

**TECHNICAL CHARACTERISTICS**

IMAGING PERFORMANCES	CODE READER	EASY CHECK	PRINT QUALITY CONTROL	TOTAL LAYOUT CONTROL
Camera type	B/W area scan camera CCD Gigabit Ethernet	B/W colour area scan camera CCD Gigabit Ethernet	B/W colour area scan camera CCD Gigabit Ethernet	B/W colour line scan camera CCD Gigabit Ethernet
Typical Resolution (pixels)	752x480	1280x1024	1600x1200	4096x1
Available resolution for special applications (pixels)	up to 16 Mega Pixel			up to 16384x1
Analyzer	Real time operating system			
Lighting	High brightness LED			
Image quality optimization through dedicated HW and SW	Yes			
Lighting	Strobo/Continuous			Continuos
Backlight strobo lighting	Optional			-
Imaging and processing speed	100 analysis/minute	250 analysis/minute	500 analysis/minute	25 meters/minute

**SOFTWARE FEATURES**

Inspected products	Leaflets, labels, cartons, tubes, vials, bottles, foils			
Self-learning procedure (wizard)	Yes			
PDF self-learning	Yes			
Multiple reading	Yes			
Number of multiple control areas	Virtually unlimited			
Light auto-adjustment and compensation	Yes			
Tracking of object positioning	Yes			
Threshold tuning from last errors	Yes			
Image errors storage (for threshold adjusting and visual analysis)	10			
Available decoding for 1D and 2D codes	PHARMA CODE, EAN 13, EAN 8, UPCA, UPCE, CODE 32, CODE 39, CODE 128, PHARMA ESTESO, CODE 2/5 INT, Pharmaceutical identification label, Data Matrix ECC200, RSS14, RSS Limited, RSS Extended, PDF417.		PHARMA CODE, EAN 13, EAN 8, UPCA, UPCE, CODE 32, CODE 39, CODE 128, PHARMA ESTESO, CODE 2/5 INT, Pharmaceutical identification label, Data Matrix ECC200, RSS14, RSS Limited, RSS Extended, PDF417.	
Multi-language platform	Yes			
Available languages	English, French, Italian, German, Spanish, other languages available on request			

**INSPECTIONS**

1D and 2D codes, Pharmacode	•	-	•	•
Datamatrix grade evaluation	•	-	•	•
Fixed and variable data (OCR/OCV)	-	-	•	•
Colour presence	-	-	•	•
Printing logo	-	-	-	•
Full printing layout	-	-	-	•
Carton flaps closing	-	•	-	-
Label and seal presence	-	•	-	-
Label and seal correct position	-	•	-	-

**HMI**

Display	Stand-alone 10" or 15" touch screen display or fully integrable in the machine HMI	Stand-alone 15" touch screen display or fully integrable in the machine HMI
Hardware	Solid state disk and custom buttons on panel	

**SECURITY AND VALIDATION**

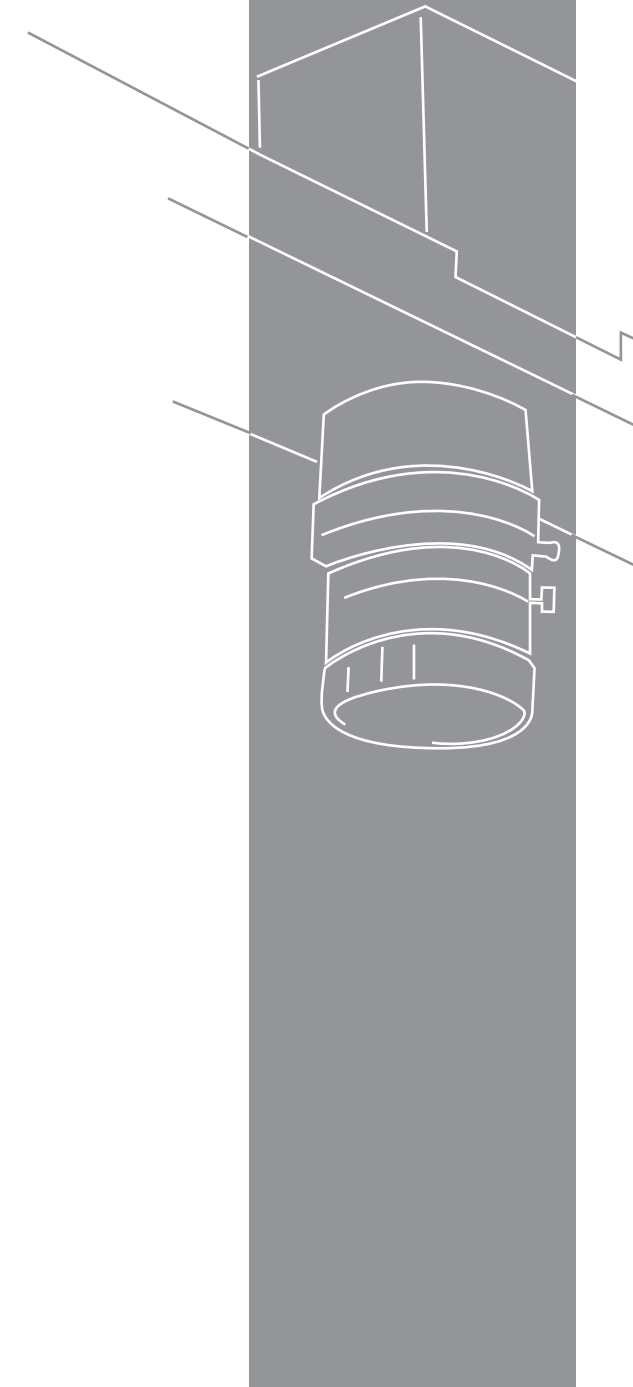
User login levels	Configurable, up to 5 levels
FDA 21 CFR part 11 compliant	Yes
Development according to GAMP 5 rules	Yes

**REMOTE ASSISTANCE**

Remote support through network connection	Yes
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**INTEGRATION ON MACHINES**

Easy integration on existing and new machines and packaging lines	Yes
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UPI

UNIVERSAL  
PACKAGING  
INSPECTOR



# UPI UNIVERSAL PACKAGING INSPECTOR

UPI is a suite of high performance cameras and software modules designed to assure full control of the packaging process in the pharmaceutical industry.

The UPI architecture is completely scalable to match the increasing inspection needs that may arise in time, thus assuring long term investment.

Supported by a wide range of camera models, UPI controls span from the traditional barcode and OCR/OCV verification of variable data such as expiry date and lot number, to the complete inspection of all the packaging, such as right closure of the carton flaps, the presence and correctness of the patient information leaflet, the correctness, presence and position of labels and seals, the on-line print control of the foil.

## TRACK&TRACE READY

More and more packaging lines are being upgraded with Track&Trace capabilities to fulfill emerging regulations. UPI can manage variable data as well as serialized data, therefore beside being natively integrated either with ATS – Antares Tracking System and with the classic and well renewed Antares primary packaging inspectors, it can be integrated in third parties Track&Trace systems. Integration allows to share the same Ethernet network, the same HMI, the same format database, as well as the same configuring philosophy.

## FEATURES AND BENEFITS

### IMAGING TECHNOLOGIES

UPI supports all the main state-of-art imaging technologies to cover all the application needs.

**Area scan cameras:** from VGA resolution to read Datamatrix and OCR/OCV, to high resolution cameras up to 16 MPixel for the most demanding inspections.

**Linescan technology:** Antares has been the first to introduce this technology in the pharmaceutical industry.

Based on a linear sensor synchronized with an encoder, the camera reconstructs the image line by line, while the foil flows under it. A seamless image is therefore reconstructed and the printing on demand foil is continuously inspected. The main advantages of this technology are:

- Extremely high resolution (over 200 dpi)
- Unlimited length of the foil for image reconstruction
- Wide inspection area: multi-camera system can inspect the widest foils maintaining high resolution
- Completely reflection free image: even reflective foils can be inspected without any problem

**Smart cameras:** combine lighting system, processor and vision system in one compact device performing 1D and 2D decoding as well as OCR/OCV, at low cost.

**High performance image processors:** High-resolution and high-speed imaging must cope with state-of-the-art processing technology. Antares Vision developed proprietary embedded technologies for image processing based on a real-time operating system and parallel computing for the most demanding applications.

### MODULAR AND SCALABLE SOFTWARE

Born from the experience gained in various industries including high-speed printing, four software modules to meet all inspection requirements in the packaging line optimizing performances and value for money.

#### Total Layout Control

Designed for 100% control of printed material such as foils, but also cartons, tubes and leaflets depending on the inspection needs.

The high resolution provided by linescan cameras detects even the smallest printing defects, such as the one derived from the clogging of individual nozzles during online printing.

- Available controls: logos, critical printing areas, variable data, OCR/OCV, 1 and 2D codes.
- PDF file import: the reference image can be imported directly from the original PDF file. A special patented algorithm automatically calculates the inspection parameters, discriminating fixed and variable data without any operator programming.
- Automatic detection and tracking of the controlled items: it compensates the physiological deformation of the foil or of the carton, thus avoiding false rejects.
- Typical detected items: spots, stains, smears, poor printing, light or dark lines, missing lines.

#### Print Quality Control

Designed to assure integrity of fixed and variable data and 1&2D codes on packaging materials such as cartons or labels.

- Available controls: serialized, variable and fixed and data, OCR/OCV, 1D/2D code and Pharmacode.
- OCR/OCV: detects missing, mismatched or different fonts comparing with the learning conditions.
- It compensates vertical, horizontal and rotary translations ( $\pm 10^\circ$ ) of the characters to be checked inside the analysis window.
- Reading and recognition reliability with all printing technologies: high-speed digital, flexographic, laser or ink-jet printer, full or dotted font, dark on light background or vice versa, and on any type of support: cardboard, plastic, metal or aluminium.

#### Easy Check

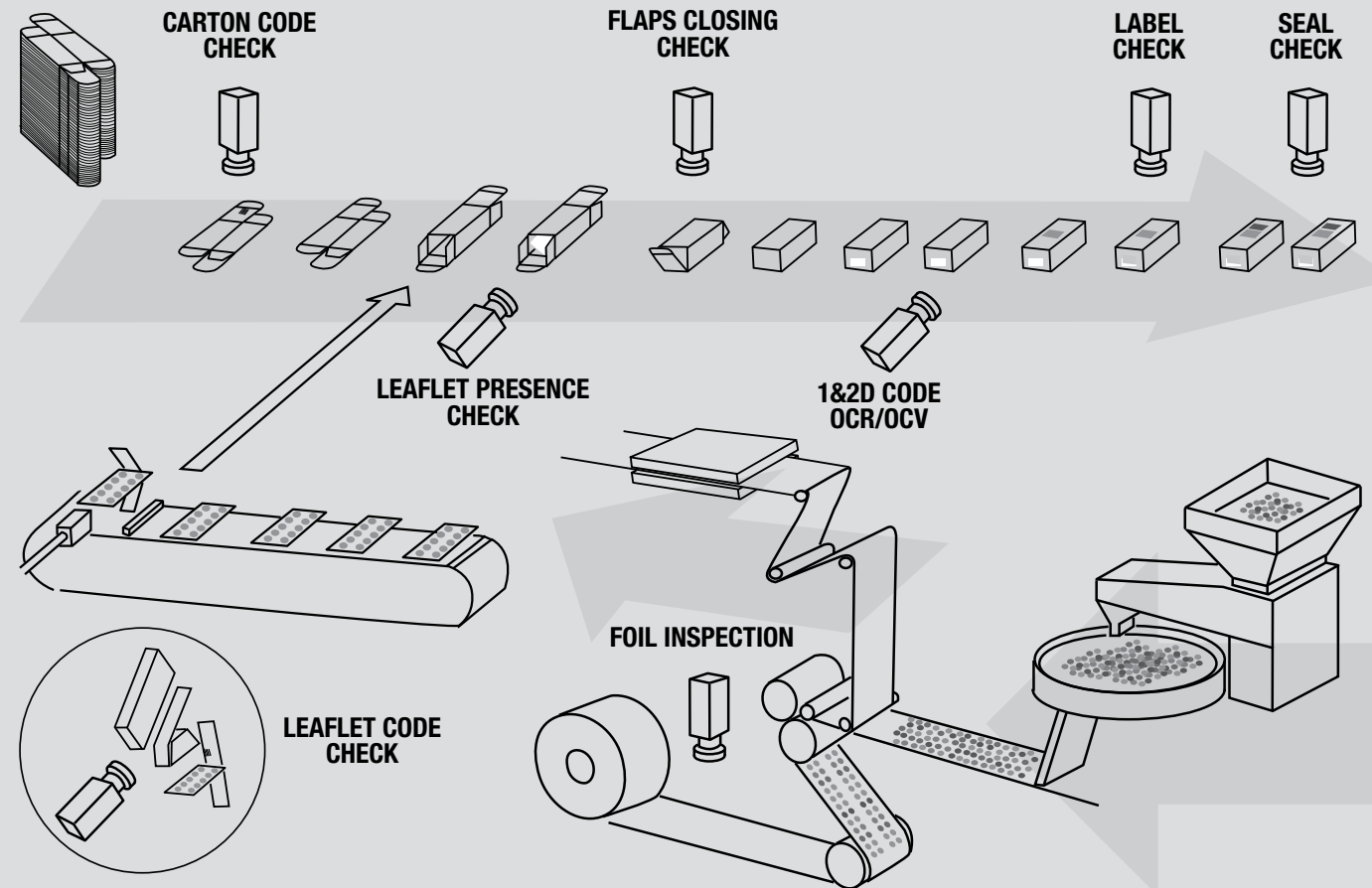
A sophisticated imaging library of algorithms performs the physical controls on the cartons such as:

- Flaps closure: detects not perfectly closed cartons before the next printing stage, avoiding machine jamming and improving the throughput of the Track&Trace process.
- Label and seal verification: it verifies the presence, the correct application and positioning on the carton, within the given tolerances.
- Custom controls can be easily configured according to Customer requirements.

#### Code Reader

The efficient and easy to use software to read all 1D and 2D barcodes, typically coupled with a smart camera, to obtain reliable controls at unbeatable costs.

## TYPICAL PACKAGING LINE LAYOUT



FOIL INSPECTED BY TLC



ROTATING TUBES INSPECTED BY TLC



FLAPS CLOSING CHECK



LABEL CHECK



TAMPER EVIDENT SEAL CHECK



FOIL INSPECTION



PDF IMAGE IMPORT



PRINTED LOGO INSPECTION



CARTON PHARMACODE INSPECTION



LEAFLET PHARMACODE INSPECTION



LABEL INSPECTION



CODES AND OCR/OCV INSPECTION



DATAMATRIX GRADE



SEAL INSPECTION