# Industrial Glucose Analysis

A very fast enzymatic assay for β-D-glucose in beverages, biotechnology and biopharmaceutical applications.

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| **Bulletin Reference** | TB – Glucose – Industrial – GMRD-002A – V.01 |
| **Order Code(s)** | GMRD-002A |
| **Reagent Kit Size(s)** | 250 ml (360 analyser cycles for GM8 and GL6, 150 analyser cycles for GM10) |
| **Instruments** | All GM8, GM10 and GL6 Series analysers |
| **Samples** | Any suitable biological fluid or aqueous extract |
| **Sample Volume** | 10 µl (25 µl for GM10) |
| **Analysis Time** | 20 seconds |
| **Working Range** | 0.05 - 20 %W/V (for GM8, GL6);<br>0.20 - 40 %W/V (for GM10) |
| **Reagent Stability** | Shelf-life unopened: 18 months stored at 0 - 5°C. |
| **Note** | Long-life glucose standards (with preservative) at 1.0, 2.0, 5.0, 8.0 and 20.0 %W/V are available and ordered as required. Other values can be supplied to special order.<br>Sample opacity or turbidity presents no problem since the detection method is electrochemical rather than spectrophotometric. |

## Principle

In the presence of molecular oxygen, β-D-glucose (GOD) is oxidised by the enzyme glucose oxidase to gluconic acid and hydrogen peroxide,

$$\beta\text{-D-Glucose} + O_2 \xrightarrow{\textit{Glucose Oxidase (GOD)}} \text{D-Gluconic acid} + H_2O_2$$

Under the conditions of the assay, the rate of oxygen consumption is directly proportional to glucose concentration.