Such a **wide and matured experience** guarantees a **correct machine integration**, an **accurate signal exchange** management and integrated automation and **rejection logics**.

Harleblister can be integrated on different machines, from those that are completely automated or semi-automated to modules with a low automation level.

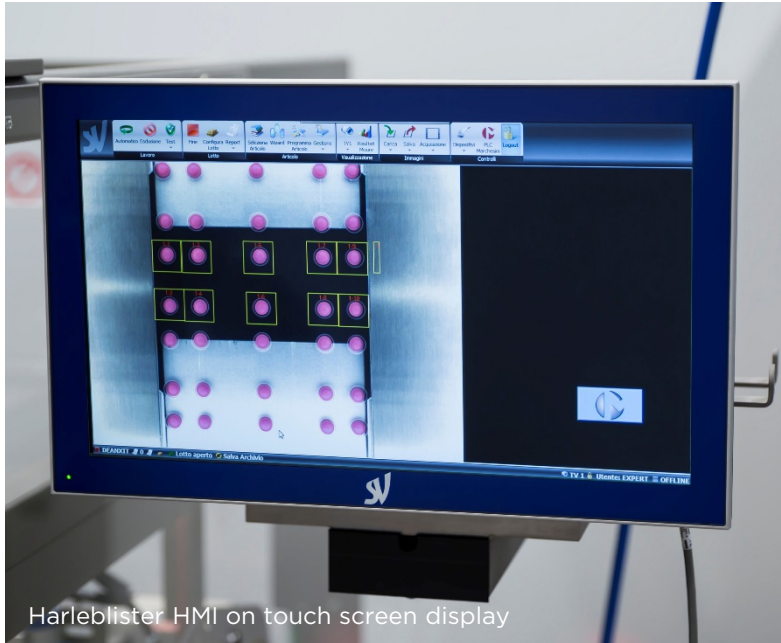
The **graphical oscilloscope** allows the observation of signal patterns and to keep them under control, facilitating the diagnostical operation.

The entire process is handled efficiently, from the execution of the control to the rejection of the defective product.

Configurability

Wizard function

Thanks to the wizard function, the configuration of the control to execute on the product is simple and can be performed even by an inexperienced user that lacks programming knowledge.



Harleblister HMI on touch screen display

The optimized touch display makes for a simple and intuitive use.

Compliance

Pharma specific

Specifically designed for the **pharmaceutical field**, the system is **entirely compliant** to all industry regulations.

User access is regulated in accordance with the FDA regulation 21 CFR part 11.

All events are registered in an audit trail file.

Software development is compliant with the Gamp 5 regulation.



Native integration with SEA Vision systems

Harleblister is a solution that natively integrates with trackability systems and with Yudoo, the 4.0 software suite for the centralized production management.





Via Treves, 9 E Pavia (Italy)
Ph. +39 0382 529576



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