DEVELOPMENT OF MICROCHIP CE-HPMS ANALYZER FOR BIOREACTOR MONITORING

NIIMBL® The National Institute for Innovation in Manufacturing Biopharmaceuticals

908 Devices, Boston, MA

Type:
NIIMBL-led Project

Participating Organizations:
University of North Carolina, Chapel Hill, 908 Devices, North Carolina State University, MilliporeSigma, and Bristol-Myers Squibb

» Glenn Harris

Photos courtesy of 908 Devices

INDUSTRY NEED

Mass spectrometry systems, key for chemical characterization measurements, require a large laboratory footprint. Separations systems are also very large pieces of equipment with complicated functionality requiring a high level of specific training for operation. The combination of equipment size and expertise can strain resources and space in laboratories.

SOLUTION

908 Devices has put together a miniature size mass spectrometry and a miniaturized chemical separation system in one benchtop instrument-—The Rebel®[1]. The compact size is unique and the new system is equipped with sophisticated intelligence allowing a lab technician to operate the system. Benefits of The Rebel® include a smaller footprint, reduced capital cost, reduced analysis time and talent efficiency.

OUTCOME

The Rebel® allows for samples to by analyzed in-house, almost immediately as they are pulled from the bioreactor. Results for cell analysis are available in 5-10 minutes vs 2-3 weeks, enabling faster decision making to optimize the intended output quicker. Simplified and automated design is easy enough to be used after a short training period with no scientific or technical background compared to the advanced scientific and technical required skills to operate traditional units. This enables PhDs and senior technical staff to focus on high priority tasks vs process development analytics.

[1] Rebel® is a registered trademark of 908 Devices

> *"We had ideas on exploring an additional application in the future; however based on the customer insight we received during our NIIMBL project we were able to validate the application, saving our company almost a year of research."*

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