

## Bioreactors CELLine 1000

In an effort to push science forward, WHEATON is manufacturing a new line of membrane driven flasks for high density cell culture. The flasks are designed to enhance small scale bio-production for antibody and protein generation. Conventional in vivo or in vitro cell culture methods can be laborious, may have low cell density and require significant purification. CELLine flasks address these three areas of limitation observed in static tissue culture flasks.



**Handling Requirements** — CELLine flasks reduce the handling requirement by requiring less consumable items and allowing longer run times due to their unique metabolite regulating upper membrane. This membrane allows for bulk media storage during operation to ensure constant and regulated nutrient access for the cells.

**Cell Densities** — CELLine flasks ensure maximum gas exchange by placing the gas permeable lower membrane directly next to the cells. This allows for optimal oxygen and carbon dioxide transfer for metabolizing cells.

**Purification** — The upper and lower membranes form an optimized compartment for cell proliferation. This allows for the reduced use of growth factors and hormones and concentrates the antibody and proteins of interest.

### Benefits of CELLine Flask

- Multiuse flask
- High cell density and high product concentration
- Reduces operation time
- Decreases use of consumables
- Cost-efficient, space saving, and stackable
- No additional equipment required for operation

### How does the CELLine Flask Work?

**Media Compartment** — The media compartment allows for bulk storage of cell culture growth medium. This reduces the media refreshing requirement significantly as the media compartment is fifty times the size of the cell compartment.

**Metabolite Regulating Upper Membrane** — The upper dialysis membrane has a 10 kDa cut off limit. This regulates the flow of metabolites to and from the cell compartment and retains all proteins in the cell compartment.

**Cell Compartment** — The cell compartment provides the ideal area to inoculate and achieve high density cultures. The compartment concentrates cells, their products, and limits the requirement for any exogenous growth factors.  
Gas Permeable

**Lower Membrane** — With static cultures, gas transfer rates can be the limiting factor in high density cultures. The CELLine flask places the cells directly against the gas permeable membrane to achieve optimal levels of oxygen and carbon dioxide.

### Additional Information

Seeding And Harvesting	Densities CELLine 350	CELLine 1000
Preculture (Viable Cells)	7.5 x 10 <sup>6</sup>	22.5 x 10 <sup>6</sup>
Inoculation Volume (mL)	5	15
Inoculation Concentration (Viable Cells/mL)	1.5 x 10 <sup>6</sup>	1.5 x 10 <sup>6</sup>

Harvesting Concentration (Viable Cells/mL)	20-40 x 10 <sup>6</sup>	20-40 x 10 <sup>6</sup>
Titer (mg/mL)	1 - 10	1 - 10
Antibody Yield per Month (mg)	20-200	60-600

Ref. WCL1000-1

Code	Description	Ref.	Culture Type	Media (ml) compartment	Cell (ml) compartment	Qty per pack
164034825	Bioreactors CELLine 1000	WCL01000-3	Suspensions	1000	15	3