

CUSTOMER CASE STUDY

Biopharmaceutical Industry

AUTOMATED DUAL FEEDING INTO RECENTLY CONVERTED BIOREACTORS



Customer

Large pharmaceutical company which gained a recombinant protein therapy production site through an acquisition and was looking to convert cell culture tanks into fermenters.



Objective

To optimize cell density in converted cell culture tanks through automation of glucose and yeast feed scheduling.

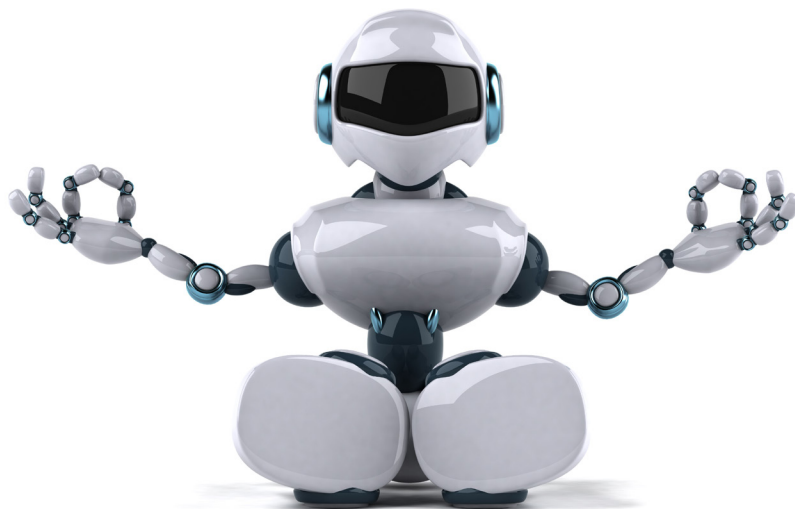


Specification

- 2 x SciLog® ChemTec precision systems
- 1 x metering system model CP-8 metered in a yeast slurry at 0.23 g/min for the entire 33-hour growth period
- 1 x metering system model CP-8 simultaneously supplied a glucose solution at three flow rates from 0.17 g/min to 0.37 g/min
- All application parameters written to the ChemTec's SciDoc data collection software for record keeping and analysis



Control



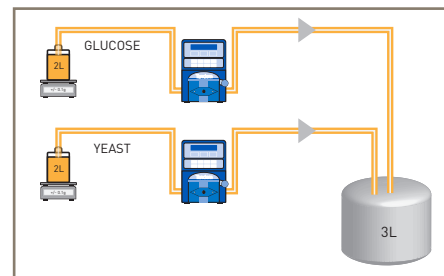
Requirements

The client acquired 16 used three-litre cell culture tanks that needed to be converted into fermenters for the growth of *E. coli* bacteria.

The goal of the process development team was to test several different feed strategies to maximize cell concentration over a 33-hour long incubation period.

They needed a single-use solution with a very precise feed rate, as low as 0.17 mL / min, the ability to automate a changing flow rate over time, and, in addition, to collect digital data of reactor weight over time.

The project required that we utilize existing balances already on site to save on costs.



Parker domnick hunter Solution

Parker domnick hunter successfully specified an automated reactor feeding system consisting of 16 ChemTec CP-8s with Tandem™ 1081 heads employing #13 tubing.

Cell culture scientists needed 16 ChemTecs to communicate with their existing balances. One of these balances was shipped to our site in the USA where balance communication was programmed and tested by Parker domnick hunter engineers.

A balance programming SOP was written and handed over to the client to ensure accurate communication of the remaining 15 on-site balances.

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