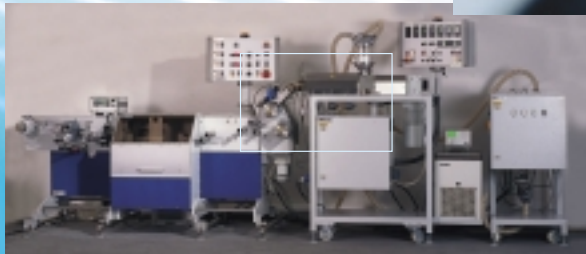


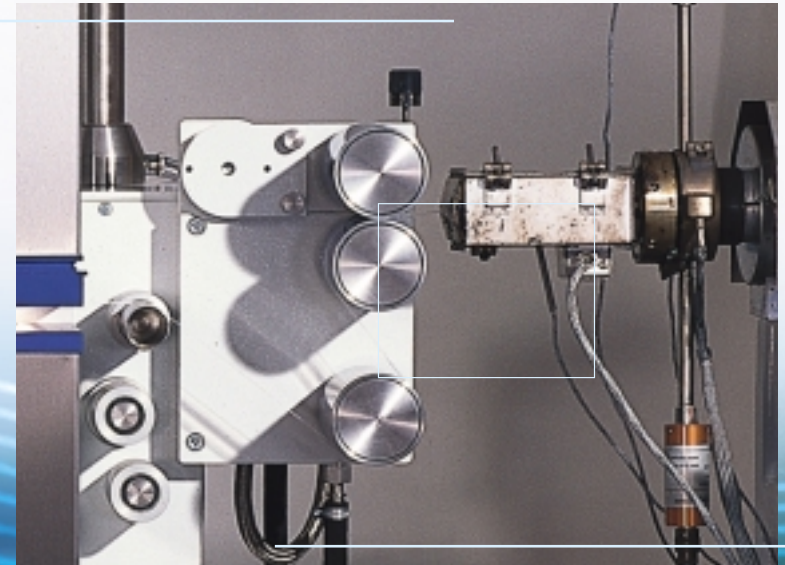
OCS - Optical Control Systems GmbH

As one of the world's leading manufacturers of optical quality control systems, OCS supplies customised and complete solutions in the fields of digital image processing, optical measurement and automation. Our systems ensure maximum product quality control. With the aid of precision cameras in conjunction with high performance online image processing, even the smallest defects in polymer products are detected, located and analysed in detail. The applications for OCS systems range from laboratory use to complete integration into the production process.

Leading manufacturers in the petrochemicals and polymer industries benefit from these features. In Europe and the USA, Canada, South America and Asia: everywhere in the world, our system solutions are successfully in service. With a highly expert and innovative team of development and production engineers, OCS supplies top level technology and know-how worldwide – always at the leading edge with our systematic research and development work. Our manufacturing processes, delivery, installation and user training are also state of the art. Service to our clients is our paramount aim: in no time we will repair damaged systems worldwide – guaranteed.



Mini Calender MC-5 for highest demands in optical online quality control



Optical Control Systems GmbH

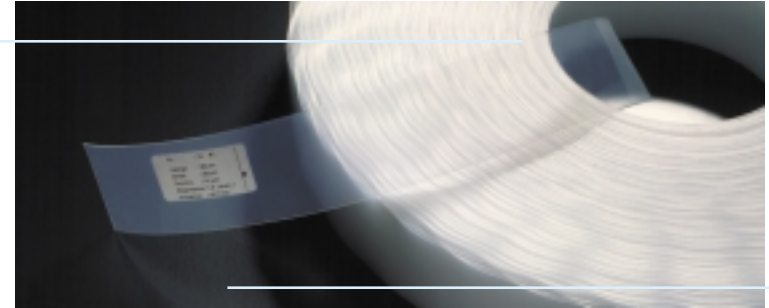
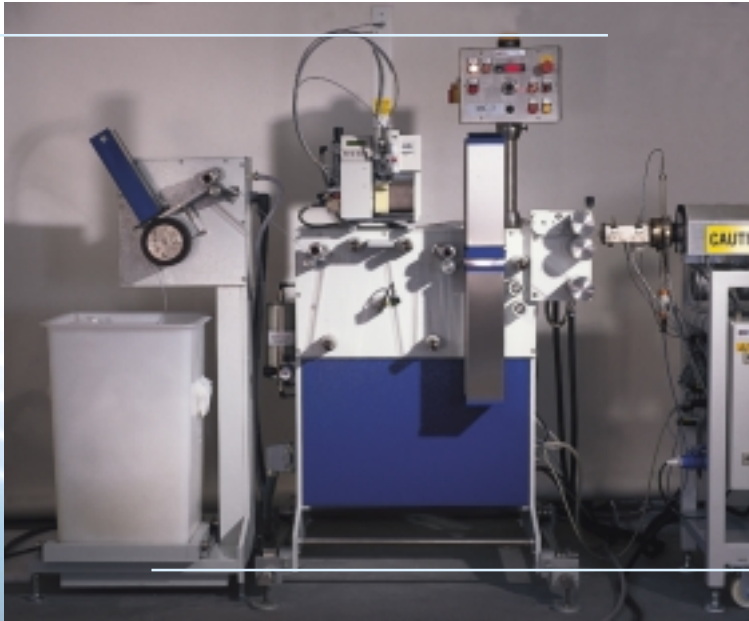
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A system for quality and efficiency

The Mini Calender MC-5 from OCS is used to produce tape for optical quality control in laboratories and on-line production monitoring. This „tape test“ for raw material is currently applied world-wide in, for example, the cable industry (high and middle voltage applications) as a standard procedure for quality control. The overall testing system consists of the Measuring Extruder ME 20/26, the Mini Calender MC-5, the Film Inspection System FS-5, a marking unit and a cutting / sorting device.

The Mini Calender MC-5 is equipped with three tempered cooling rollers, the distances of which can be varied. This enables various tape thicknesses to be produced.

After extrusion the tape is 100% inspected by the FS-5 film inspection system and examined for irregularities such as fisheyes, gels, fibers, black specks etc. with a size of 5 µm and more. Defects are recorded and measured according to size, shape, volume, type etc. The defect records are individually stored on hard disc for later and more detailed analyses and evaluations. A variety of statistical evaluation and calculation procedures are available for this purpose. The live picture during measurement also provides a large amount of information, as this is when defects on the film are marked and indicated.



The marking device is controlled by the inspection system and prints a label on to the film exactly where the defect has been detected. The label displays detailed data on the defect. The cutting device is installed downstream from the marking unit.

The cutting device cuts the tape into small sections. The sorting unit is downstream from the cutting device. Here the defect-free tape sections are sorted into one container and film sections with a label or a defect into another.

Sorting the tape sections into different containers makes the immediate recording of foil sections with defects possible. The film sections can then be examined, e.g. under an X-ray microscope, to determine the exact source of the defect in the production process.

The Mini Calender MC-5 meets the highest requirements of quality control in polymer production and processing.

Products

Cast/blown film
Narrow/wide film
Transparent/opaque sheets, calendered film etc.

Benefits

- Improvement of quality (elimination of non-standard product)
- Labour savings
- Accurate and consistent automatic grading
- Reduction of customer returns and complaints
- Increased line speed and process throughput where manual inspection is a limiting factor
- Reduction of scheduled maintenance stops (e.g. for roll cleaning)
- Reduced slitter scrap (for extruded, calendered and rolled products)
- Fast return on investment (ROI)

Perfect for online and laboratory applications.