

SGCD Deco 26

Solutions for Vision Inspection on Glass Products



DeCoSystem Srl

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Our History

Designer and manufacturer of inspection solutions for all type of printed products since 25 years

Based in Calenzano (Italy): 50 people including 40 expert engineers and technicians

Over 4,000 systems running worldwide

Subsidiaries in Germany, in France and in China

2 service technicians based in USA

2009: first SPECTRO system for decorated glass control

Constant innovation and development policy



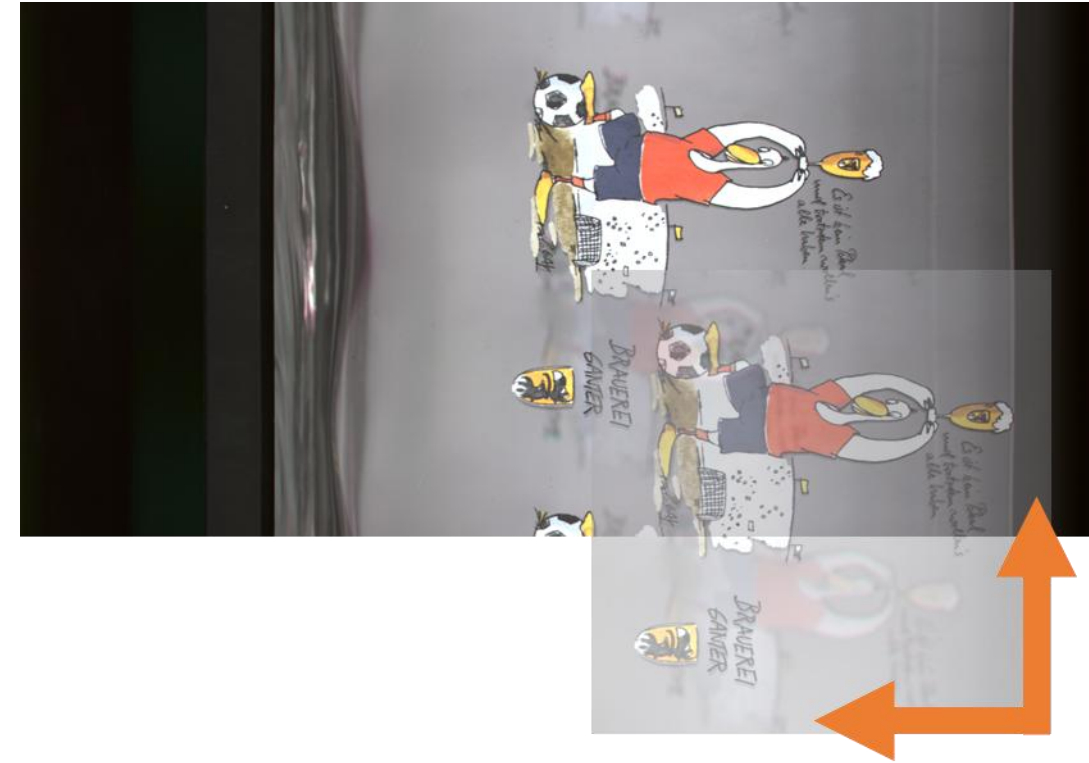
Camera Inspection

The process of defect detection relies on:

The comparison of an image coming from an “approved” reference sample against images coming from the running production and acquired after the last step of the decoration process.

Differences between the 2 images are filtered using tolerances.

If the differences are too big it generates a reject, otherwise the inspected product is accepted and remains in the production line.



Camera Inspection

Why using 100% inspection ?

- To match decoration equipment speed
- To control each object with the same parameters
- To lower operators mental load
- To prevent bad parts delivery to end customer
- To minimize costs
- To improve efficiency
- To help equipment troubleshooting
- To keep track of decoration data

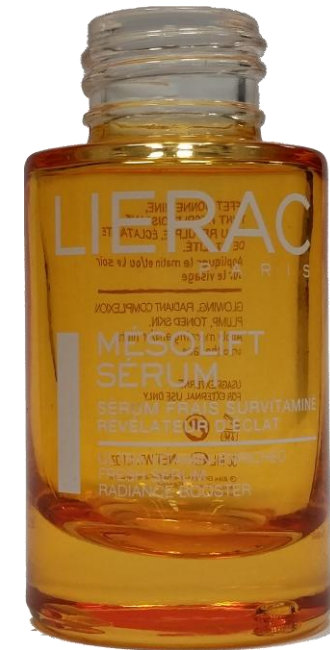
Camera inspection is a complete process



Glass Inspection

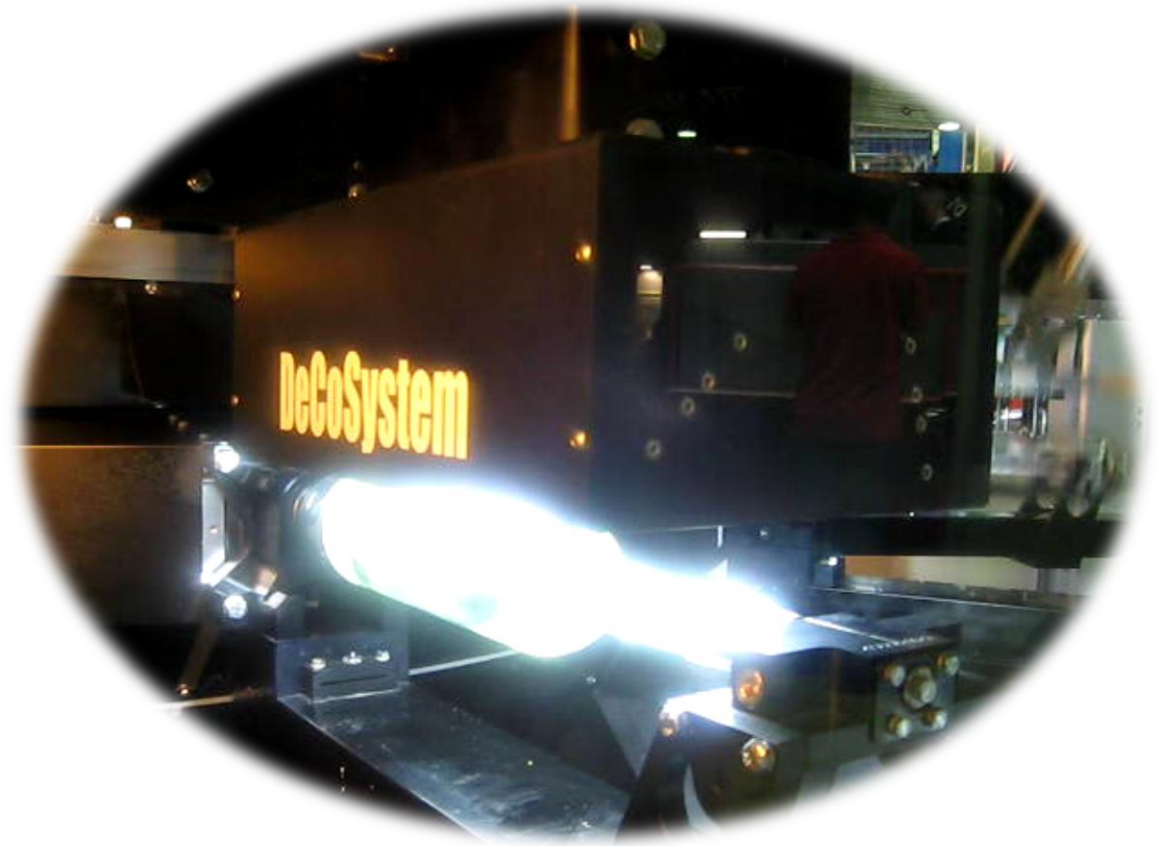
Challenges for glass camera control:

- Light reflection
- Transparency
- Wall visibility
- Odd shape



Decorating processes controlled by SPECTRO:

- Screen Printing
- Hot Stamping
- Pad Printing
- Coating & Lacquering
- Laser Engraving
- Inkjet
- Pressure Sensitive Labels and Decals



SPECTRO Solution



Line Scan or Area Scan Color Cameras
For Integration Inside or Outside
Printing Equipment

SPECTRO Solution

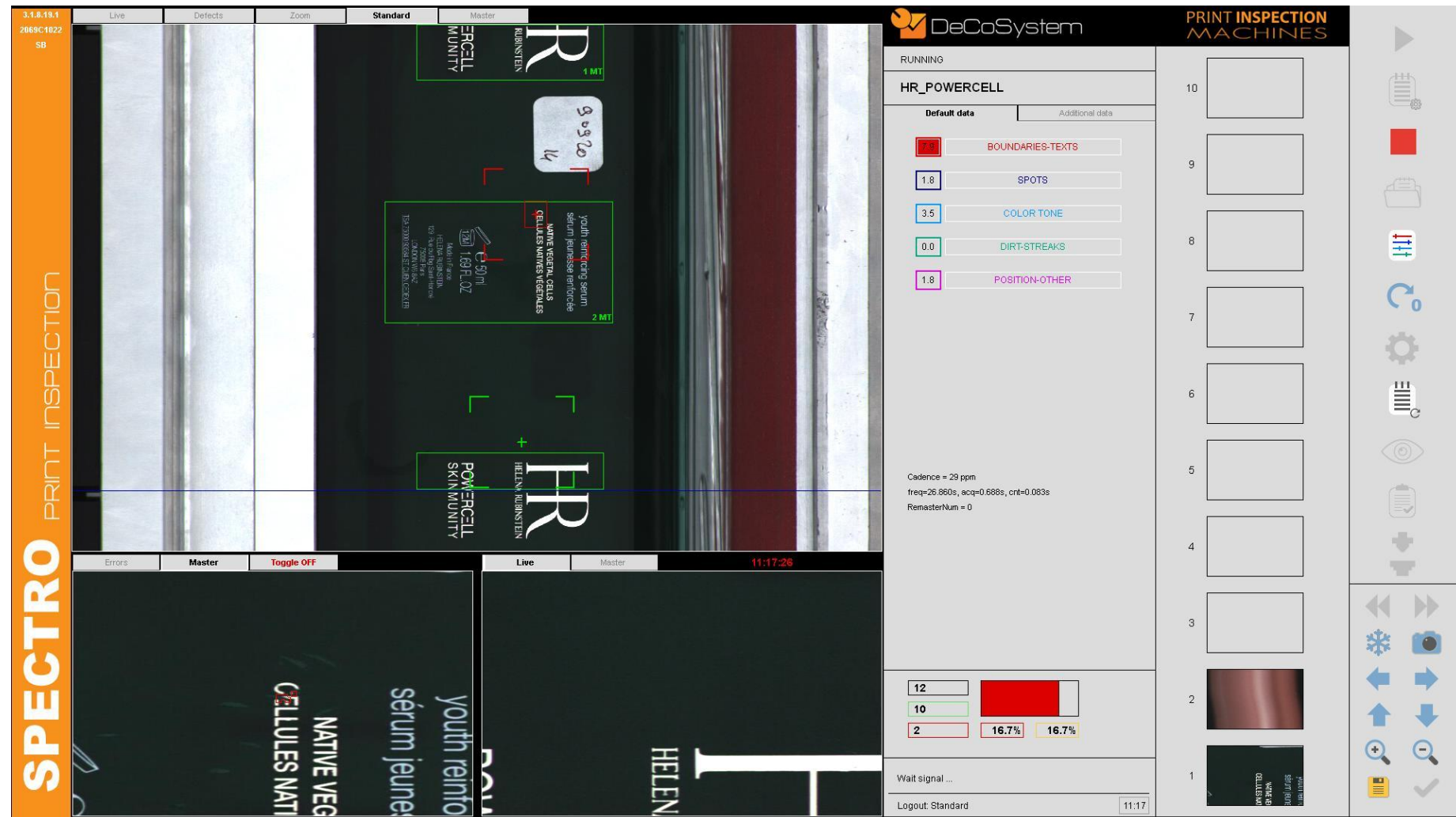
SPECTRO Standard Features:

- Quick Setup
- Multiple Control Areas (Square, Round, Polygonal)
- Independent Sensitivity Levels
- Pdf Production Reports Including Events
- Exclusion Areas
- Remaster Function
- Detailed Reject Rates
- Alarms
- Secured Access Levels
- Multiple Communication Protocols



SPECTRO Solution

SPECTRO User Interface:



The SPECTRO User Interface is a comprehensive tool for print inspection. It features a central live inspection window with a 'Standard' and 'Master' comparison overlay. The interface includes a top status bar with '3.1.8.1913', '2069C1022', and 'SB'. A left sidebar displays 'SPECTRO PRINT INSPECTION'. The bottom section shows 'Errors', 'Master', and 'Toggle OFF' tabs. The right sidebar contains a 'RUNNING' status, 'HR_POWERCELL' title, and a 'Default data' section with settings for 'BOUNDARIES-TEXTS' (1.8), 'SPOTS' (1.8), 'COLOR TONE' (3.5), 'DIRT-STREAKS' (0.0), and 'POSITION-OTHER' (1.8). A vertical column of 10 empty boxes is on the far right. The bottom right corner shows a color calibration bar with values 12, 10, and 2, and a 'Wait signal ...' status.

Top Status Bar: 3.1.8.1913, 2069C1022, SB

Left Sidebar: SPECTRO PRINT INSPECTION

Central Live Inspection: Shows a printed circuit board with text: "youth reinto", "sérum jeune", "NATIVE VEG", "CELLULES NATI", "HELEN", "POWERCELL", "SKIN MUNITY", "HR", "RUBINSTEIN", "CELL MUNITY", "RUBINSTEIN", "youth reinto", "sérum jeune", "NATIVE VEG", "CELLULES NATI", "HELEN", "POWERCELL", "SKIN MUNITY", "HR", "RUBINSTEIN", "CELL MUNITY", "RUBINSTEIN".

Right Sidebar:

- RUNNING**
- HR_POWERCELL**
- Default data**
 - BOUNDARIES-TEXTS: 1.8
 - SPOTS: 1.8
 - COLOR TONE: 3.5
 - DIRT-STREAKS: 0.0
 - POSITION-OTHER: 1.8
- Additional data**
- Color Calibration:** 12, 10, 2, 16.7%, 16.7%
- Wait signal ...**
- Logout: Standard**
- Time:** 11:17

Bottom Section: Errors, Master, Toggle OFF

SPECTRO Optional Capabilities:

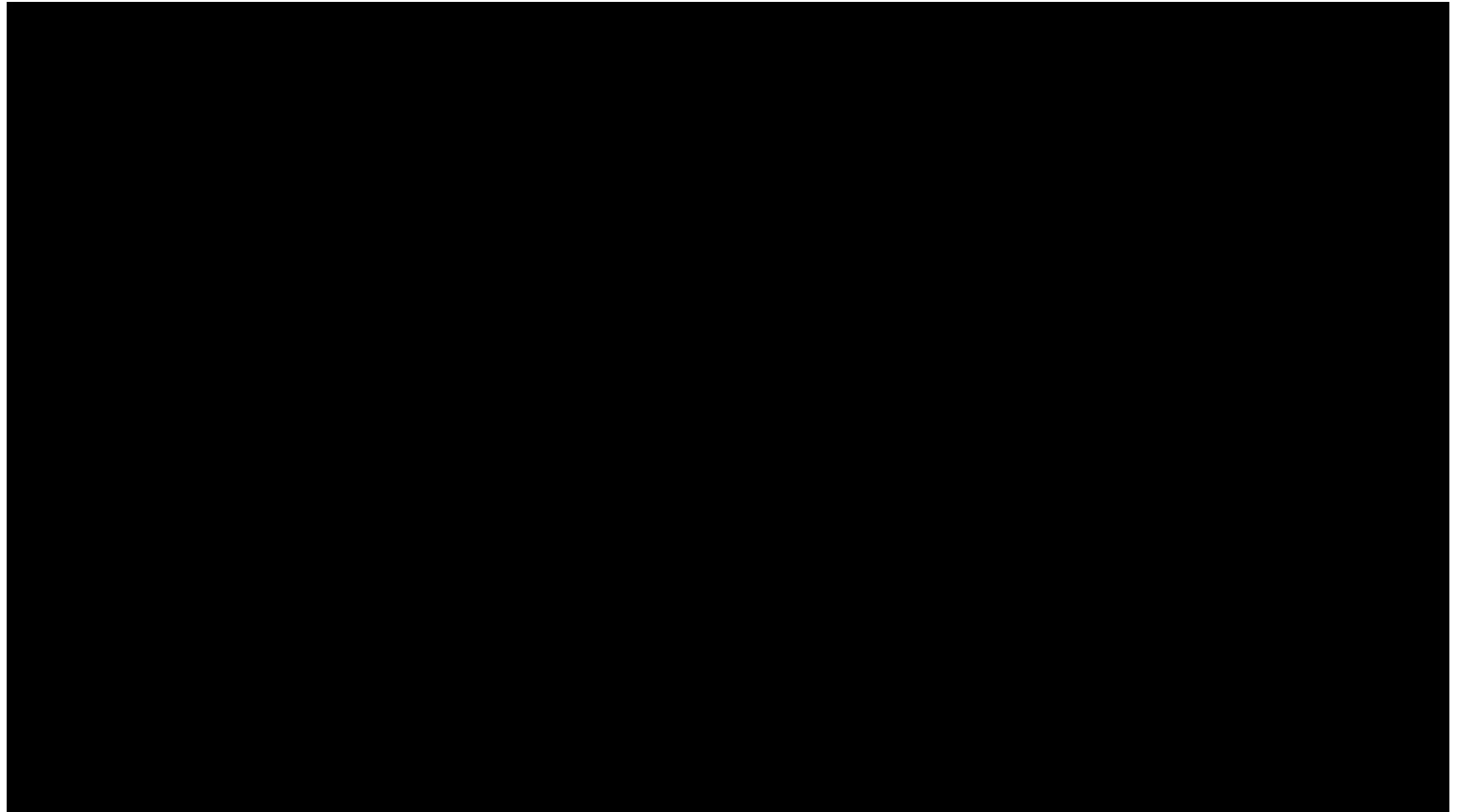
- 1D and 2D code reading and grading
- UV Light
- Derotation Algorithm
- Ghost Setup
- Multiple Brightness Acquisition Mode
- Servo Driven Camera Angular Adjustment



SPECTRO Stand Alone Modules

MULTIPLUS GLASS

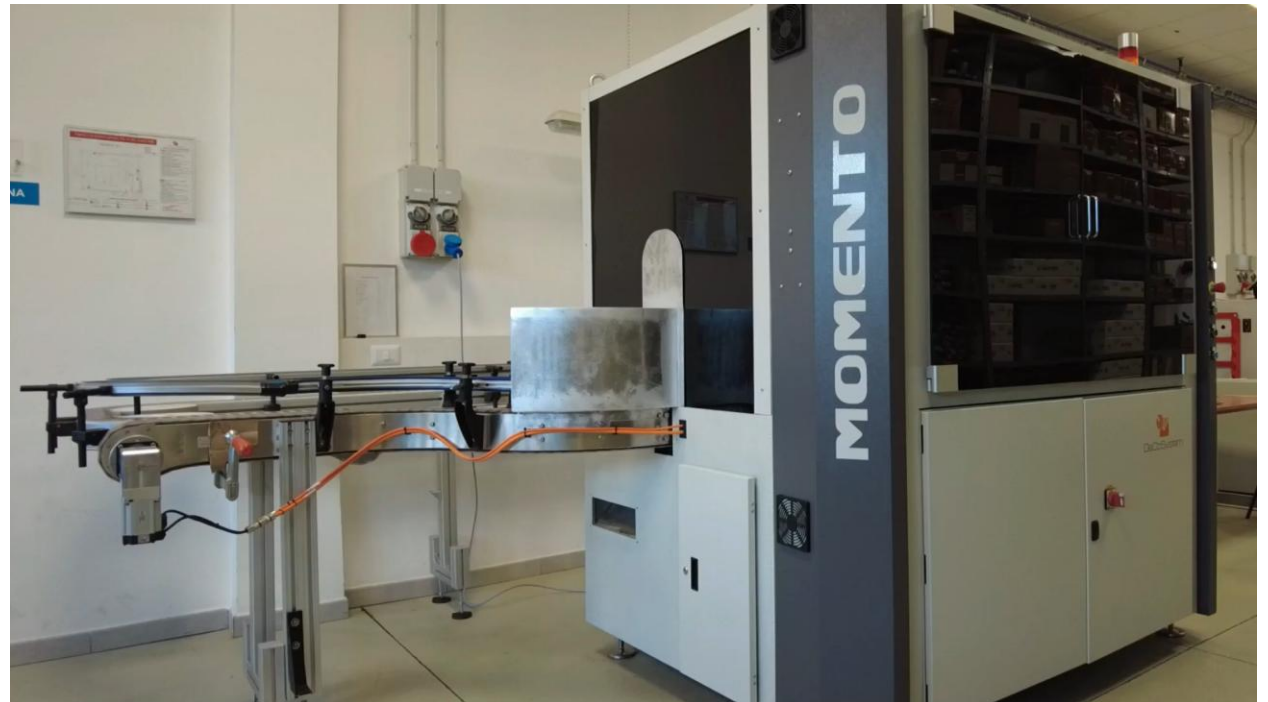
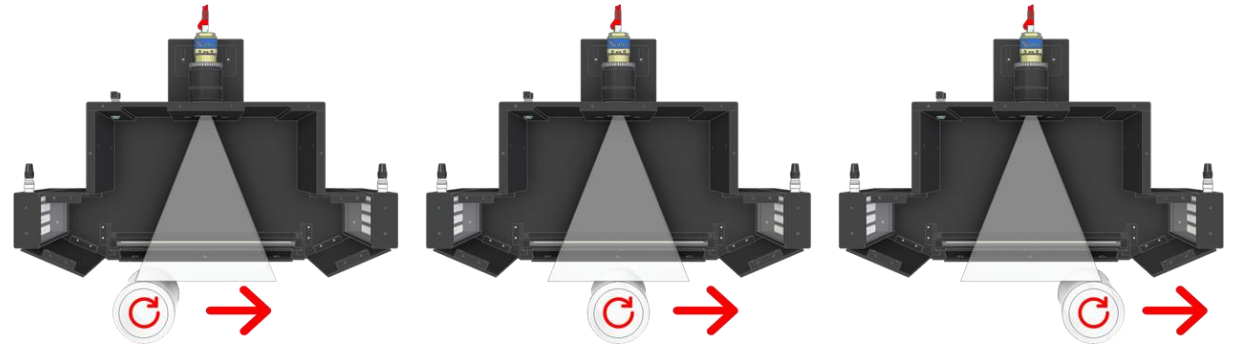
- For bottles, jars, mugs, glasses
- Round, oval or square
- Servo driven with grippers
- Diameter 25 to 80 mm
- Height 50 to 100 mm
- Installation over existing conveyor
- Up to 55 ppm



SPECTRO Stand Alone Modules

MOMENTO BEVERAGES

- For round beer and soft drink bottles
- Bottle diameter up to 80 mm
- Bottle height up to 220 mm
- Artwork Height up to 160 mm
- Up to 400 ppm

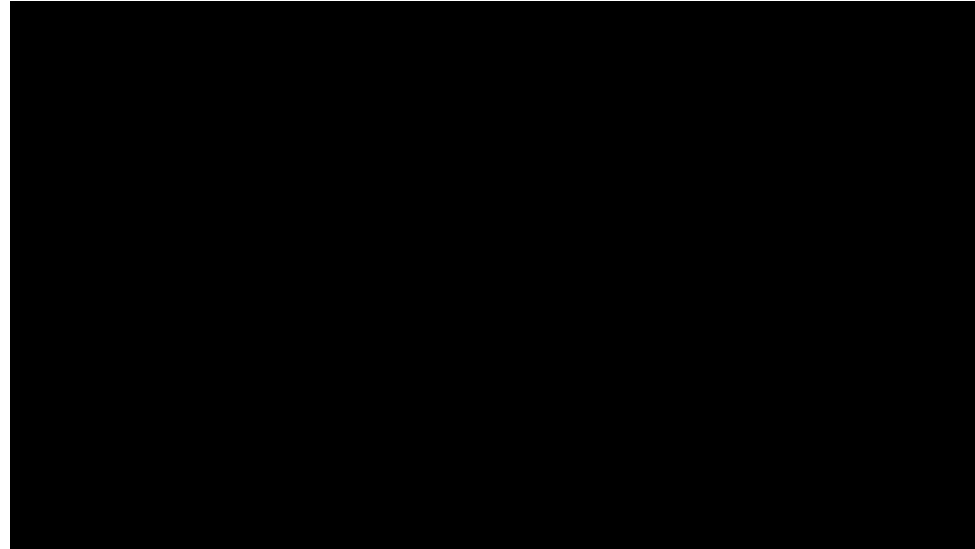
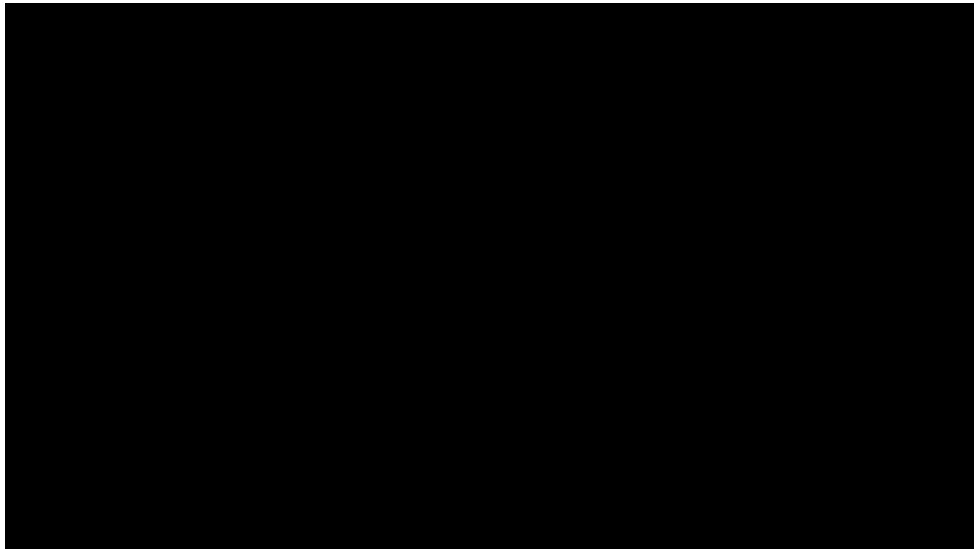
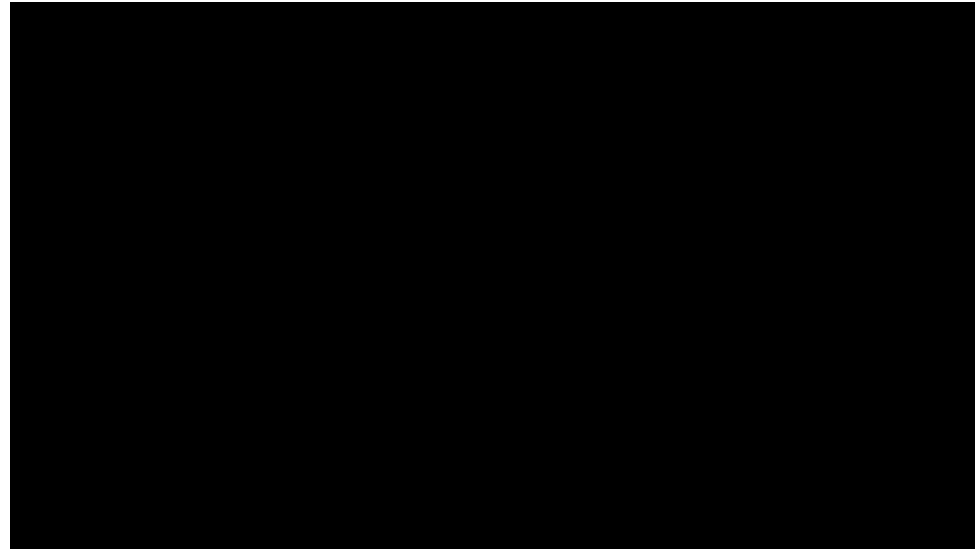


SPECTRO Stand Alone Modules

MOMENTO other applications

Up to 80 ppm

- Spirit Bottles
- Drinkware
- Plastic Bottles
- Others



SPECTRO Supervision

GPR (Global Production Report):

- Real Time Systems Monitoring
- Web Interface
- Statistics
- Defect History & Analysis
- Production Alarms
- Shift & User Management
- Data Backup on Server



METRUM Bottle Measurement Capabilities:

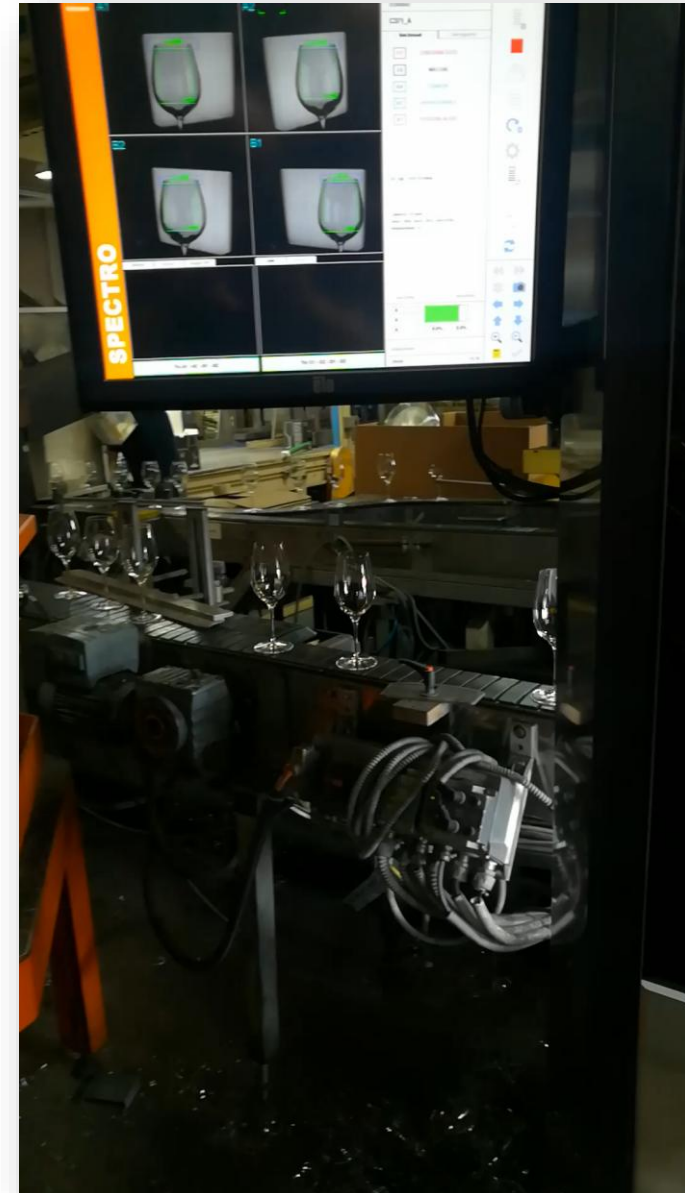
- Neck Internal Diameter
- Bottle & Neck Height
- Bottle & Neck Diameter
- Threads External Diameter
- Others Depending on Bottle Design
- Optional Module for Grain of Rice Control

METRUM

Inspection system
for glass cosmetic bottles

METRUM & SPECTRO Combined Module

- Designed for Drinkware
- Bowl Surface Control
- Rim Control
- Stem Diameter / Centering / Perpendicularity
- Foot Diameter
- Foot/Base Connection



End User References

GERRESHEIMER

LUMSON
COSMETIC PACKAGING INDUSTRIES

SAVERGLASS

monvera
Glass Decoration

KOA GLASS

SAHM


BERGIN
SCREEN PRINTING & ETCHING


Signature Label

 **PAVISA**

Zignago Vetro



STOELZLE GLASS GROUP

VERESCENCE




rastal


arc

STANPAC

 **HEINZGLAS**
family-owned since 1622

 **vitro**

ArdaghGlass 


POCHET DU COURVAL

BORMIOLI LUIGI
GLASSMAKER

RITZENHOFF

 **Pasabahce**


ŞİŞECAM


sérigraphie
CUSTOM DECORATOR



DeCoSystem
PRINT INSPECTION MACHINES

QUESTIONS & COMMENTS



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THANK YOU



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