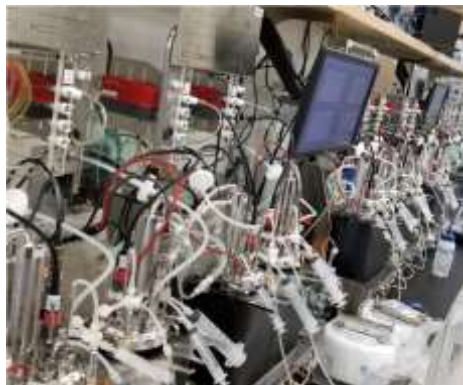




APPLICATION SPOTLIGHT

Mass Flow Controllers Ensure Accurate Bioreactor Process

Mass Flow Controllers Ensure Accurate Bioreactor Process



APPLICATION:

A biotech company producing a highly nutritious, all-wild algae packed with health-promoting elements uses bioreactors to culture algae. Within the bioreactors, incubator shakers with lighting provide various light spectra and light intensity with day/night timing. Cooling and gassing with CO₂ provide the best conditions for screening and optimizing the phototrophic process. Monitoring a stable and repeatable CO₂ flow in the process is essential for high-quality results.

PRODUCT SUPPLIED:

- Vogtlin Mass Flow Meters and Controllers utilizing MEMS sensor technology

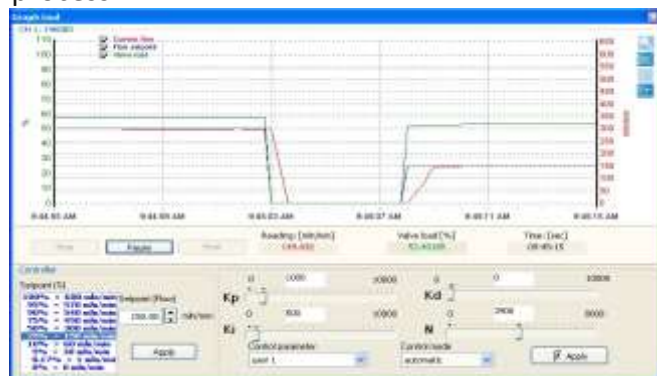
CHALLENGE:

Sight glass meters previously used to monitor gas flow were very susceptible to temperature and pressure deviations. As biotechnology is a sensitive science, small differences in process conditions make a big difference in results. Supporting instrumentation including flow meters must have the repeatability and accuracy to provide consistent and accurate feedback for the biotech process. Automating processes also is critical to modern biotechnology research to reduce error and costs while providing faster results. Sight glass

meters do not provide any type of electronic output and only serve as visual indicators of flow. By eliminating the need to manually read meters, personnel at the biotech company can concentrate on core business activities instead of spending time travelling to instrumentation and inputting information.

SOLUTION:

Vogtlin Mass Flow Meters and Controllers offer on-board totalizing, flowrate indication as well as the ability to adjust flow on the fly to accommodate process variables. With a repeatability of less than 0.2%, the flow meters ensure the same value every time gas is added to the process. The sight glass meters varied by more than 10%. Utilizing MEMS sensor technology, Vogtlin meters and controllers are extremely fast, accurate, and highly repeatable, making them ideal flow devices for any bioreactor process.



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