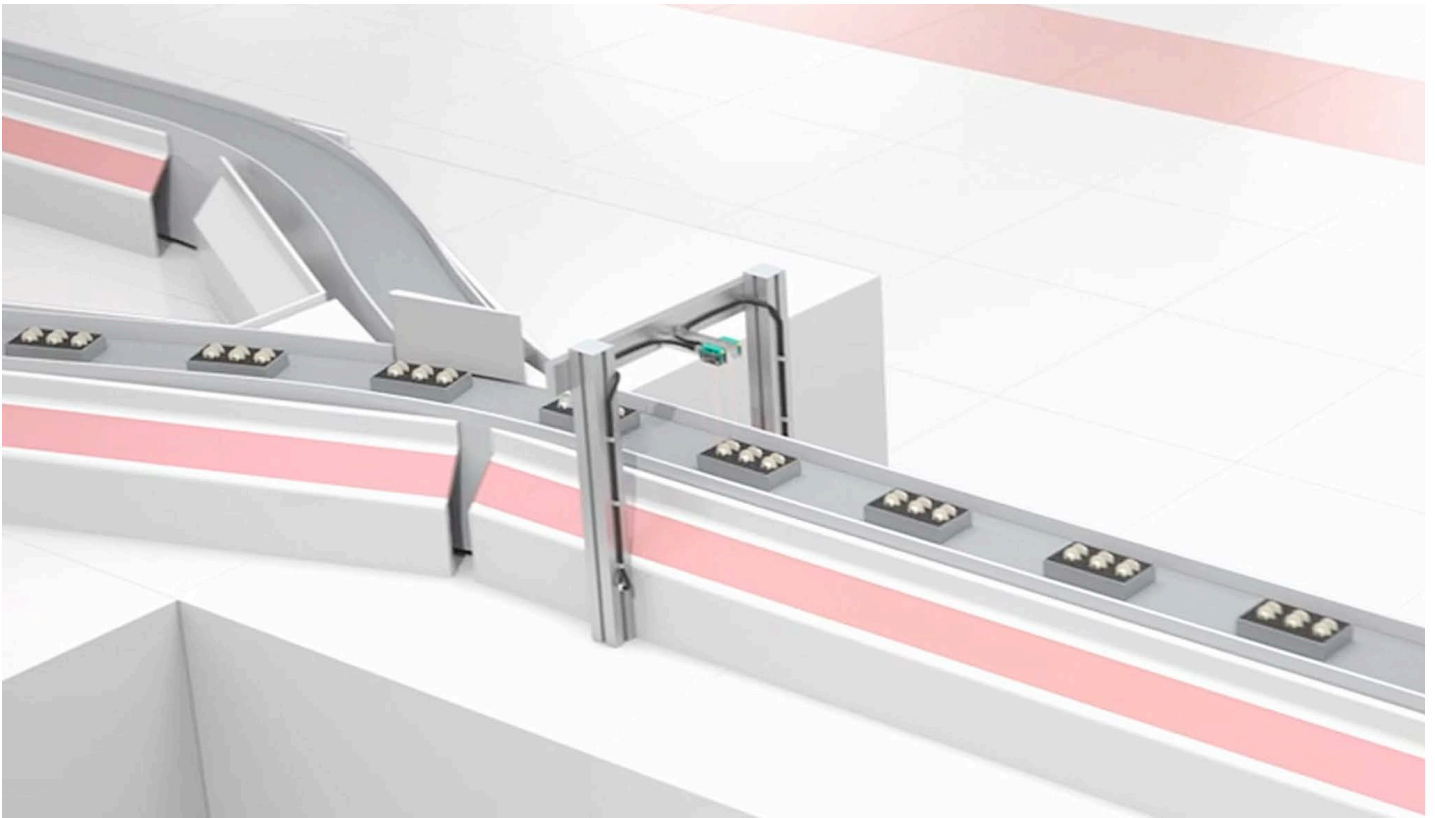


# Reliable Quality Control in Production Plants

Accurate detection and distance measurement of the smallest objects

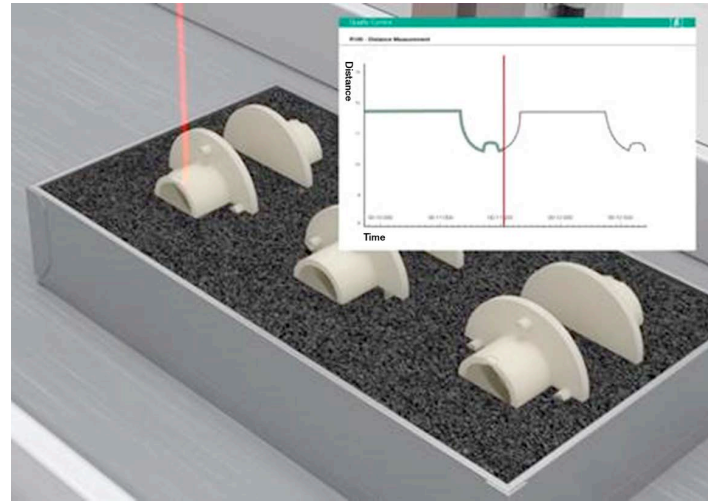


## The Application

In production plants, products go through many different production steps before they are complete. Automated conveyor systems connect the individual production lines and transport intermediate products in boxes or trays to the next station for further processing. To make automated

processing possible, it is vital that these intermediate products are positioned accurately. Only objects that are in the correct position can be transported along the chain; incorrectly positioned objects have to be separated out and rearranged.

Your automation, our passion.



### The Goal

There can be serious consequences in production plants if an object is in the wrong position. Either the object will be processed incorrectly or the process will have to be interrupted due to an error message. Incorrectly positioned objects must therefore be identified and separated out quickly and reliably. Inspections must often rely on the smallest product features, either because the objects themselves are very small or because modifications cannot be made to the product for technical or optical reasons.

The space available in production facilities can also be very cramped and there are often high ambient temperatures between intermediate processing steps. Sensors that are employed in these environments therefore have to be both space saving and suitable for wider temperature ranges.

### The Solution

The compact distance sensors in the R10x series are ideally suited to this application, as they make use of the new powerful DuraBeam laser technology. Thanks to the extremely precise light spot of this technology, even the smallest objects or features can be detected reliably. In combination with the proven Multi Pixel Technology, distances can be measured in terms of micrometers. This means that the smallest notches – and therefore even minimal differences in height for marking the correct position of the object – can be detected quickly and reliably. Smooth automated processes are guaranteed.

More information and an animation video about the R10x series can be found at:

[www.pepperl-fuchs.com/r10x](http://www.pepperl-fuchs.com/r10x)

### The Benefits

DuraBeam combines the strengths of LED sensors and laser sensors. It can be used at temperatures between  $-40\text{ }^{\circ}\text{C}$  and  $+60\text{ }^{\circ}\text{C}$  and also boasts a very long service life. The small standard design of the R10x sensors makes them ideal for use in confined spaces. The compact size of the measurement core also enables integration of the proven Multi Pixel Technology to guarantee interference-free and extremely precise distance measurements.

The sensors feature an IO-Link interface, which also opens up a range of possibilities for simple parameterization, diagnostics, or maintenance of the sensors. The R100, R101 or R103 variants can be used according to the mounting situation. These variants each offer the same functions and technologies, but different installation concepts.

#### At a Glance:

- Reliable quality control
- MPT distance measurement in compact standard design
- Detection of even the smallest objects using extremely precise light spot
- Innovative DuraBeam laser technology for a long service life and increased operating temperature range
- IO-Link for simple parameterization, diagnostics, or maintenance
- Smooth processes