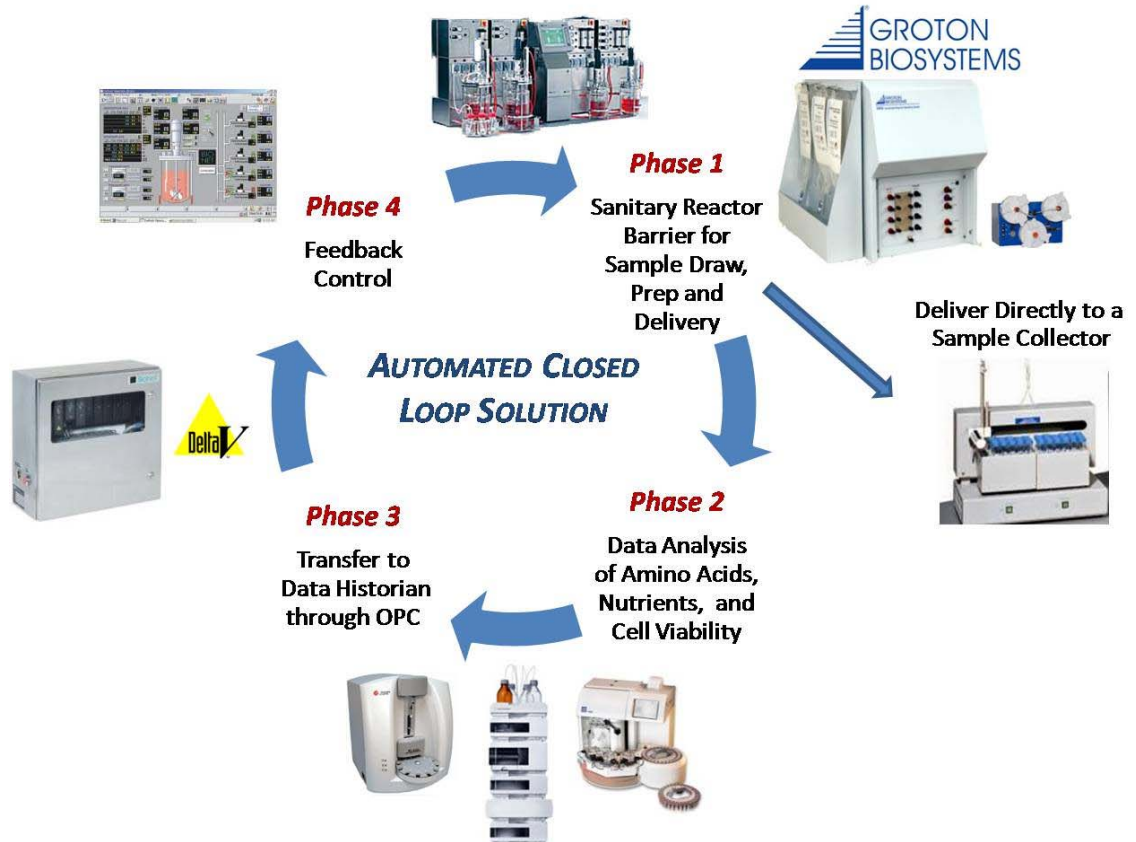


AUTOMATED BIOREACTOR SAMPLING

ARS-M™ SERIES

HPLC ASSAYS • NUTRIENT MONITORING • CELL VIABILITY • SAMPLE COLLECTION
REACTOR STERILITY • FILTRATION, DILUTION, BUFFER EXCHANGE, CELL LYSING
CIP AND SIP SYSTEMS • SUPPORTS QBD AND PAT • OPC CAPABILITIES



Phase 1 → *Eliminate* manual sampling and the potential for human contamination.
 Collect samples from glass, stainless steel (SIP) and single use bioreactors and deliver automatically to a chilled (or sub-zero) sample collector. Save valuable labor, especially during unmanned hours.

Phase 2 → *Eliminate* manual sample prep and potential for sample variation.
next, move to automated sample prep and automated delivery to critical analytical instruments such as HPLC, Nutrient Monitors, and Cell Counters.

Phase 3 → *Eliminate* manual data entry and risk of transfer errors. Facilitates a true paperless system.
then, deliver critical process data to reactor control data historian via OPC to perform data analysis.

Phase 4 → *Eliminate* variance in process control parameters for improved yields and quality control.
finally, implement feedback control strategies.

