

## HiGro®

A high-capacity microwell plate growth system.



The HiGro is a high-capacity, incubating shaker designed to accelerate sample growth in microwell plates. This uniquely engineered instrument combines a small shaking orbital, gas flow and temperature control system in a **user-friendly, compact layout**. Plate-holding cassettes allow for **easy loading and unloading**.

The convenience and control of the HiGro system make it the ideal solution for facilities with high-throughput growth needs as well as for laboratories using applications that are best optimized in a microwell format.

### Key Benefits

- Space-saving design
- Optimizes growth in 96- and 384-microwell plate formats
- Easy to load and unload
- Superior control over growth environment

## Design Specifications

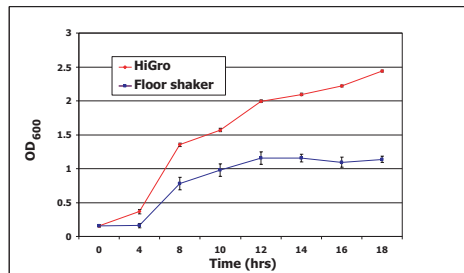
<b>Dimensions</b>	26" W x 21" D x 22" H (0.66m x 0.53m x .56m) (small footprint allows placement on lab bench)
<b>Capacity</b>	4 growth chambers, each holding 1 cassette with 12 shallow-well or 6 deep-well plates. Total system capacity is 48 shallow-well plates or 24 deep-well plates.
<b>Temperature</b>	Independent control for each chamber. Range is ambient to 55°C. Resolution is 1°C.
<b>Shaking</b>	Rotational orbital is 8.0 mm (ideally suited for 96-well growth) or 4.0 mm (ideally suited for 384-well growth)*. Maximum speed is 650 rpm. Resolution is 1 rpm.
<b>Gas Flow</b>	Oxygen- or air-ready*. Gas flow rate and timing controls located on instrument front panel.

\*Depending on Model

## Data

**HiGro & Floor Shaker Comparison for Plasmid Growth**

**Figure 1**



**Figures 1 & 2**

**Conditions:** *E. coli* strain is DH10B carrying pUC 19; 1x TB media; inoculum: 5 µl glycerol stock culture; selection: Ampicillin; 37°C.

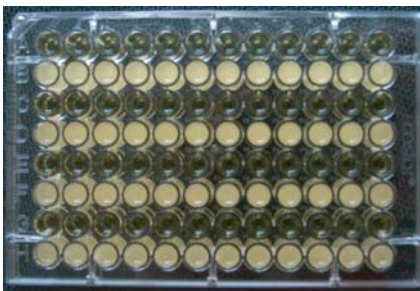
**HiGro:** 300 µl/well in 96-shallow-well, flat-bottom plate; 550 rpm; Air flow: no delay, 2 sec on, 30 sec off, 6 standard liters per minute; no plate lids.

**Figure 1:**

**Floor Shaker:** 1000 µl/well in 96-well Beckman deep-well block, 250 rpm in New Brunswick floor shaker (plates were taped down); aluminum foil placed loosely over each plate; wetted paper towel placed in shaker to maintain ambient humidity.

**Cross-Contamination Growth Test with No Plate Lids**

**Figure 2**



**Plasmid Yield Time Course from 384-Well Growth\***

**Figure 3**



>1µg plasmid after only 8 hours! (total yield from 90 µl growth volume)

DNA eluted into 50 µl EB

Each band in the ladder represents 25 ng DNA

**Figure 3:**

**Growth Conditions:** 90 µl/well Magnificent Media, 384-shallow-well, flat-bottom plate, rounded-square wells; inoculation (1 µl) from O/N culture; high copy plasmid, 3 kb total size; selection: Carbapenem.

**HiGro:** 37°C; 500 rpm; Air flow: no delay, 0.5 sec on, 0.5 min off, 1.5 standard liters per minute; no plate lids.

**Plasmid Prep Conditions:** 90 µl (total culture) pipetted into alkaline lysis reagents (100 µl). Neutralization reagents added (100 µl). Pelleted sample. Isolated DNA on commercially available column. Eluted into 50 µl EB.

**Gel Conditions:** 2 µl & 4 µl of each (50 µl) prep were run on 1% agarose gel. Ladder: two 10-band mass ladders combined (250 ng of each ladder).

Request the latest HiGro Application & Technical Notes.

\*Data obtained through customer collaboration

Worldwide Headquarters: 4355 Varsity Drive  
Ann Arbor, Michigan 48108 USA  
Ph: +1.734.975.4800 • Fx: +1.734.975.4808  
Toll Free: 1.877.GENOMIC (436.6642)

Europe: Genomic Solutions Ltd. • 8 Blackstone Road  
Huntingdon • Cambridgeshire  
PE29 6EF • United Kingdom  
Ph: +44 (0) 1480 426 700 • Fx: +44 (0) 1480 426 767

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