Single-Use Bioreactor Systems

ATMI, Inc.'s Integrity™ Xpansion™ bioreactor systems enable large-scale, cell-based manufacturing. According to the company, the bioreactors:

- Have been especially developed for fragile, adherent cell culture applications (such as stem cells), on a large scale.
- Support safe and cost-efficient large-scale (large volume) production of traditional two-dimensional (2-D) cell cultures with the advantage of cell culture parameter controls.
- Feature the 2-D multi-plate design, which offers the same cell environment as standard multi-tray technology, but adds the benefit of a closed system for increased protection from potential contamination.
- Do not change critical cell culture parameters, successfully mitigating risk during process scale-up for large clinical studies.
- Offer easy transition from existing technologies to the Xpansion systems, at any stage of a clinical study.
- Offer quick scale-up to process design for flexibility and speed in both upstream and downstream processing.
- Dramatically reduce the number of operations needed, maximizing safety and reducing the cost of goods by up to 40 percent.
- Feature a design that ensures sterility and reduces the risk of contamination.

- Allow for the cell culture parameters (including pH, DO, and temperature) to be read using real-time controls in order to allow process reproducibility and traceability.
- Monitor and control temperature, dissolved oxygen, pH, and media flow rate.
- Integrate with the full line of ATMI technologies, including the Integrity™ brand of single-use technologies, ranging from mixers to bioprocess vessels and bags.
- Are of stacked polystyrene plates within a closed system; up to 180 of these plates can be stacked to produce a unit with a surface area of $11m^2$, and, as the plates are close together (just 1.6mm apart), the entire bioreactor is about 60cm high and is 35cm in diameter, resulting in a completely closed, single-use bioreactor, from vessel to sensor.

www.atmi-lifesciences.com [1]

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