

Bag-In-Box-Inspection System



Single In-Line Bag-In-Box Inspection

Industrial Park
Shumen 9704 Bulgaria
mobile: +359 (0) 884 889 939
e-mail: office@checkin-bg.com
www.checkin-bg.com



Easy-to-use, flexible Machine Vision System for 100% quality control, guidance, identification and inspection



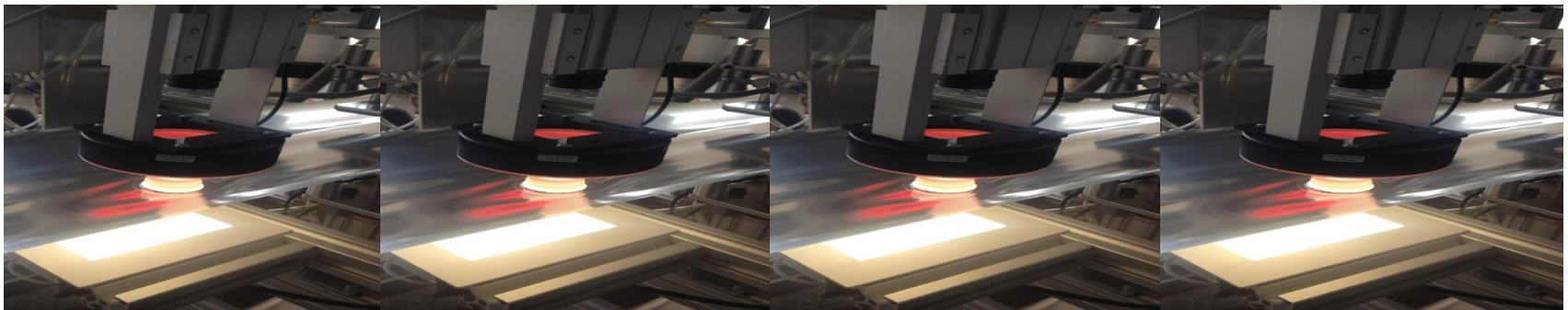
Our engineers developed innovative and fully customized inspection system for Bag-In-Box quality control.

Our Bag-In-Box inspection solution for industrial use creates the perfect basis for reliable and efficient control of processes and product quality.

Improved production quality and guarantee that every Bag-In-Box is 100% inspected using machine vision systems.

Our products are passing through a complete visual quality inspection.

Our vision system helps to deliver superior products to our customers.





System Architecture

Measurement section I:

- BiB horizontal and vertical seals inspection
- BiB size inspection
- BiB contaminations inspection
- Tap and gland position and size inspection
- BiB printed label check

Measurement section II

- BiB gland seal inspection

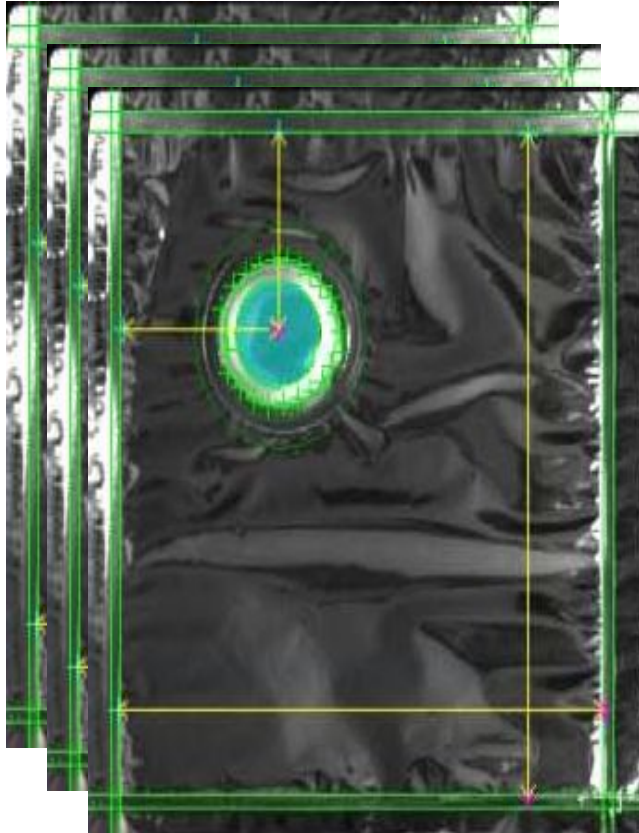
System Control Cabinet:

- the control electronics
- System control display 26"
- System control KBD and mouse



Detected Defects		Detection efficiency EVOH Film	Detection efficiency MET PET film
Horizontal /Vertical Seals			
1	Wrong seal width	100%	100%
2	Bad (contamination included) seal	100%	-
3	Bad seal edges	100%	100%
4	Missing part of seal	100%	100%
5	Seal pin hole min 2mm	100%	-
6	Cold seal	80%	85%
7	Overheated seal	100%	100%
Gland Circular Seal			
1	Wrong seal width	100%	100%
2	Bad (non circular) seal edges	100%	100%
3	Bad (contamination included) seal	100%	-
4	Circular seal concentricity	100%	100%
5	Missing part of seal	100%	100%
6	Cold seal	80%	85%
7	Overheated seal	-	-
Tap presence and Tap to Gland distance deviation			
1	Tap Presence/Absence	100%	100%
2	Tap to Gland distance lower than normal	100%	100%
3	Tap to Gland distance higher than normal	100%	100%
4	Tap wrong orientation(o'clock)	100%	100%
5	Tap wrong position from side view	100%	100%
6	Tap wrong shape and missing parts	100%	100%
Contamination			
1	Dark spots and blobs on the whole bag area	100%	-
2	Lite spots and blobs on the whole bag area	-	100%
BiB Dimensions measurement			
1	BiB dimension A	100%	100%
2	BiB dimension B	100%	100%
3	BiB dimension C	100%	100%
4	BiB dimension D	100%	100%
BiB Printed Label checking			
1	BiB Printed Label Type and Liters OCR / Verify	100%	100%
2	BiB Printed Label time of producing OCR / Verify	100%	100%
BiB Perforation checking			
1	Perforation gaps size	100% *	100% *
2	BiB dimension E	100% *	100% *

* Possible to measure only if the perforation section is before measurement section!



The Single In-Line Bag-In-Box Inspection System model performs automatic Bag-In-Box inspection.

Product type: Transparent and Metalized film.

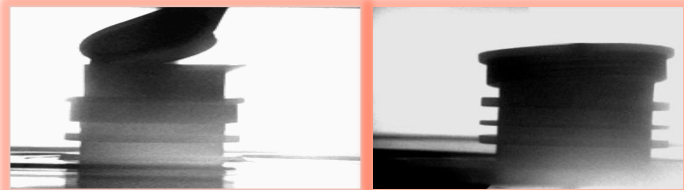
Product size: width up to 640 mm; height unlimited

Production line speed: 30 Bag-In-Box/ min.
0.5 Bag-In-Box/sec.

Groups of inspected defects: Tap Errors, Contaminations, Dimension Errors, Seal Defects.

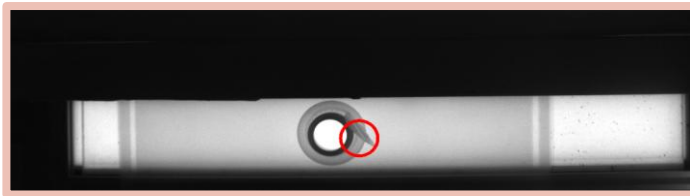
Bag-In-Box films: EVOH Films, METPET Films, LLDPE/MDPE Films

Bag-In-Box taps and glands: Vitop, iTap, SnapCap, White Oil Cap, etc.



Bag-In-Box Tap and Film Common Defects

Tap Error: Tap to Gland distance deviations, improperly placed tap by the tap robot, missing tap occur very often.



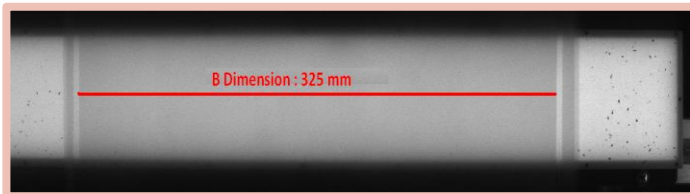
Contaminations

Presence of foreign objects on the bag area occur often.



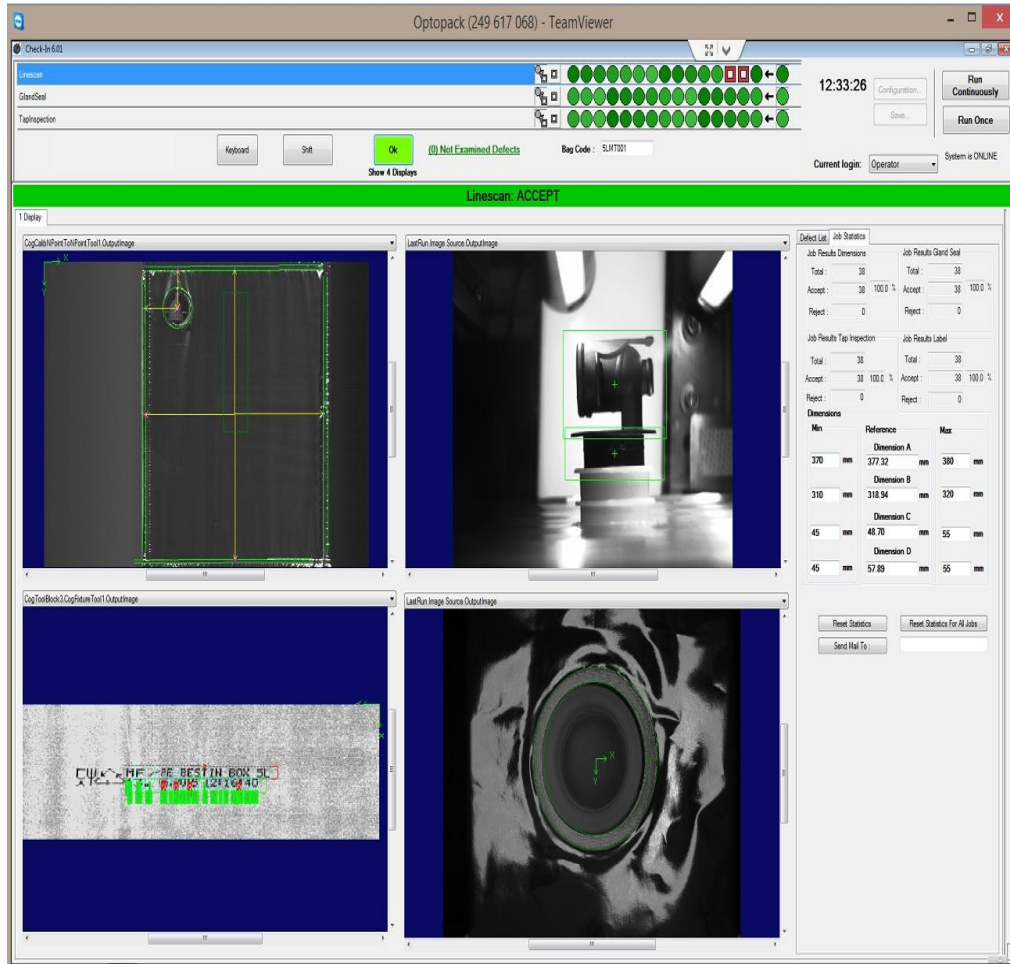
Seal Defects

Presence of foreign object on the Gland Circular seal area, missing Gland Circular seal or parts of it are rare.



Dimension Errors

Dimensions deviation (dimensions out of tolerance) occur often.



Performed quality check:

Dimensions inspection

Contaminations detection

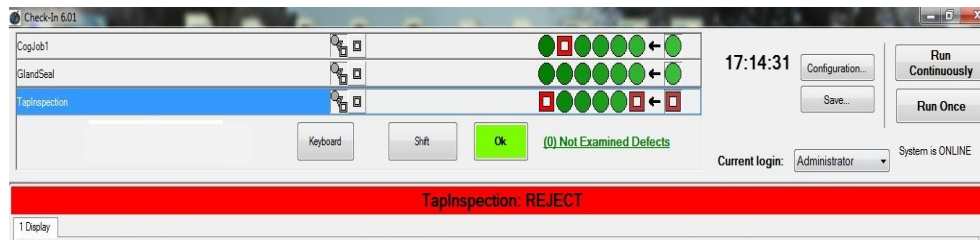
Seal quality inspection

Gland Circular Seal inspection

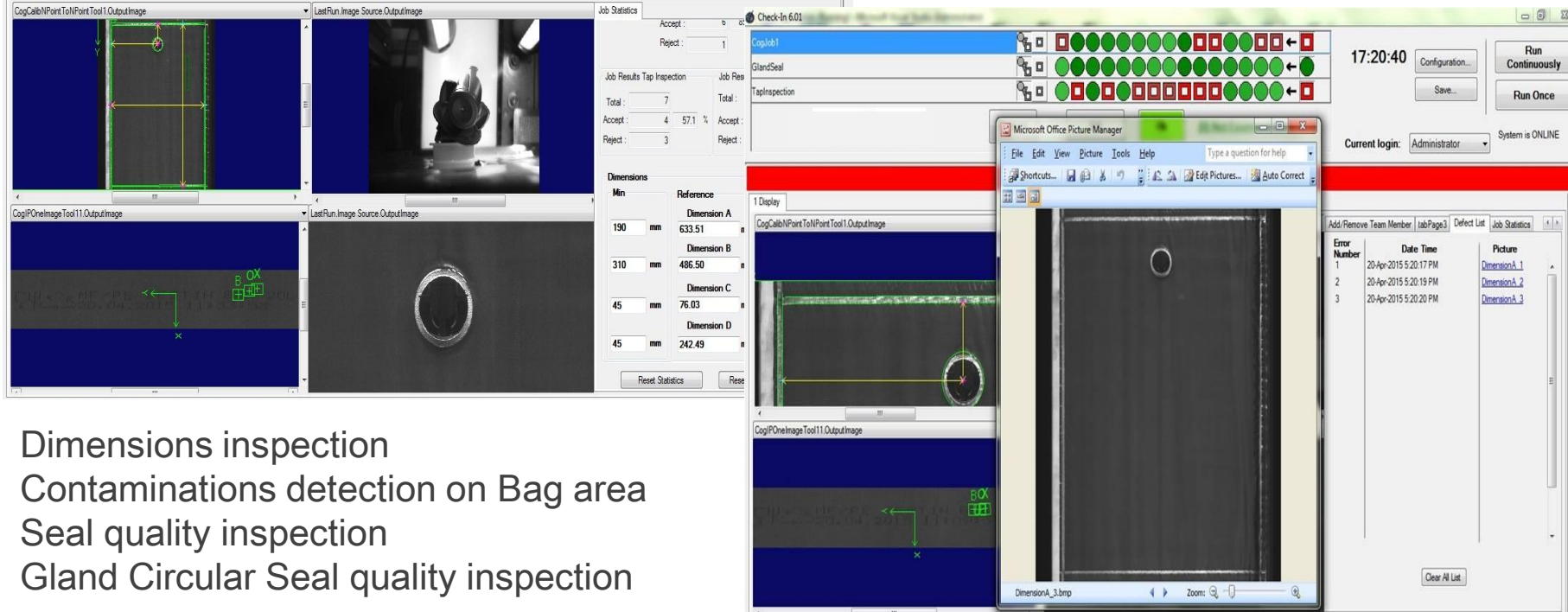




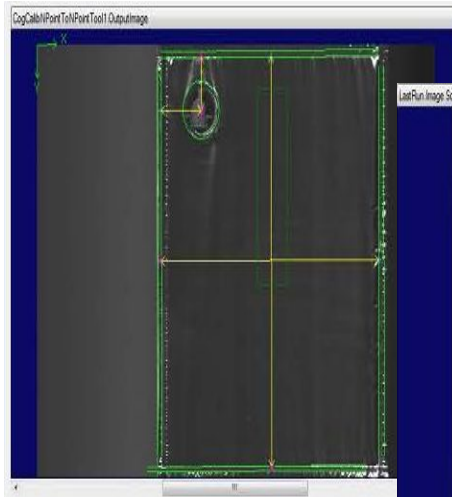
Bag-In-Box Tap Rejection



Defects History with Links



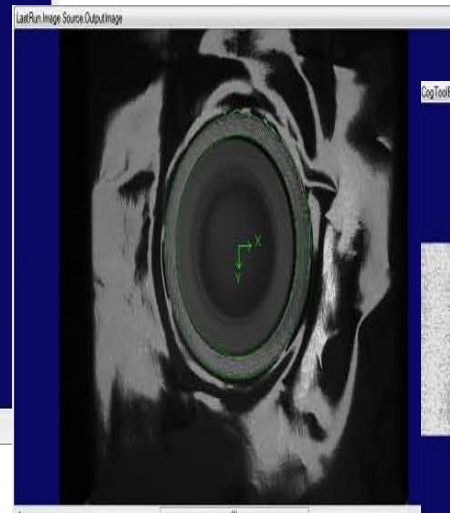
Dimensions inspection
Contaminations detection on Bag area
Seal quality inspection
Gland Circular Seal quality inspection



Bag dimensions



Distance between
tap and gland.



Tap orientation



Label reading

