



Dimensional inspection of cylindrical objects

Measuring the circumference and straight line contours are important quality criteria in the production of cigarettes. Special measuring equipment is required to inspect these characteristics during production.

UK company Cerulean develops and manufactures measurement systems and machines for the quality inspection of cigarettes and filters. The CD Express measuring instrument measures the circumference, diameter and ovality of cylindrically-shaped objects. Individual finished cigarettes are removed from the production line for manual routine inspection. The cigarettes are inserted from above into the measuring device and the measurement starts automatically. Using an integrated rotation mechanism, 100 individual measured values per 360° revolution can be recorded. The individual measurement data is calculated from this and the results are shown on a display.

An optical micrometer from Micro-Epsilon's optoCONTROL 2500 Series operates in the CD Express measuring device. Using CCD technology, the system achieves very high measuring rates, accuracy and resolution. The optoCONTROL 2500 software was customised for this particular application. Complete control of the measuring device is now achieved using optoCONTROL. The mechanical components can be controlled and the measurement results recorded with this, i.e. no other controller is required.

Although the CD Express was originally developed for the dimensional inspection of cigarettes, it is now used in other industry sectors. For example, the machine can also be used to inspect the dimensions of plastic pipes. It is also possible to use the machine to inspect other cylindrical objects such as cables, rods, tubes and plug gauges.

Benefits to the customer

- Robust design
- Outstanding technical data

Suitable sensor series

- optoCONTROL 2500

Requirements for the measuring system

- Takeover of machine control
- High measuring rate
- Simplified handling