



ANTARES VISION
GROUP **BEVERAGE**

BOTTLING LINE

REFERENCE GUIDE





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 **ANTARES VISION GROUP** BEVERAGE

WEBSITE
ftsystem.com



 **YouTube**





ANTARES VISION
GROUP **BEVERAGE**

The next-gen of digitalization
for products and supply chains

Our journey continues towards technological excellence,
guided by **one shared vision** and the mission to **accelerate technological innovation**
and digitalization by **connecting the physical and digital world** with the **integrated value chain**.

We aim to **protect and create value** for **brands, governments** and for all the **people**,
to **improve the quality of life**.

TRACK AND TRACE

Serialization and aggregation solutions

QUALITY INSPECTION

Quality control for products, packaging and printing

DIGITAL FACTORY

Performance and efficiency in manufacturing

SUPPLY CHAIN TRANSPARENCY

End-to-end supply chain digitalization and end user connectivity

SERVICE

360° support, 365/24 assistance

TECH

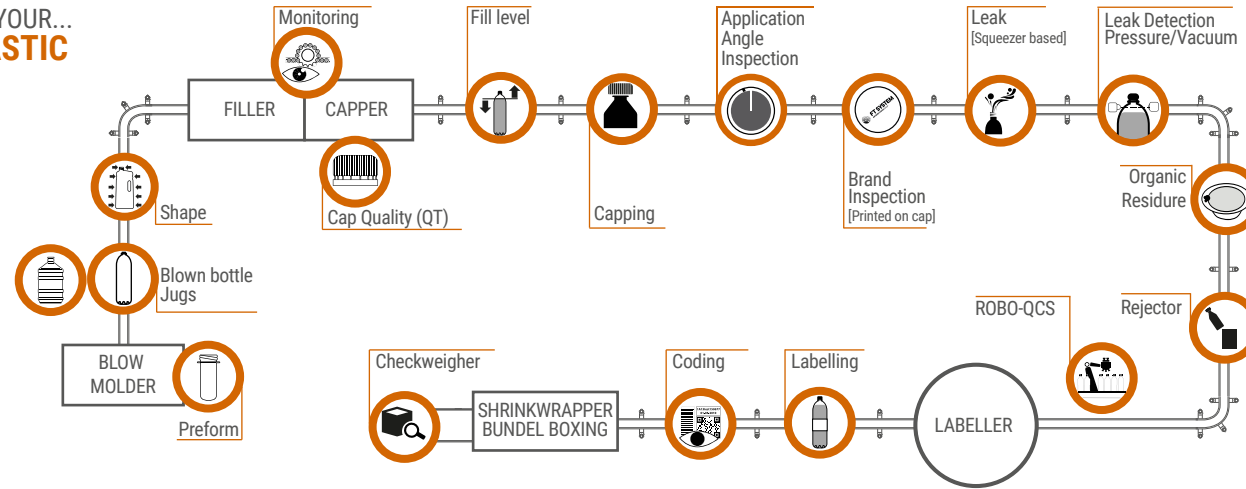
FT SYSTEM
ANTARES VISION GROUP

Since 1998, FT System has developed technologies and competence in inspection aimed to guarantee the quality control of beverage products and packaging. Expertise and technologies that continue within Antares Vision Group

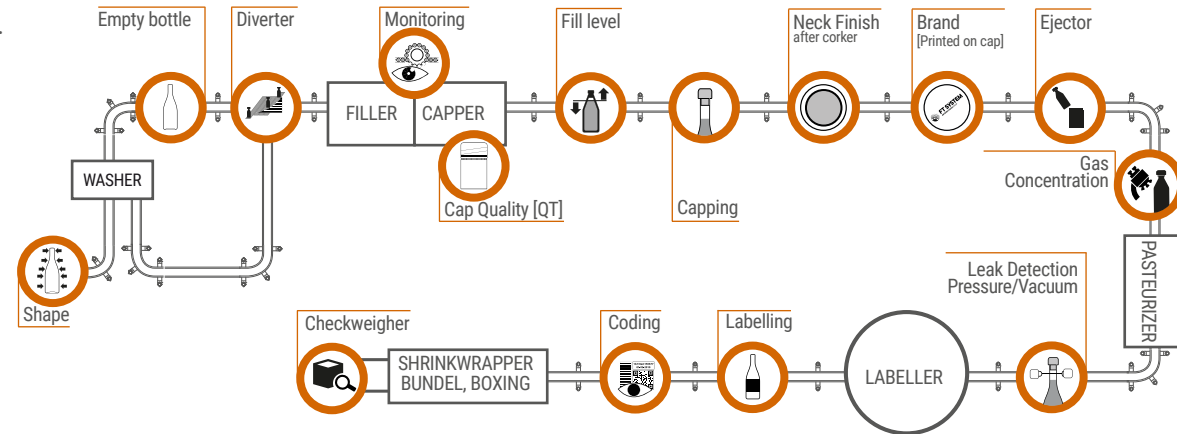
CHOOSE YOUR SOLUTION

COMPLETE RANGE OF INSPECTION AND TRACKING SYSTEMS to ensure the high quality of your product, optimize your production, and reduce costs

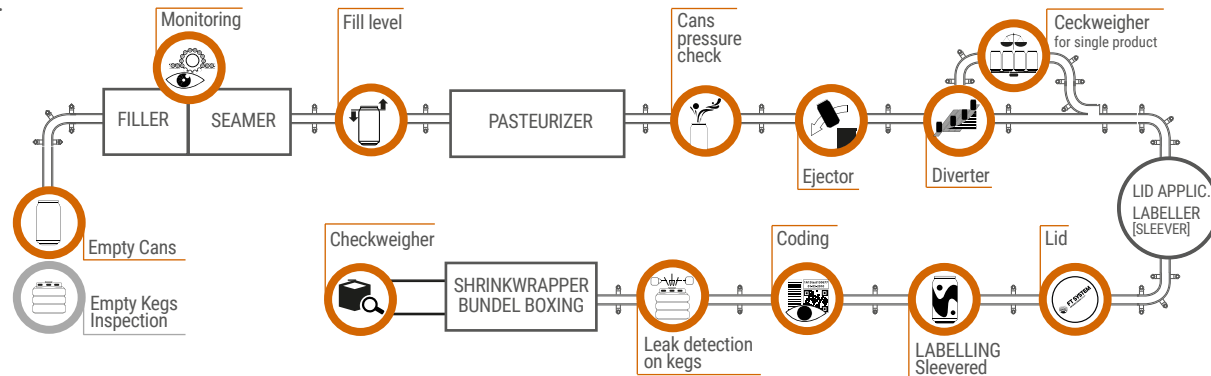
FOR YOUR... PLASTIC LINE



FOR YOUR... GLASS LINE



FOR YOUR... CANS LINE



Ask us about...

- **Serialization**
- **Aggregation**

FOR YOUR... LABORATORY NON-DESTRUCTIVE ANALYZERS



EVO-CO2
Total pressure
CO2 Partial pressure
CO2 dissolved



EVO-O2
O2 concentration
[NON pressurized products]



EVO-TRACE
Very low concentration of CO2



EVO-N2
Total Pressure
[Nitrogen dosed products]



EVO-V
Vacuum level
[Hot-filled and pasteurized products]



EVO-P
O2 concentration
CO2 concentration
[Bags & Trays]

Lead your digital transformation in the production process

Take smarter, data-driven decisions to increase profit

- Control the entire production process
- Identify bottlenecks in the production process
- Facilitate a continuous improvement process by measuring your line Overall Equipment Effectiveness (OEE)
- Support the lean manufacturing processes by analyzing production and supplier quality
- Optimize your production scheduling
- Improve your preventive maintenance and introduce predictive and prescriptive maintenance
- Measure your carbon footprint
- Empower your factory intelligence utilizing artificial intelligence



End-to-end supply chain digitalization

Discover the power of data to enable safe product journeys across your supply chain

- Trace everything in your supply chain forward and backward, from raw materials to finished goods
- Ensure product quality and safety
- Optimize recall management and investigations with high-quality granular data that can be accessed instantaneously
- Mobile app to track any batch, movement, and handler and add critical tracking events and key data elements at any location
- IoT-enabled monitoring to see products in real time and collect unit-level data about 12+ environmental conditions
- Comply with regulations requiring transparency, traceability, and modernization
- Meet consumer demand for demonstrable product provenance, product information, and sustainability
- Seamless interoperability with all your trading partners

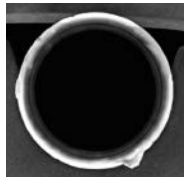




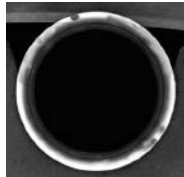
PREFORM QUALITY INSPECTION

QB/QP/QF/IB/OP Series [VA]

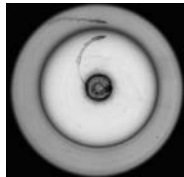
Ideal to ensure the quality the preform before the blowing process.
The inspection system come in different configurations, which are proposed depending on the type of the preform to be inspected and the line type



Acquisition Ex.
Ring defect



Neck finish defect



Internal defect



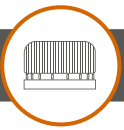
Walls defects



STANDARD INSPECTION

[depending on configurations]

- ✓ NECK FINISH insp.
 - Ovalization
 - Deformations
 - Foreign objects
 - Blemishes
- ✓ NECK RING insp.
 - Dimensional defects
 - Blemishes
- ✓ BOTTOM AND INTERNAL WALLS insp.
 - Foreign objects
 - Pin holes
 - Breaking in the injection point
 - Bubbles or deformations
- ✓ EXTERNAL WALLS insp.
 - Foreign objects
 - Deformation
 - Pin holes
 - Bubbles

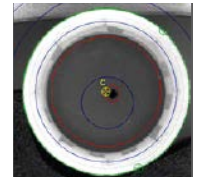


CAP QUALITY INSPECTION

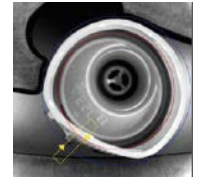
QT700-IoT Series [VA]

Ideal to ensure the quality of closure before the capping process to reduce both the number of jams along the line and rejects produced during the capping phase.

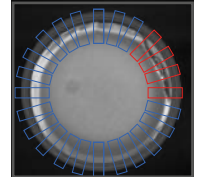
TECH FT SYSTEM
ANTARES VISION GROUP



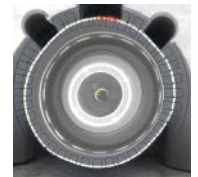
FLAT Cap



SPORT Cap



FLAT Cap with FOIL



ROPP Cap

STANDARD INSPECTION

[depending on configurations]

- ✓ INTEGRATED IN CAP CHUTE
(recommended for Flat cap, cap having an irregular upper surface such as sports caps-cap, etc.)
 - Product compliance
 - Up-side down cap
 - Ovalization
 - Security Ring defect/absence
 - Sealing ring defect/absence
 - Foreign objects
 - Brand inspection
 - Color inspection
- VACUUM CONVEYOR BELT [OPTIONAL Configuration] (1 or 2 additional side cameras)
 - Broken Ring
 - Defect in the bridges of the ring
 - Cap/Ring Shape defects
- Available the configuration integrated in the Arol "Flex" cap elevator
- ✓ ON TOP OF THE POCKET SORTER
(recommended for ROPP cap or similar)
 - Product compliance
 - Up-side down cap
 - Ovalization
 - Spout presence/integrity



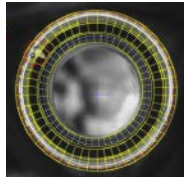
EMPTY BOTTLES INSPECTION

IV700/1000-IoT Series [VA | HF/RX]

Ideal to ensure the compliance and quality of empty containers before the filling process. It reduces the number of jams and rejects due to the presence of contaminants, imperfections or defects in the empty bottles.



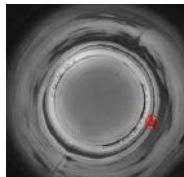
WALL defect



Neck finish defect



Thread defect



BASE foreign body

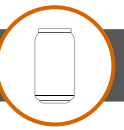
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STANDARD INSPECTION

[depending on configurations]

- ✓ BOTTLE SHAPE verification at machine infeed
 - ⦿ Detection of broken or damaged containers
 - ⦿ Bottles/Containers height ccheck
- ✓ NECK FINISH insp.
 - ⦿ Scratches, bubbles, Surface defect
 - ⦿ Deformations, Ovalization, wrong diameter
 - ⦿ Foreign objects, dirt, ...
- ✓ THREAD insp.
 - ⦿ Scratches, bubbles
 - ⦿ Integrity
- ✓ BOTTLE BASE insp.
 - ⦿ Foreign objects
 - ⦿ Cracks, holes
- ✓ SIDEWALLS insp. DOUBLE MODULE [Inlett - Outlet]
 - ⦿ Bottles shape matching
 - ⦿ Bubbles, cracks
 - ⦿ Foreign objects, dirt, ...
 - ⦿ Deformations [slating neck, bird wings, ...]
 - ⦿ Scuffing detection
- ✓ RESIDUAL LIQUID det.
 - ⦿ Depending to the liquid are available different technologies [High Frequency, Infrared, Xray]

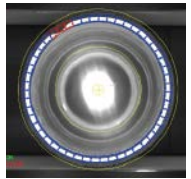


EMPTY CANS INSPECTION

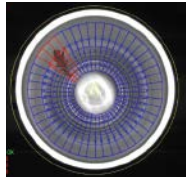
I0700-IoT Series [VA]

Ideal to ensure the quality of empty cans before the filling process. The system improves final product quality and reduces the number of jams and rejects due to the presence of imperfections, dimensional defect or foreign bodies inside the cans.

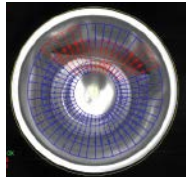
TECH FT SYSTEM
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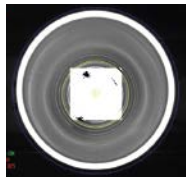
FLANGE defect



WALL foreign body



Acquisition Ex. WALL defect



Application Ex. BASE foreign body

STANDARD INSPECTION

[depending on configurations]

- ✓ FLANGE insp.
 - ⦿ Defects and deformations
 - ⦿ Ovalization
 - ⦿ Up-side down can
 - ⦿ Damage
- ✓ BOTTOM AND INTERNAL WALLS insp.
 - ⦿ Foreign objects
 - ⦿ Damages
- ✓ RESIDUAL LIQUID det.
 - ⦿ Washing residual liquid detection



FILL LEVEL INSPECTION

CL600/700-IoT Series [HF | RX | IR | VA]

Ideal for detecting the fill level of the containers for brand protection and prevent legal disputes due the distribution of non-compliant products. Different technologies available, as high frequency, X-ray, infrared technology or artificial vision, to assure maximum accuracy also in case of foam presence.



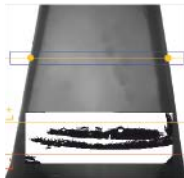
High-Freq. Conf.



Foam compensation system



X-Ray Conf.



Artificial vision based



700-IoT Series

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High Freq. 600 Series



X-ray 600 Series

STANDARD INSPECTION

[depending on configurations]

✔ **FILL LEVEL DETECTION**

- Reject for underfilled containers
- Reject for over filled containers

✔ **STATISTICAL DATA**

- [referred to the production]
- Fill level average
- Fill level standard deviation

✔ **FOAM Management [Optional]**

- Foam presence detection
- Foam compensation

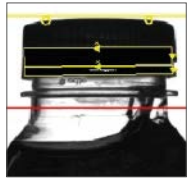


CAP INSPECTION

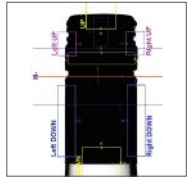
IT700-IoT Series [VA]

Ideal to ensure the quality and the conformity of capping. It prevents market claims due to incorrect closure of filled containers, distribution of products not intact, for example bottles not properly sealed, breakage of the security ring or non-compliant/incorrect printed logo on cap, lid.

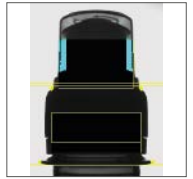
TECH FT SYSTEM
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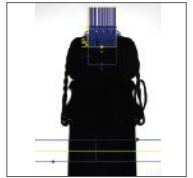
FLAT cap



ROPP cap



SPORT cap



MASHROOM cap

STANDARD INSPECTION

[depending on configurations]

✔ **CAP PRESENCE**

- ✔ **PRODUCT COMPLIANCE**
- ✔ **CAP INTEGRITY**

✔ **CAP POSITIONING**

- ✔ **SECURITY RING INTEGRITY**

✔ **BRAND INTEGRITY AND**

- ✔ **CORRESPONDENCE**
[DEDICATED OPTIONAL CAMERA]



BLOC MONITORING

[FILLERS AND CAPPERS]

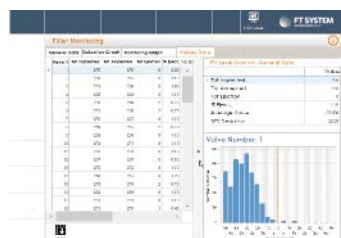
A combination of sensors and softwares for the analysis and processing of the data collected. When combined with a level control and cap inspection, it enables an immediate and intuitive evaluation of the performances of filling and capping machines, thus detecting the precise causes of the inefficiency of the filling and capping processes.



Ex: Statistics and Line performance [most relevant data]



Ex: Filler statistics [Single filling valve performance]



Ex: Capper statistics [Single capper head performance]

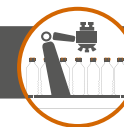


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STANDARD INSPECTION

[depending on configurations]

- ✓ SINGLE VALVE AVERAGE FILL LEVEL
- ✓ SINGLE VALVE FILL LEVEL STANDARD DEVIATION
- ✓ RECAP OF COUNTS FOR EACH FILL VALVE [NUMBER OF ACCEPTED AND REJECTED BOTTLES, DIVIDED BY REJECTION CATEGORY]
- ✓ RECAP OF COUNTS FOR EACH CAPPER HEAD [NUMBER OF ACCEPTED AND REJECTED BOTTLES]



ROBO-QCS

QUALITY CONTROL SYSTEM

An innovative automatic robotic system to monitor the quality of products. In a single analysis platform can be carried out simultaneously non-destructive inspections as weight and volume control, torque and application angle, non-destructive gas concentration measurement based on laser spectroscopy and microleaks detection between cap and preform. The product is automatically taken and reintroduced on the line by robotic system. The essential data and calculation of the statistical index concerning the optimization of filling and capping process (CP and CPK) are read promptly.

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Patented picking system detail



Fill volume measuring



Torque and closure angle



Real-time visualization of analysis results



STANDARD INSPECTION

[depending on configurations]

- ✓ FILL VOLUME
- ✓ TORQUE TEST
- ✓ APPLICATION ANGLE TEST [Pull-Up insp.]
- ✓ CP and CPK [Capability Process Index]
- ✓ OPTIONAL Measurements
 - Leak test
 - CO2 content analysis
 - Internal pressure measure
 - CO2 partial pressure
 - CO2 dissolved in the liquid



LEAK DETECTION FOR PLASTIC CONTAINERS

TB2000-IoT

Ideal for the detection of leaks in plastic containers.. This system is based on a patented technological platform. It checks the pressure and measures the filling level, combining the results into a single value for the maximum precision of the inspection. This system is available in different configurations. Different technologies of level control can be used according to the type of container and product.



Principle - Phase 1
Filling Level
measurement



Principle - Phase 2
Calibrated compression
[dedicated side belts]



Principle - Phase 3
Pressure measurement



Automatic data analysis
for reliable leak detection

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STANDARD INSPECTION

[depending on configurations]

CLOSURE TIGHTNESS

MICROHOLES
ON BOTTLE NECK AREA

UNDER/OVER
PRESSURE



LEAK DETECTION FOR CANS

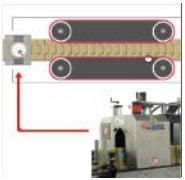
TB5000-IoT [Also available VP600/700-IoT Series AS/PX]

Ideal to ensure product compliance with the quality standards checking internal pressure in closed containers. A complete range of “sensor based” solutions for the pressure/vacuum inspection in order to identify leaks or non compliant products. The technology, structure and sensor technology will change according to the container and closure kind.

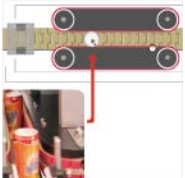
TECH FT SYSTEM
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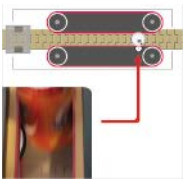
Principle - Phase 1
Filling Level
measurement



Principle - Phase 2
Dynamic belts guide
for cans positioning



Principle - Phase 3
Pressure measurement



Automatic data analysis
for reliable leak detection



AVAILABLE SOLUTIONS

[Standard model/configurations]

VP600-AS
[ACOUSTIC SOUND TECHNOLOGY BASED]

VP600-PX
[INDUCTIVE PROXIMITY TECHNOLOGY BASED]
 LEAK DETECTION
 VACUUM PRESENCE CHECK
 PRESSURE PRESENCE CHECK

TB5000
[INDUCTIVE PROXIMITY TECHNOLOGY BASED + X-RAY/HF]

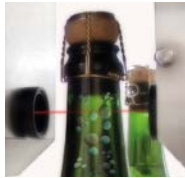
LEAK DETECTION
 CORRECT PRESSURE CONTROL
 FILL LEVEL CONTROL



LEAK DETECTION

Based on laser spectroscopy PCS700-IoT Series

Innovative in-line application of laser spectroscopy technology to detect leaks by the direct measurement of internal pressure/vacuum degree in the headspace of bottles. This inspection is completely independent of the type of closure and container and works at full speed line.



Application Ex.
Classic Method wine



Application Ex.
Beer



Application Ex.
Nitrogen added



Application Ex.
hot-filled/pasteurized



STANDARD INSPECTION

[depending on configurations]

LEAK DETECTION

CORRECT INTERNAL PRESSURE



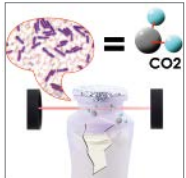
GAS CONCENTRATION MEASUREMENT

Based on laser spectroscopy PCS/SDS 700-IoT

The system measures the concentration of a gas (CO₂, O₂, H₂O gas, etc) within a bottle or any another type of sealed container (without any contact with the product). The inspection is based on laser spectroscopy technology and ensures the correct gas concentration of measurement O₂, CO₂, or N₂ in a sealed container.



Application ex.
in-line Oxygen
measurement



Application ex.
In-line fermentation
control



very easy settings
Automatic wizard tools



Graphical visualization
of acquired values/trend

STANDARD INSPECTION

[depending on configurations]

OXYGEN Configuration
Targeted on wine

O₂ CONCENTRATION
MEASUREMENT

CO₂ TRACE Configuration
Targeted on Milk Based products [babys]
and nutraceutical products

CO₂ CONCENTRATION
MEASUREMENT
 VERY LOW CO₂ CONCENTRATION
DETECTION



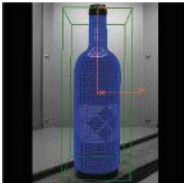
3D FULL LABEL INSPECTION

IE4000-IoT Series [VA]

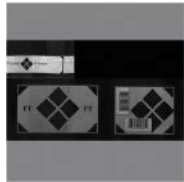
Easy, complete and modular. The IE4000-IoT allows to inspect any type of labelling, at full speed line of production and without the orientation of the containers. This system guarantees the perfect image of each single product, and it monitors the performances of the labeler, alerting in case of anomalies before generating rejections. The picture is based on a 3D model. The modularity of the software allows to enhance the protection degree by adding just the inspection modules you need.



Principle - Step1
4 camera acquisition



Principle - Step2
real 3D model



Principle - Step3
real surface
unwrapping



Full analysis
tools



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STANDARD INSPECTION

[depending on configurations]

- LABEL PRESENCE
- LABEL MATCHING
- LABEL POSITIONING
(VERTICAL, HORIZONTAL, ROTATION)
- LABEL AXIALITY [BETWEEN LABELS]
- OPTIONAL: EMBOSS-LABEL AXIALITY

- 2D CODE READING [BARCODE, DATAMATRIX, QR-CODE]
- CODE INTEGRITY [LOT, EXPIRATION DATA, OTHER ALPHANUMERICAL]
- OCR - CODE READING [LOT, EXPIRATION DATA, OTHER ALPHANUMERICAL]
- LABEL SURFACE ANALYSIS
 - INTEGRITY [MISSING PART, DEFECT, HOLE, FOLDS/WRINKLES, ...]
 - DETAILS [ALCOHOL CONTENT, YEAR, LOGOS, ...]
- CAPSULE/CAP CHECK [COLOR, VERTICAL POSITION, ...]



CODE INSPECTION

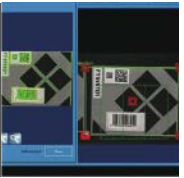
IC700-IoT Series [VA for OCR/OCV]

Ideal to ensure the fully compliance and reading of 2D (Barcode, datamatrix, ...) and alphanumeric codes (lot, expiration date, etc.), printed on the body of the container, on the cap or on the label by means of vision systems.

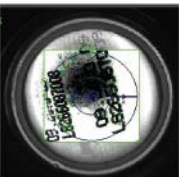
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Laser printed
codes



Printed code
reading



Specific conf.
Ex. cans base



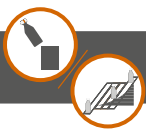
OCR on label
and containers

STANDARD INSPECTION

[depending on configurations]

- PRESENCE
- MATCHING
- POSITIONING
- INTEGRITY

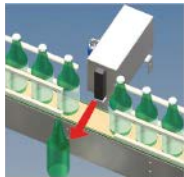
- 2D CODES READING [BARCODE / DATAMATRIX / QR-CODE]
- OCR / OCV - ALPHANUMERIC CODES READING
[LOR CODE / EXPIRATION DATE / SERIAL N. / ...]



Z100 Series | Z200 Series [Push]
Z00X Series [Diverter]

EJECTORS DIVERTERS

Ideal to ensure the rejection or the deviation towards specific channels of non-compliant products, destined to analysis laboratory or particular working cycles.



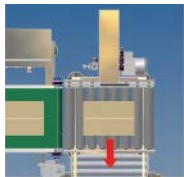
Principle
Ejector (mono-push)



Principle
Diverting systems



Stand Alone config.
[Ctrl Unit + Eject. Tab.]



Configuration
Diverter for heavy prod.

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STANDARD INSPECTION

[Standard model/configurations]

☑ MONO-PUSH EJECTORS

☑ MULTI-FINGERS DIVERTERS

WEIGHT CONTROL

CP600/700-IoT Series [TP / TCX]

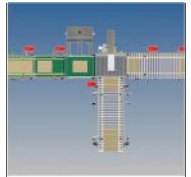


Ideal to ensure the presence of all the elements and containers inside the final package. It verifies that the final and packed product has the correct weight, avoiding the shipping of packages containing foreign objects through dynamic measurement by means of industrial load cells.

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In-line
example



Full optional
configuration



Optiona insp.
Label and code
reading on case/box



Optional
wet case detection

STANDARD INSPECTION

[depending on configurations]

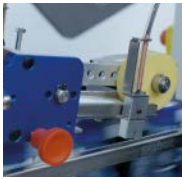
☑ TOTAL WEIGHT OF THE FINAL PACKAGE
☑ AVERAGE WEIGHT OF THE PRODUCTION

☑ STANDARD DEVIATION OF THE WEIGHT
OF PRODUCED PACKAGES
☑ OVER FILLED OR UNDER FILLED FINAL
PACKAGING



SERIALIZATION AND AGGREGATION

Track & Trace solution maintains lifetime traceability and fulfill industry requirements demanding different regulatory compliance in order to crack down on counterfeits, deter parallel production and protect the consumer. It uses advanced technologies to guarantee the whereabouts of each product entering the supply chain. The integrity of your products is safeguarded by issuing serialization identifiers on to each saleable item and aggregation for box and pallets. This digital passport enhances your brand protection and optimizes production line efficiency and recall management.



Config.
in-line Label
Application



Config.
in-line direct
printing



in-line
Code Reading
system



Acquisition
example



TECH FT SYSTEM
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STANDARD INSPECTION

[Standard model/configurations]

- ✓ SERIALIZATION
- ✓ AGGREGATION
- ✓ REWORKING MANAGEMENT
- ✓ UNIQUE DIGITAL IDENTITY FOR EVERY PRODUCT
- ✓ COMPLIANCE WITH EU REGULATIONS AND DIRECTIVES

- ✓ OPTIMIZE RECALL MANAGEMENT
- ✓ COMBAT COUNTERFEITING AND GREY MARKETS
- ✓ CONSUMER ENGAGEMENT
- ✓ SUPPLY CHAIN TRANSPARENCY



LABORATORY PRESSURE / VACUUM

EVO-01 CO2 / N2 / V

Non-destructive and non-invasive laboratory instruments used to measure the pressure (total and partial), vacuum and gas concentration measurement (CO2 dissolved, O2 in the headspace, H2O, etc) in closed containers. The system is based on laser spectroscopy technology and the test is simple, fast and repeatable. An unlimited number of tests can be conducted on the same container allowing a quality control in real time or to test new kinds of containers and closures.

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EVO-01 CO2: Beer Ex
[Pressure and CO2]



EVO-01 O2: Wine Ex
[O2 Concentration]



EVO-01 N: LN2 dosed
[Total Pressure]



EVO-01 V: Juice Ex
[Vacuum measurement]

STANDARD INSPECTION

[depending on configurations]

✓ EVO-01 CO2

Ideal for the quality control in sealed bottles filled with carbonated products

- TOTAL PRESSURE*
- PARTIAL PRESSURE, CO2*
- DISSOLVED CO2
- MEASUREMENT TEMPERATURE

* at actual temperature and at 20°C]

✓ EVO-01 O2

Ideal for the oxygen concentration monitoring [Ex. On Vacuum capper]

- O2 CONCENTRATION

✓ EVO-01 N2

Ideal for the pressure measurement in sealed bottles pressurized with nitrogen

- TOTAL PRESSURE

✓ EVO-01 V

Ideal for the vacuum level measurement in containers "on-vacuum" [Hot-filled / Pasteurized]

- VACUUM LEVEL

31 COMPANY SITES

ITALY (7)
[Global Headquarters]
ARGENTINA (1)
ASIA PACIFIC (1)
BRAZIL (1)
CHINA (1)
CROATIA (1)
FRANCE (3)
GERMANY (1)
INDIA (1)
IRELAND (1)
MEXICO (1)
RUSSIA (1)
SERBIA (1)
SPAIN (1)
SOUTH KOREA (1)
UK (1)
USA (7)
[Incl. CANADA]



ANTARES VISION GROUP

The next-gen of digitalization of
products and supply chains

Our mission is to accelerate technology innovation and digitalization by connecting the physical and digital worlds with the integrated value chain. We empower our customers to protect product, profit, people and planet through a comprehensive technology ecosystem: inspection systems for quality control; track and trace solutions for anti-counterfeiting and supply chain transparency; and smart data management tools for maximized efficiency and digitalization of the supply chain, from raw materials to the final consumer.

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ANTARES VISION GROUP BEVERAGE

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