

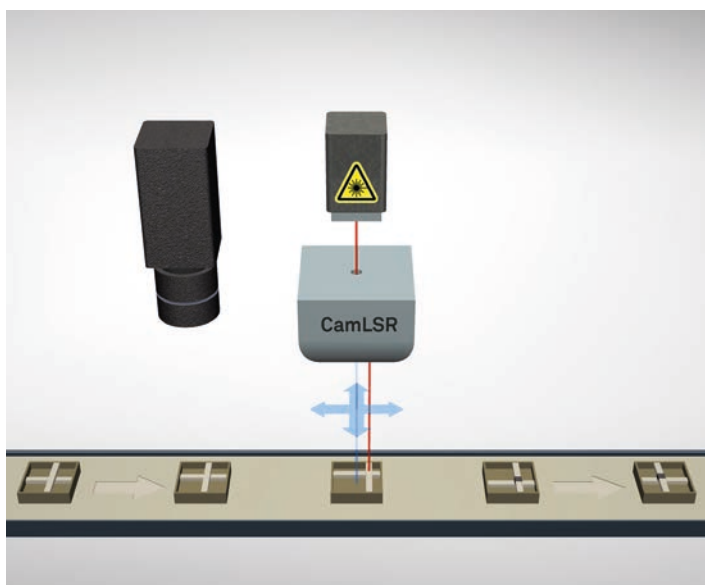
# Laser Beam Deflector

## UniscanLASER

The UniscanLASER optical systems intended for precise and fast laser beam deflection.

The deflector is designed for applications requiring accuracy within microns, such as miniature contact welding, cutting and carving. Due to the system's small size it is possible to insert it between the output of a laser beam and the manufactured component.

The UniscanLASER system can be enhanced with an intelligent camera system for image processing together with an adjusted illumination unit. This solution consists of advanced algorithms for automatic object targeting, system calibration and other features. Applications benefit from correction of errors caused by manufacturing tolerances, product mounting during on the fly contact welding, etc.



Operation principle of laser beam deflection

## Operation Principle

The system consists of two parts: the measurement section and the laser section. The measurement part (in this case the camera system) performs exact positioning measurement (e.g. for welding) on each component. This acquired data is transferred to the laser section, where the UniscanLASER controls the laser beam deflection based on the supplied positioning data.

## Suitable For

- » accurate laser deflection
- » laser welding
- » laser carving
- » laser cutting

## Features

- » very fast and accurate deflection
- » suitable for a wide range of laser products

### Open Camera System (optional)

- » variety of different types of products supported
- » turn-key solution
- » statistics export
- » automatic system diagnostics
- » user and user rights management
- » remote service and management

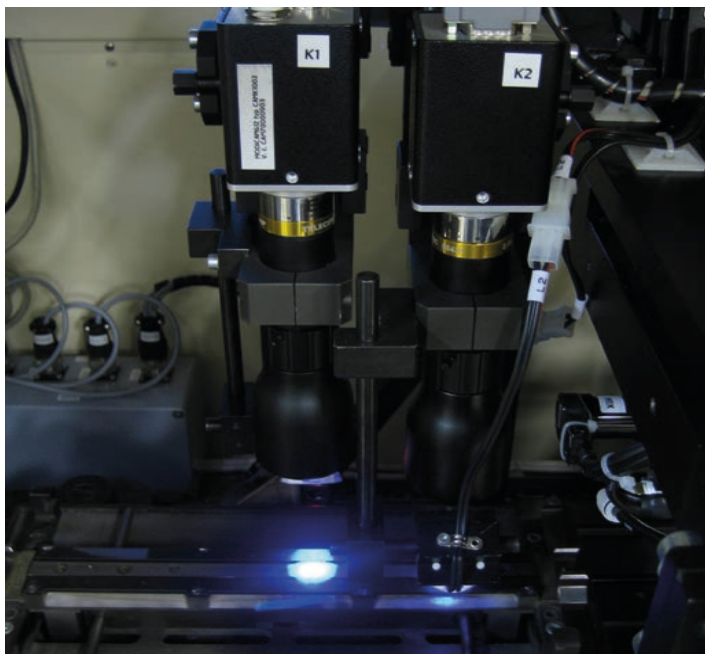
## Specifications

- » max. laser beam deflection: preset to  $\pm 0.1$  to  $\pm 0.3$  mm, in both axes
- » angular resolution: 0.1 % of max. range
- » thermal stability:  $< 0.005$  %/°C of the range
- » thermal stability of zero:  $< 0.007$  %/°C of the range
- » time for adjustment  $> 20$  ms for transition between position extremes
- » wavelength: 400 – 1300 nm, based on the used laser
- » interface: RS232, I/O interface, custom
- » dimensions (W×H×D): 110 × 45 × 110 mm

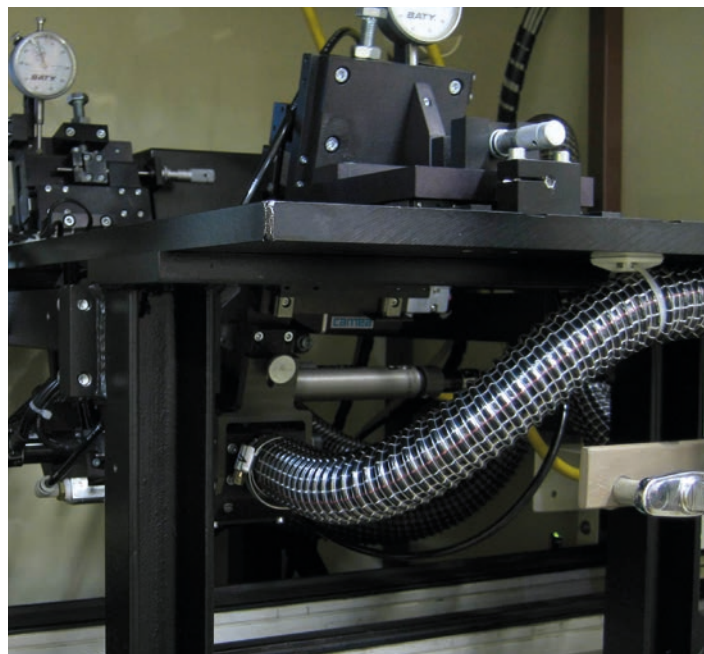
## Installations

AVX Czech Republic, s. r. o.

The production of tantalum capacitors uses the visual system during the leadframe capacitor connector anode welding stage.

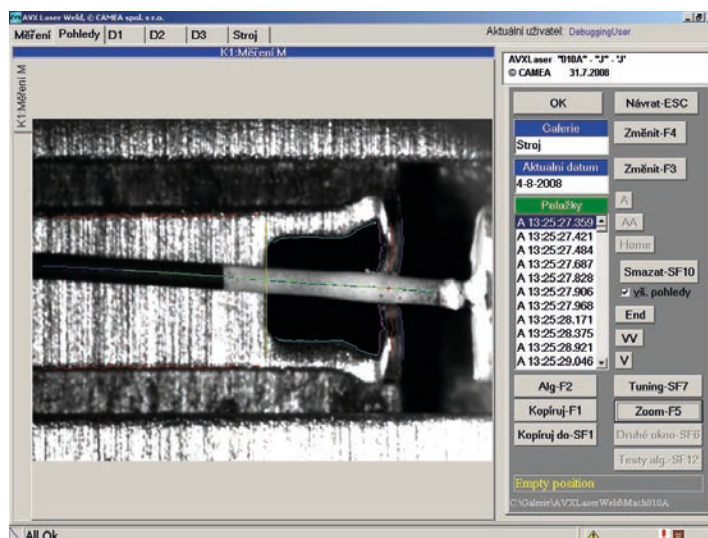
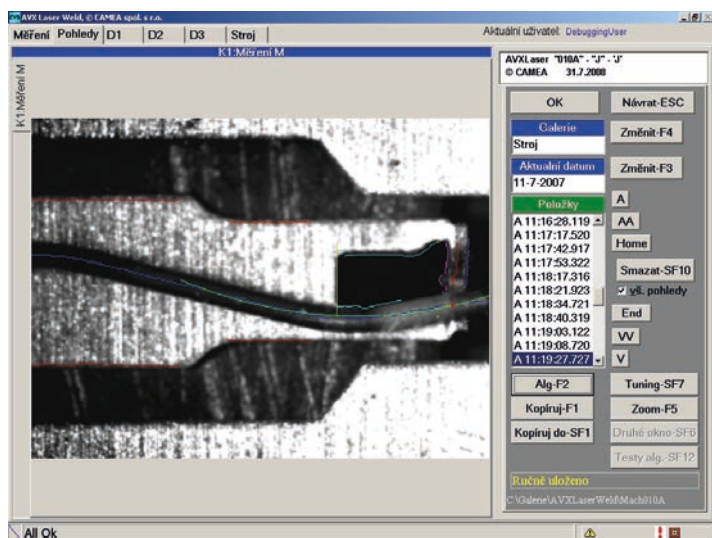


Cameras with stroboscopic illumination at the measuring position



UniscanLASER integrated into a welding machine

The production of tantalum capacitors uses the visual system during the leadframe capacitor connector anode welding stage.



Images from visual inspection system – localization of connection leads enables accurate laser beam aiming