

# Laser marking system

## Basic equipment

- Integrated laser system, incl. cooling system, power supply, control and operation software (all components are placed in 19" plug-in-units in the housing).
- Compact housing according to the required laser protection class:
  - M-series length 800 mm, width 1.400 mm
  - L-series length 1.000 mm, width 1.400 mm
- Conveyor incl. control, stopper and lateral clamping to the fix transport rail
- Streaming-optimized extractor jet, connection  $\varnothing$  50 mm



## Marking areas

- Marking area YAG-Laser (f 254 mm) L=190 mm x B=190 mm
- Marking area CO<sub>2</sub>-Laser (f 160 mm) L=100 mm x B=100 mm

By using a double-head (see illustr. below) the marking area is mostly doubled to 365 x 190 mm with the YAG- and to 192 x 100 mm with the CO<sub>2</sub>-Laser.



## Laser

- Depending on the individual purpose, YAG- or CO<sub>2</sub>-Laser are available with different performance levels (Cooperation with Rofin Baasel Lasertech).
- Upon request Laser systems can be integrated from other manufacturers.

## Transport system / Positioning concept

According to the size of the necessary marking areas and the applied Laser, the following possibilities are at your disposal:

- Additional stop-positions in the conveyor to extend the marking area in X-direction (=transport direction)
- Moveable deflector head to extend the marking area in Y-direction
- Double-head system to extend the marking area without moveable axis (for Baasel Lasers)
- Free programmable X/Y system
- Combination of the a.m. possibilities

## Fixing of PCB's

Beside the standardized clamping, three further options for the fixing are available:

- Fixing of the PCB by lifting via index pins
- Fixing of the PCB by lifting via index pins with additional support for thin PCB's
- Correction of the position by means of the software via image processing system (In connection with TTL (through the lens) reading option and RVSI-system)

## TTL (through the lens) reading / verifier

In case of using Lasers from Rofin Baasel Lasertech, reading camera as well as illumination can be integrated in the deflector head of the Laser. This enables a verification of the marked codes by 100 % without loss of time. Actually the RVSI system and the HawkeEye reading device are released.

### Reaction in case of error?

- Stop of machine and operator request
- Automatic selection of additional Laser parameter sets
- Transfer of information to the subsequent systems (e.g. via table in ASCII format)
- Marking of non-readable codes

## Extraction

Depending on application, extraction either with standard- or activated carbon filter can be applied.

## Summary of the advantages

- 100% control reading possibility, without loss of time and at low cost
- YAG- or CO<sub>2</sub>- Laser available, with the same operating software
- Independent of the transport system respectively positioning concept, the operator uses the maximum marking area when programming. The corresponding positioning parameters are generated automatically
- Use of Laser systems of world-wide leading suppliers
- Compact design, all systems integrated and easily accessible

## Example Laser cell for bare PCB's

Loader	LB 10-M
Conveyor	CT 15-M
Laser	ML 40-M
Conveyor	CT 15-M
Unloader	LB 20-M

