

BIOSCREEN C™

Description of the Bioscreen C Growth Curve Analysis System

Bioscreen C system directly measures microorganism growth. As they grow, they increase the turbidity of their growth medium. By measuring the turbidity of this medium over time, an optical density (O.D.) curve can be generated. The curve reflects the growth (increased concentration) of the organism of interest.

Bioscreen C instrument includes an incubator, shaker, and measurement unit. The unique incubator has a liquid circulation heat-exchanger that gives constant temperatures to all wells, essential for developing high quality growth curves.

Users may select a temperature from 1 to 60 °C in steps of 0.1 °C. The shaking element is user-controlled to maintain sample uniformity and eliminate problems of precipitation. A halogen lamp provides the light source for measuring optical density, as turbidity of the medium grows over time. Measurements are done kinetically using the principle of vertical photometry.

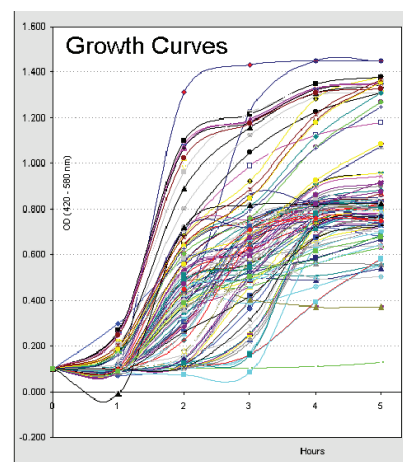
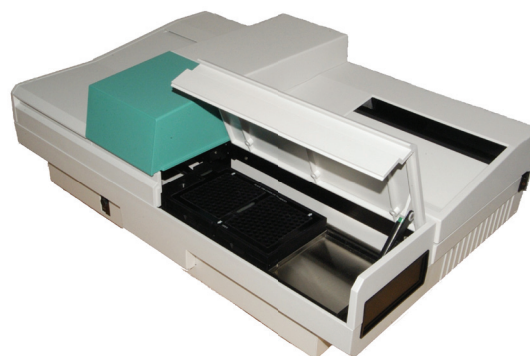
BioScreener™ software is included with the system. It provides for system control, data acquisition and growth curve plotting. Its advanced features enhance system capabilities for optimum performance. Users can view growth curves in real-time, pause experiment to change conditions, zoom in to magnify sections of curve, export results to Text, CSV, XLS or HTML formats.

The novel honeycomb microplate with 100 wells was designed for this system. Two plates can be placed in the instrument at one time, providing for up to 200 experimental results per run. It eliminates evaporation, condensation, and sample carry-over, which are common problems with conventional microplates.

Unique Features

This unique combination of design features distinguishes Bioscreen C from other methods used to determine growth curves. The system provides consistently accurate and reproducible results, under conditions specified by the user.

- › No condensation or evaporation of sample: Patented microplate design.
- › Choice of optical measurements: Seven wavelengths or wide-band filter.
- › 200 results at one time: Fewer experiments mean faster results.
- › Unmatched versatility, reliability and durability. Lasts for up to 20 years.
- › Extended experimental runs: Experiments as long as 1600 hours.
- › Walk-away system: Load samples, set conditions, walk away, return later for results.



BIOSCREEN APPLICATIONS

Users can dispense any microorganism with any growth media, and Bioscreen C will monitor kinetically the culture growth. Users have developed hundreds of applications for the Bioscreen C system, including:

- Develop new antimicrobial /antifungal agents
- Determine the lethal dose (LD) of antibiotics
- Perform antibiotic susceptibility tests

- Evaluate microbiological preservatives
- Study production processes of production of yogurt, beer, wine, foods
- Quality control of food products

- Production of microbiological protein from organic waste
- Develop methods for biofuel production
- Microbiological assays for measuring amount of vitamins, amino acids, antibiotics, disinfectants, toxicant, biostimulators, and growth retardants

- Evaluate wastewater treatment, biofilm, and activated sludge processes
- Find optimal conditions for biodegradation of pollutants
- Study microbiological processes at different temperatures
- Develop microorganisms with wanted characteristics

- Measure combined effects of various parameters on mixed cultures
- Study the growth kinetics of bacteriophages (dropping growth curves)
- Develop selective or broad range growth media for microorganism

Growth Curves USA

“Bioscreen Automation for Microbiology”

11 Blueberry Ct, Piscataway, NJ 08854 USA • 732-457-9070
bioscreensales@aol.com • www.growthcurvesusa.com