Success Story

Modular Facilities With Smaller Footprint Through Dynamic Perfusion

A CDMO wanted to establish a multi-modality facility while achieving around 300 kg/year throughput. At the same time they had the desire to decrease upfront capital investment. Dynamic perfusion was the way to accomplish that goal.

Customer Challenge
- Wanted to increase productivity per batch with a smaller footprint
- Needed to better manage production of difficult-to-express molecules
- Required agility for multiple modalities with different process needs
- Had to meet throughput demands with faster turnaround time

Provided Solution
- Perfusion enabled Biostat STR®
- Highly productive, scalable, and stable cell line optimized for perfusion
- Fluid and facility management and facility design for automation

Before
- Standard fed-batch process that:
  - Required 2,000 L production bioreactor volume
  - Produced 10 kg per bioreactor
  - Generated 0.42 per g/L/day
  - Used standard facility and footprint

After
- Perfusion-enabled process that:
  - Reduced footprint by 50% and reached 5x productivity per batch with 1x500 L Biostat STR®
  - Achieved a 4x increase in yield per batch
  - Realized a 2.5-fold increase in productivity per bioreactor, achieving 1.05 g/l/day

More than 5x productivity increase per batch

Small, modular facility with ballroom concept possible

Build-up of a flexible facility in less than two years

Enabled processing of different modalities in the same facility

Up to a 60% decrease in upfront investment due to smaller, perfusion-enabled, single-use bioreactors

Contact a Sartorius Specialist or visit www.sartorius.com