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Abstrak

ABSTRAK
The range of instruments for in-line process and quality control for rapid at-line measurements in the food industry has expanded rapidly in recent years. Part I of this paper describes instruments for the control of chemical, biochemical and immunological determinands. Chemical sensors and biosensors, including semiconductor, acoustic and optical devices as well as direct amperometric enzyme electrodes, offer considerable potential for the monitoring of food composition and the prediction of microbial and rancid degradation. The water activity of foods is one of the parameters used to predict their stability during storage; instruments employed for the measurements of the equilibrium relative humidity of foods are described. Compositional analysis with infrared, microwave and ultrasonic techniques offers the advantage of non-invasive hygienic in-line monitoring. Based on a knowledge of the dielectric and acoustic properties of foods, these techniques can be applied to a range of in-line analysis tasks. Impedimetric techniques are gaining ground in rapid microbial assaying.