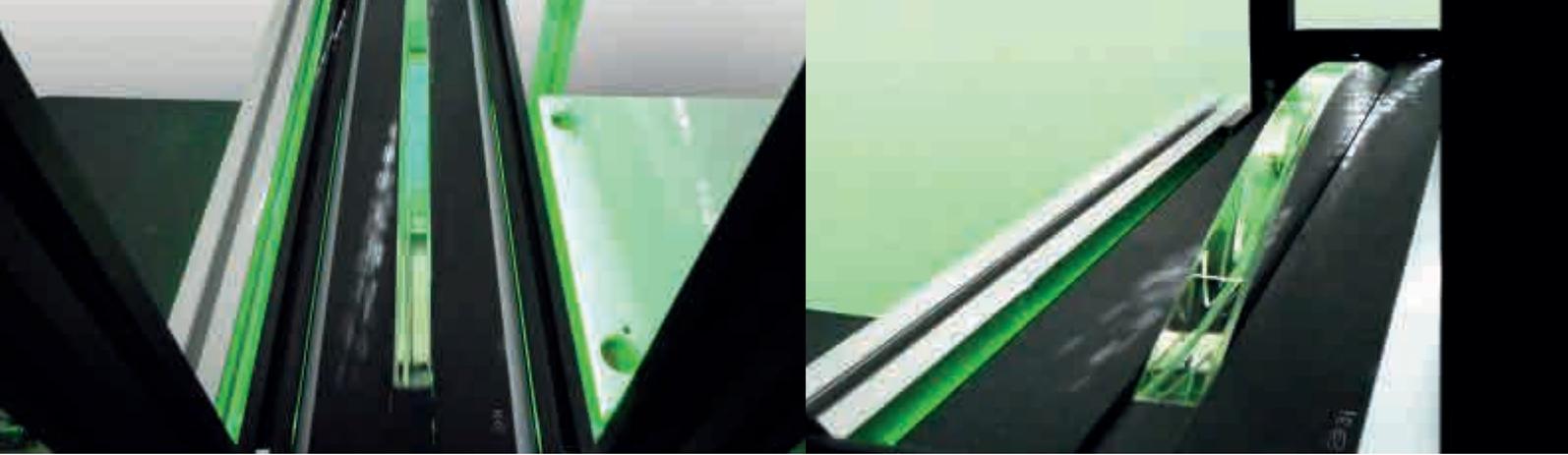


L-TVB

Large Telecentric Vision Box

Industrial measurement systems' revolution

- Precise dimensions' measure
- Right angles' precise measure
- Drillings' position control
- Drillings' diameter control
- Drillings' depth control



Industrial measurement

- Dimensional control

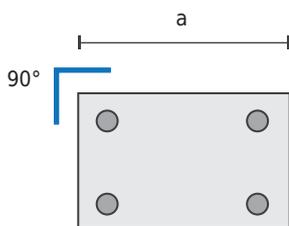
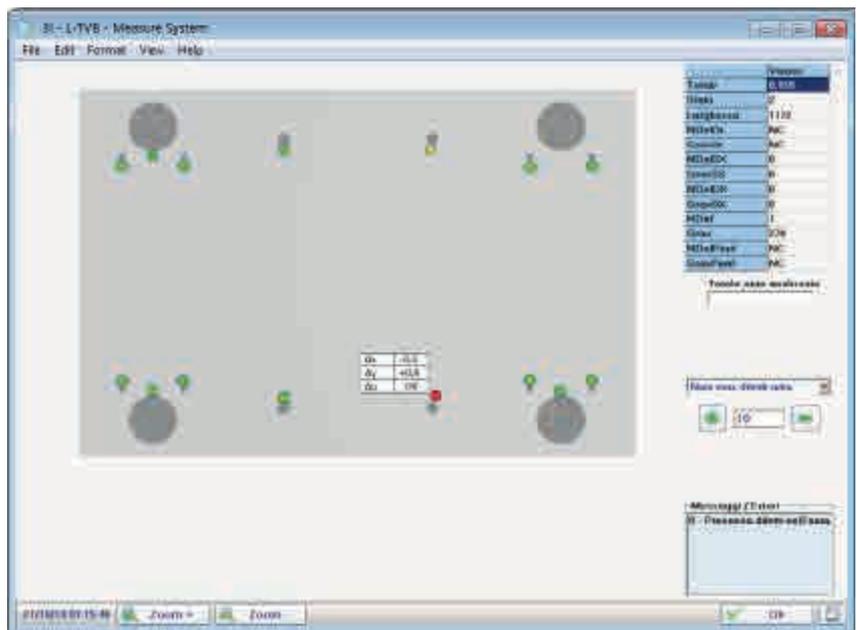
Length
Width
Depth
Connection rays
Ellipses
Indentations
Millings and furrows

- Drillings' control

Diameter
Depth
Position

- Deviation's control

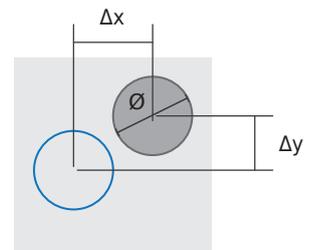
- Comparison with tolerance limits



Precise measurement of the dimensions and right angles of panels.



Depth control of drillings, furrows and products.



Control of the position and diameter of drillings in a unique takeover.

The telecentric lens

The telecentric lens is able to **remove almost completely the parallax effect**, creating an image with no perspective distortion, ready for software processing.

Industrial vision system for half-processed products' precise measurement requires a telecentric lens with **zero distortion and large field of view**, as its fundamental component.

Thanks to the 3I L-TVb lenses **the current technologies' limit is overcome** because of its precise measurement (a tenth of a millimeter) of the objects even meters long.

For the first time the telecentric lens' application field has been extended to the **automatic measurement systems in the furniture industry**.

L - TVB

Resolution:	128 Mpx
Scanning speed:	12 m/min < 30 s for piece
Maximum width:	> 1000 mm
Objects' thickness:	5 - 80 mm
Consistency of measures:	best of 0,05 mm
Accuracy:	best of 0,1 mm



Acquisition of a panel with and without the telecentric lens.

CODE	MAXIMUM WIDTH OF INSPECTION (mm)	PASSAGE WIDTH (mm)	DIMENSIONS (mm) L x D x H	MAXIMUM SPEED (m/min)
L-TV B 700T	760	900	3500x1100x2100	12
L-TV B 1200T	1240	1500	3500x1800x2100	12
L-TV B 700B	760	--	3500x1000x900	6
L-TV B 1200B	1240	--	3500x1500x900	6

The System

The system consists of a linear camera placed inside of a special box containing the L-TV B© lens where the acquisition axis of the camera passes through.

There's also the possibility to place the component out of the assembly line, onto an **independent optical control bank**.

The 3I tecnology allows producing the vision and control systems for **panels and sheets of large dimentions**, using a single camera in a small space, simplifying the calibration procedures, maintenance and calculus by software.

The control can take place on both sides of the object, installing the system on the right point.



Advantages

Considering the existent systems, operating on two or more axis or even with more cameras, the L-TVBC[®] lens permits **reducing the movement on a single axis** increasing the speed of the system for a grade of the size and simplifying considerably the entire procedure.

The speed of scanning doesn't actually depend any more on the number of drillings on the surface - now it's the same for each type of panel.

- Large extension of the field of view
- Low distortion
- Small dimensions of the system
- Image rendering in the orthogonal view
- High depth of field
- High performance on high thickness
- Measurement precision on a tenth of a millimeter



System installation can be performed both on a detached measurements table or directly on the assembly line; the scanning speed can assure the serial control on all of the elements of a batch.



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