



Thermo Scientific  
Gallery Plus Beermaster



# Fast and effective quality monitoring for breweries

Automated Bitterness analysis • Colorimetric beer and wort analysis

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Thermo Scientific Gallery Plus Beermaster is a fast bench top system dedicated for beer and wort analysis and quality control. Beermaster is automating labor-intensive bitterness testing and saving significant amount of time in sample pretreatment and analysis. Simultaneous automated determination of other analytes, like beta-glucan, pH and  $\text{SO}_2$ , from the same single sample facilitates laboratory work even further. Increased efficiency in quality control measurements reduce costs and improve productivity in breweries.

## Time and cost savings

### unique automated bitterness analysis

The Bitterness unit (BCM) in Beermaster includes a coated capillary column for bitterness measurement. During the automated process, the beer bittering substances are first extracted from interfering compounds present in the sample matrix and then measured at 275 nm. Manual sample preparation is minimal as only a shaking procedure is needed for degassing. One sample measurement takes 10 minutes, releasing valuable hands-on time compared to manual or semi-automated methods. In a normal workload when several samples are measured, a bitterness result is reported every 7 minutes. The only maintenance actions needed are the automated start up and stand by procedures taking 5 minutes daily.





# Simple and easy operation

all analysis steps are automated



Sample disk for 6 racks: 9-pos. sample racks, 60-pos. blocks for automated bitterness sample pretreatment, 6-pos. racks for bitterness reagents.



Reagent disk for 42 reagents. Bar-coded reagent vials provide easy and reliable identification.



Cuvette loader for 360 cells. The unique low-volume cuvette design guarantees low reagent costs and minimizes the amount of reagent waste.



Effective mixer to stir samples and reagents.



Temperature controlled incubator for 90 cuvette cells. Disposable cuvettes for eliminating carry-over.



The analyzer is self-contained with no need for external water or drainage connections.

# Intuitive user-interface

easy-to-use, easy-to-learn



Fully traceable results.

Test parameters can be uploaded reading a 2D barcode.



# Compliance and confidence

colorimetric tests according to the international reference methods

Ensuring confidence in the quality of results, the methods used for beer and wort analysis in the Gallery Plus Beermaster are well known enzymatic and colorimetric chemistries optimized to the result levels of the international reference methods like ASBC, EBC and MEBAK. Ready-to-use liquid reagents eliminate reagent preparation saving time in the daily work. Moreover, the volume optimized system kits minimize reagent waste.

## Thermo Scientific System Reagents - continuously expanding selection

<i>Acetaldehyde</i>	<i>D-Glucose</i>	<i>pH (colorimetric)</i>
<i>Acetic acid</i>	<i>D-Glucose + D-Fructose</i>	<i>Total Polyphenol<sup>(2)</sup></i>
<i>Alpha-Amino Nitrogen (NOPA)</i>	<i>D-Glucose + D-Fructose + Sucrose</i>	<i>Total Protein (Biuret)</i>
<i>Ammonia</i>	<i>Glycerol</i>	<i>SO<sub>2</sub></i>
<i>Beta-Glucan<sup>(1)</sup></i>	<i>Total Iron</i>	<i>Sucrose (Total Glucose)</i>
<i>Bitterness</i>	<i>D-Lactic acid</i>	<i>For sample color:</i>
<i>Calcium</i>	<i>L-Lactic acid</i>	<i>430 nm filter</i>
<i>Citric acid</i>	<i>Magnesium</i>	
<i>Ethanol low</i>	<i>L-Malic acid</i>	<sup>(1)</sup> in development
<i>D-Fructose</i>	<i>Oxalic acid</i>	<sup>(2)</sup> non-system reagent

The reagent usage and expiration date are automatically monitored in real-time.





# Improving productivity

Greater efficiency in quality monitoring during the brewing process

- Unique automated pretreatment and measurement for bitterness
- Various well-known colorimetric tests can be run simultaneously
- Low reagent volumes and contamination free analysis
- Cost-effective, easy and eco-friendly automation for controlling the brewing process





## Thermo Scientific Gallery Plus Beermaster

*BCM unit for automated bitterness measurement*

*Capacity typically 8 bitterness tests /h, first result in 10 minutes, up to 350 one-reagent colorimetric tests /h*

*Discrete cell technology allows for simultaneous measurement of several different tests for the same sample*

*Continuous access to samples, reagents and cuvettes without interrupting test processing*

*Sample disk for 6 racks, reagent disk for 42 reagents*

*Filter range from 275 nm to 750 nm*

*Allows to set-up user-specific applications*

*Dimensions of the analyzer: width 94 cm (37 inch), depth 70 cm (27.6 inch), height 62 cm (24.4 inch),  
height with the open cover 130 cm (51 inch) - no need for external water or drainage connections*



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