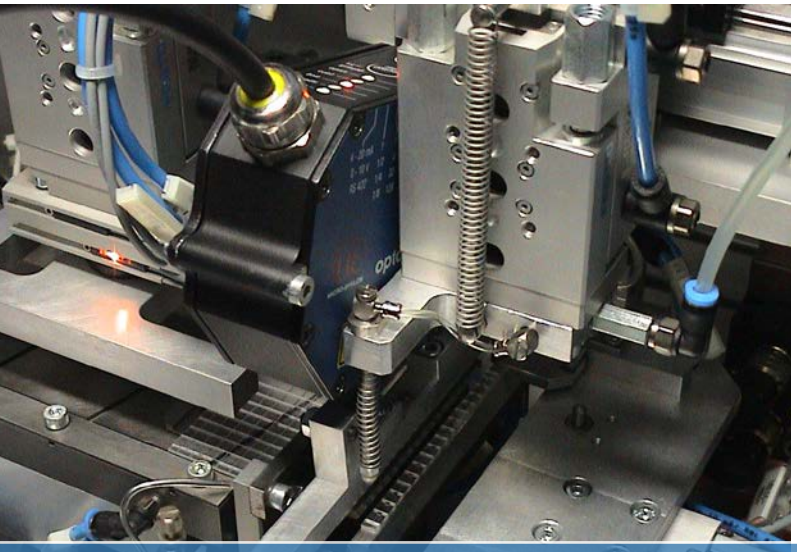
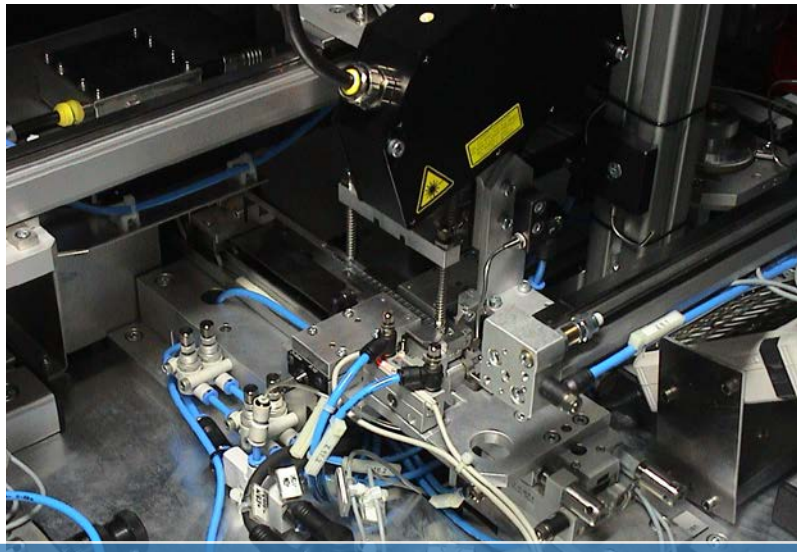
A196

Laser sensors

optoNCDT





Gap measurement on glass substrates for medical technology

Quadratic glass substrates are required for medical multiparameter tests. The glass substrate is milled in a defined grid for the detachment of the individual glass chips. For an overall typical glass thickness of 1.1mm, channels of approx. 800µm are produced. The substrate is routed into a breaker station and positioned precisely over the pre-determined breaking point for the separation. A high precision sensor is required for this positioning in order that the wafer is broken exactly at the gaps, which are only 160µm wide.

For this task, the manufacturer uses the optoNCDT 1700-10 DR version with a 10mm measuring range. This sensor is able to measure very precisely on direct reflecting materials or surfaces. Important here is the sensor's small measuring spot, which enables each gap position to be detected reliably.

After breaking the wafers into separate bars, another optoNCDT 1710-10 standard version of the sensor is used for position control of the bars. The very small measuring spot is ideal here, since measurements must be carried out at a distance of 100mm from the bar. This compact sensor operates with an internal controller, which was a decisive factor in this retrofit installation. The real-time exposure RTSC enables rapid gap detection as one-offs and response times in the signal are reduced.

Advantages

- Very small spot size
- Real-time control of the signal
- No external controller
- Signal processing in the sensor

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