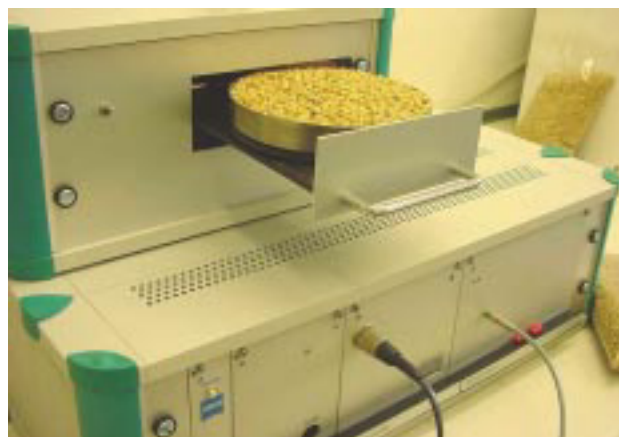


## Quality Control in the Brewing Industry

### INTRODUCTION

The monitoring of all production processes from incoming goods inspection through actual production right up to outgoing goods inspection is of vital importance for end-to-end quality management in the brewing industry. The complex task of ensuring a constant, high quality standard for each product can no longer be performed by a laboratory alone. Instead, the assessment of all processes involved requires a meaningful combination of lab analyses and in-line measurements. This can be achieved by the use of new analytical instruments now available for the laboratory and the production area.



### METHOD AND FIELDS OF APPLICATION



Figure 2: Incoming raw materials inspection



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Figure 3: In-line process measurement station

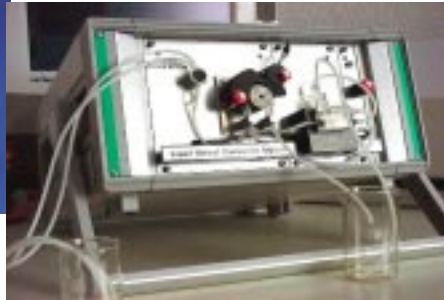


Figure 4: mobile lab system

**BENEFITS**

- Monitoring of very large quantities of raw materials and products within an extremely short time
- Precise information on the homogeneity of samples
- Use of the systems in the laboratory and in production
- User-friendly software

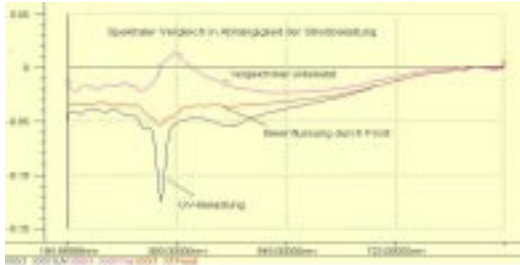


Figure 5: Investigation of stress load on beer

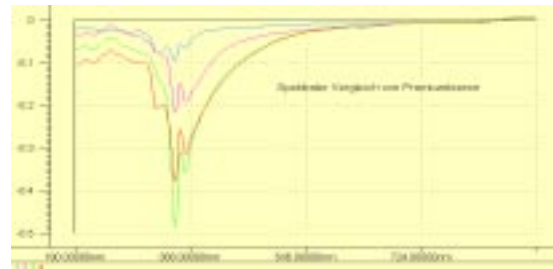


Figure 6: Beer identification

**MEASUREMENT PARAMETERS**

Product	Constituent	Correlation	Standard Error (SEC in %)	Product	Constituent	Correlation	Standard Error (SEC in %)
<b>Wheat</b>	Protein	0,98	0,22	<b>Malt</b>	Protein	0,97	0,21
	Moisture	0,99	0,22		soluble N	0,96	17,8
			Extract		0,98	0,27	
			Water		0,98	0,22	
			EVG		0,96	0,38	
			Kolbach		0,95	1,3	
			Mealiness		0,97	3,1	
			Viscosity		0,97	0,09	
			Friab.-value		0,97	3,1	
<b>Barley</b>	Protein	0,98	0,24				
	Moisture	0,99	0,2				
<b>Triticale</b>	Protein	0,97	0,22				
	Moisture	0,99	0,2				
<b>Beer</b>	Color: L-value	0,98	0,1				
	Color: a-value	0,99	0,05				
	Color: b-value	0,99	0,05				
	Alcohol	0,99	0,1				
	Extract	0,98	0,11				

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