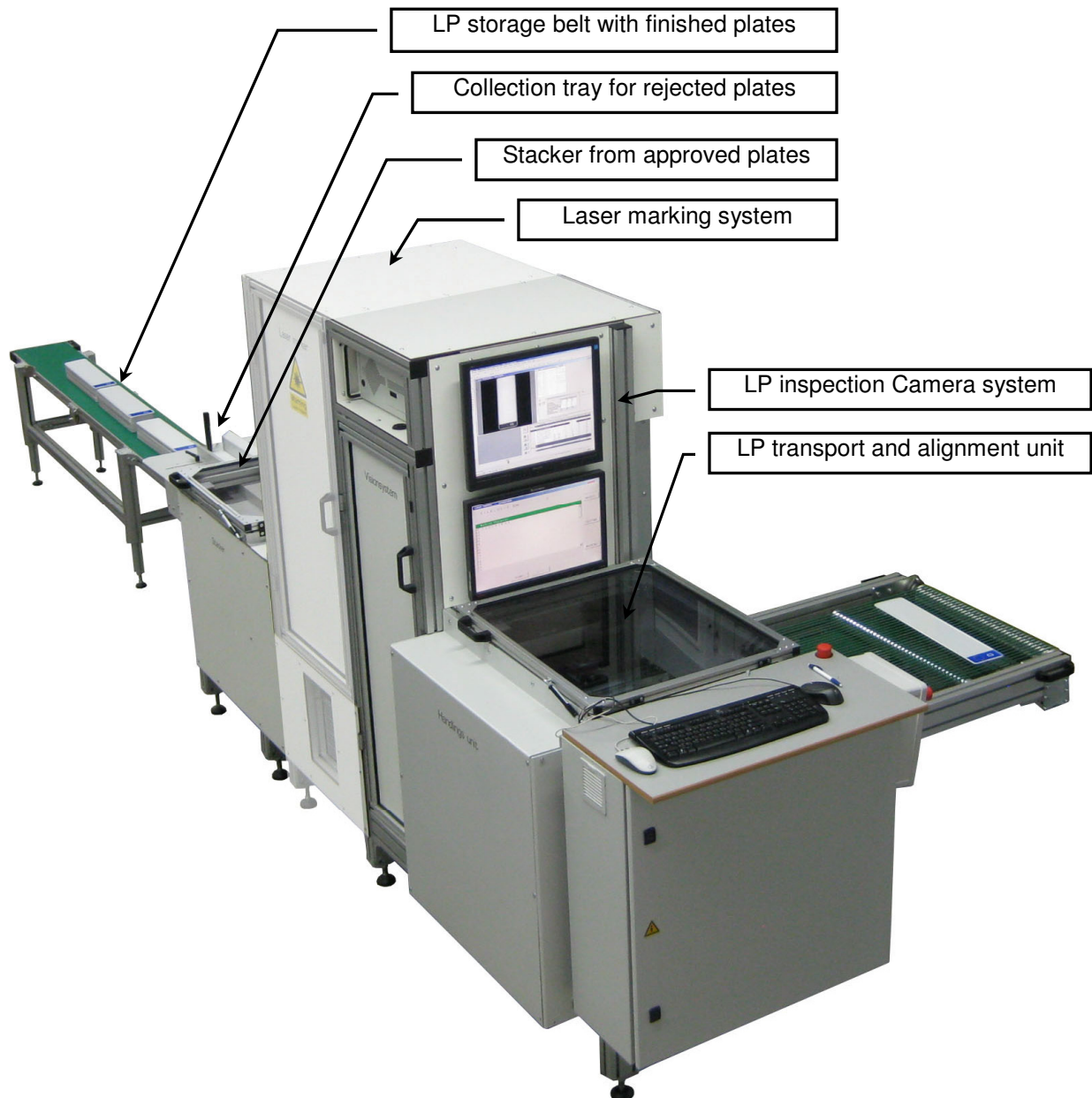


Licence Plate inspection Camera system in combination with Automatic stacker and optional Laser marking unit



Advanced camera inspection system for the following Licence Plate errors

- Logo position X – Y direction
- Printing errors or damage in the logo
- Printing errors or damage in white area of the foil
- Splice in the foil
- Cracked foil in the embossed area
- Length of the plate
- Hologram shape and position (if hologram is present on plate)

This Licence Plate camera system contains a High resolution, high speed, line-scan camera scanning each plate on different type of errors. The complete imaging software is running on a windows platform and user friendly. The system can be programmed on each type and dimension of error. The system can look in different areas with different resolutions. For example the blue Euro logo can be judge with other specs than the white area. The system can also measure the plate on length and width.

Typical errors are;

- Foil splice
- White spots in the blue logo
- Black spots in the White area
- Misalignment from the graphical logo in X or Y direction
- Deformations of surface (dents)

The plates will be ejected out of the press and collected by a transport system and alignment unit which transports the plate into the camera system. A Sensor detects the incoming plate and triggers the camera. The camera will scan the plate in the fly and will give a signal from Pass or Fail. After inspection the plate will pass a Laser marking system, this Laser system is Enabled by a good plate and Disabled by a reject plate to avoid Laser-marking rejected plates. After laser marking the good plates will be stacked and the wrong plates will be collected to another position.

The camera is checking the following items;

- Logo position in X – Y direction
- Printing errors or damage in the logo
- Printing errors or damage in white area of the foil
- Splice in the foil
- Cracked foil in the embossed area
- Length of the plate
- Hologram shape and position (if hologram is present on plate)

The camera systems works with a high speed line-scan camera connected to an industrial PC for image processing. The illumination of the plate is done by a High power Line-Led lamp. The margin of the error from each checking area is programmable. The smallest defect that can be detected is around 0,1mm. All setting can be done in a Window based platform. The camera makes from every plate a digital high resolution photo and stores this on the hard disc. The photo can be used for analysing the errors and to adjust the error margin to run a simulation on the stored photo.

The inspection time for one plate is around 1 second based on a plate from 112x520mm. Each type of plate programmed and stored in a database.

The complete system contains the following items;

- High resolution, high speed, line-scan camera with lens
- Industrial PC for image processing
- TFT screen
- Unit controlled by PLC and Frequency inverter
- High power Line-Led lamp
- Plate transport system for stable and aligned plate transport underneath camera
- Unit housing to avoid environment influence
- 1 program with basic setup for one type of plate (fine tuning has to be done on location)