

## BioVIS

### Real-Time Total Cell Density & Biomass Monitoring Probe

**COMPATIBLE WITH  
ALL MAJOR BRANDS  
OF BIOREACTORS**



BioVIS is a probe for the online monitoring of total cell growth and biomass using optical density, which can reduce or replace the need for online sampling.

This is a compact, portable and easy to use unit which is compatible with all major brands of bioreactors. Simply insert the sterilisable probe inside the bioreactor and track growth kinetics.

### Features

- | Monitor and log total cell density in any fermenter
  - | Plug and Play design for use with any bioreactor
  - | Proprietary light reflectance technology
  - | Probe lengths for any size vessel
  - | Single compact portable unit
  - | No need for sampling or dilutions
  - | No reduction in medium volume due to sampling
  - | Integrated data logging option available with further temperature and pH monitoring functions
- **Data is comparable to that produced by a spectrometer, but at a fraction of the cost!**

## BioVIS Multiplex For Multiple Bioreactors

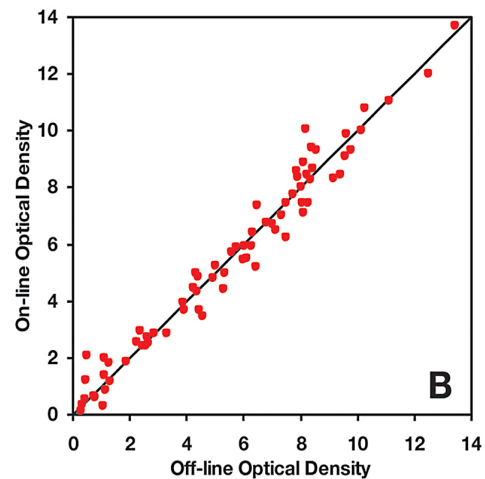
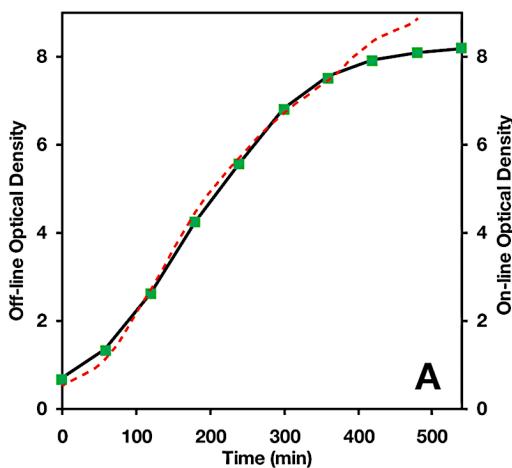
For total cell density tracking in multiple, parallel bioreactors upgrade to BioVIS Multiplex. This is ideal for measuring total cell density in multiple large or mini bioreactors.

The BioVIS Multiplex can be used with parallel bioreactors. HEL Xplorer HT shown



## Accurate Data Measurements

BioVIS measurement shows a good correlation with the offline analysis and has all the advantages of being online.



Proven batch to batch reproducibility across multiple reactors in parallel. The left hand graph demonstrates the comparison of offline and online growth kinetic profiles. The right hand graph demonstrates the results from 8 separate *E.coli* fermentations in 100ml bioreactors.

## Technical Specifications

Probe length	As required by size of bioreactor
Diameter (minimum)	1/8 inch (3.18 mm)
Optical path length	0 to 5 mm
Process connection	1/4" UNF
Operating temperature range	0 to 150 °C
Steam sterilisable	Yes, max temperature 200 °C
Autoclavable	Yes
CIP	No
Pressure range	0 to 10 bar
Measuring principle	NIR
Light Source	LED
Wavelength	880 nm
Multiplex Option	Yes, number depending on requirements.
Supports all major brands of bioreactors	Yes

BioVIS communicates with Analog Output 4-20mA or 0-10V.