

# Board Inspection



*Monitor and eliminate faulty boards with an advanced JLI vision inspection system*

In the production of different types of boards e.g. acoustic boards with a punched pattern or shelves, sometimes a repeating defect may occur, such as pressure marks or dimensionel error or positioning. To detect these defects a vision system can be installed.

Inspection is carried out inline with a capacity of 1 m/sec and a max. width of 800mm. Wider boards can be handled with a dual setup. The system can handle boards with any given pattern.

The system measures and verifies width, height and all angles of corners. The entire surface is checked for discolorations and impurities. The pattern of holes is taught and compared to every board that passes the system. Any hole not completely punched/drilled out, or containing a scratch/mark outside the desired pattern will be detected. The position of each hole/ pattern is verified.

The system interfaces to any PLC, to automatically receive information about the board-type and the current pattern. It collects statistical information and relays it to the factory network.

## Features

- Measures any board such as: plaster, glue, shelves, acoustic
- Comprehensive trend statistics & report
- Easy set up for new jobs
- Option: Timed reject air nozzle
- Internet connectivity for easy support
- Measure impurities & dimensions/angle/pressure marks
- Defect classification

## General

Speed:	1 m/s
Cameras:	High resolution linescan
Max. width:	800mm (others on request)
Operating temperatures:	+0° C to +60° C
Humidity:	20-80% non condensing
Power:	110V, 60Hz or 230V, 50Hz
Lighting:	Long lasting LED
Computer:	Industrial vision PC's
Monitor:	High resolution touch screen

## Measurements

Discoloration & impurities:	> 1 mm <sup>2</sup>
Detectable Depth:	> 0.5 mm
Angle:	> 0.05°
Off-center	> 0.05 mm

## Interface

Vision input/output:	Input: sync. signal from PLC Output: reject
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The screenshot displays the JLI vision software interface. On the left, a camera view shows a metal plate with a grid of holes. A red box highlights a defect. In the center, a data table lists various parameters and their values. On the right, an annotated image shows the defect with a red outline and a green circle indicating its diameter, which is 4.51 mm. The interface also includes a 'Grupper' (Groups) panel with radio buttons for 'Computer status', 'grafik', 'Kamera 1', 'Kamera 2', and 'Udskil'.

Resultat	Zentral fejl	(F fejl %)	
Bredde	564.00	0	0.00
Bredde (diff)	0.17	0	0.00
Længde	556.00	0	0.00
Skæve overflade fejl (uden for starside huller) (mm)	200.56	45	100.00
Zentral fejl (uden for starside huller)	1	0	0.00
Sum af fejl (uden for starside huller) (mm)	192.19	45	100.00
Skæve line overflade fejl (i starside huller) (mm)	2.30	0	0.00
Zentral store (uden fejl i starside huller)	1	0	0.00
Sum af store fejl (i starside huller) (mm)	2.30	0	0.00
Maximal afstand x (på langs af karede retning) (mm)	0.41	0	0.00
Maximal afstand y (på langs af karede retning) (mm)	0.99	0	0.00
Maximal vinkel afvigelse (grader)	0.05	0	0.00
Linket lagene 1 (top lagene) (grader)	89.82	0	0.00
Linket lagene 2 (mid lagene) (grader)	90.18	0	0.00
Linket lagene 3 (bott lagene) (grader)	89.81	0	0.00
Linket lagene 4 (top venstre) (grader)	90.19	0	0.00
Zentral huller	794	0	0.00
Max unklar fejl (grader)	0.19	0	0.00
Centrum fejl x	1600	0	0.00
Centrum fejl y	566	0	0.00
Indvælt OK	1	0	0.00
Uoplyst tæller	45	0	0.00
Alt vist %	45	0	0.00
Alt vist %	100.00	0	0.00

Typical screenshot.

## Company Profile



JLI vision a/s develops, designs and manufactures dedicated turnkey vision systems for the international industry.

With more than 32 years of experience, JLI is among the oldest companies in the computer vision field. Our customers include well known international companies. JLI works in many different industries ranging from food processing to material handling, glass, steelworks, pharmaceutical, plastics and packaging.