

## SPECTROSCOPIC ON-LINE MEASUREMENT OF ETHANOL AND ACETIC ACID

Simultaneous on-line measurement of ethanol and acetic acid concentration in less than a minute! Optimal control of the fed-batch process for producing alcohol vinegar with more than 20% acidity!

### Description:

ACETOLINE is a worldwide unique NIR system capable of measuring acetic acid and alcohol concentration simultaneously and reliably in vinegar production. The new device significantly simplifies the routine analysis in the production of vinegar. In only one step, on-line during the production process, the alcohol and acetic acid concentration of your vinegar sample is determined precisely and fast. Consequently, the production process is monitored closely, as the two most important production parameters can be easily determined automatically.

### Function:

The measurement functionality of the ACETOLINE is based on NIR spectroscopy. Almost every substance has a spectral "fingerprint" which is generated by the adsorption of the penetrating light and thereby weakened in a characteristic way. These fingerprints can be used to identify substances and to quantify the concentration in a mixture of substances without any cross-sensitivity. The penetrating light impinges on a sensor array and is evaluated on the basis of neural networks.

## ACETOLINE



### Advantages:

- Easy installation beside the fermenter and can be integrated into a Siemens, Allen Bradley PLC or others for precise production control
- Simultaneous measurement of alcohol and acetic acid concentration via an automated sample taking process in less than 1 minute!
- Sampling interval freely selectable – can be triggered by the PLC
- Quality controlled discharge when achieving the target acidity
- Optimal control of the fed-batch process for producing alcohol vinegar with more than 20% acidity
- Temperature-independent
- High precision

### Measurement range:

- 0 – 20% Ethanol
- 0 – 25% Acetic acid