

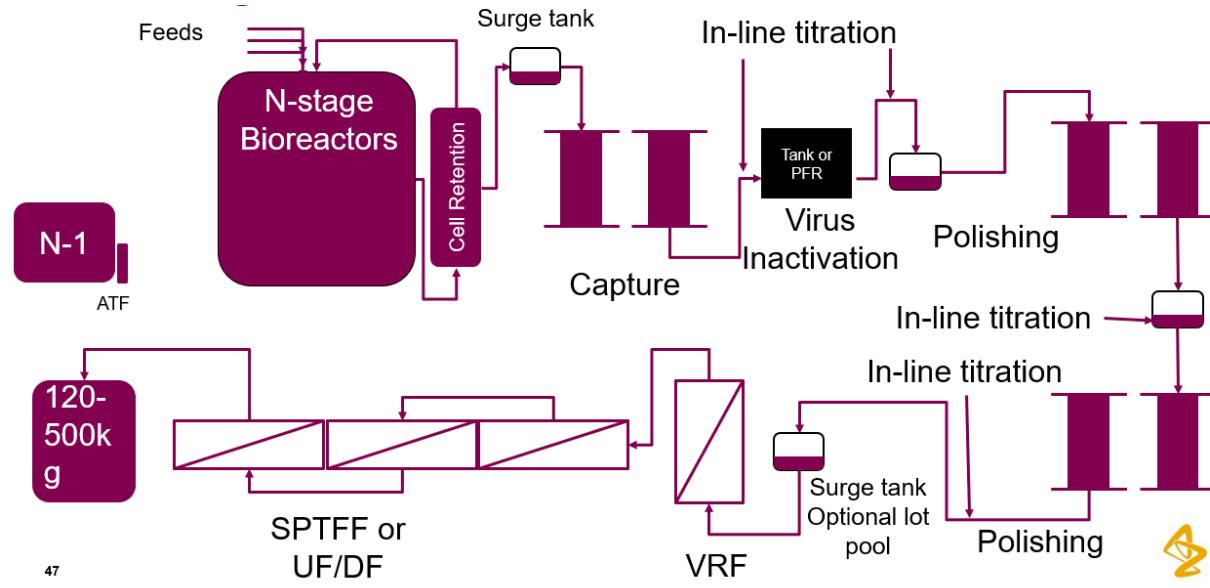


The National Institute for Innovation in Manufacturing Biopharmaceuticals





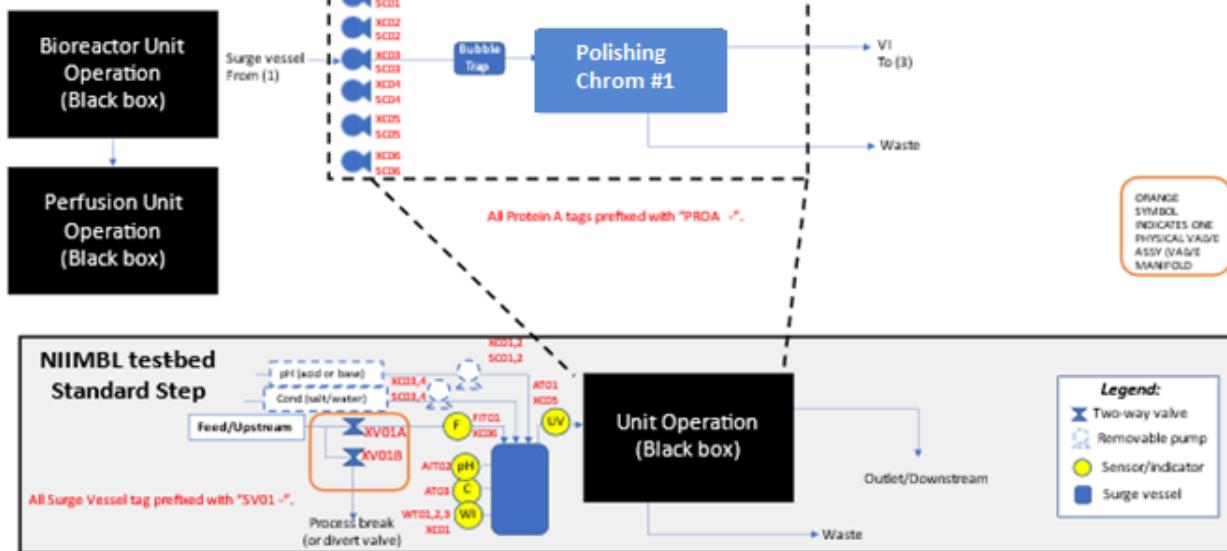








**Polishing
(2) Chrom #1**

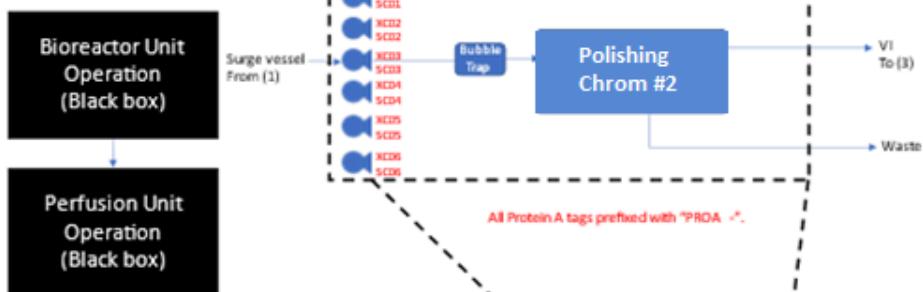








(2) Polishing Chrom #2



ORANGE SYMBOL INDICATES ONE PHYSICAL VALVE ASSY (VALVE MANIFOLD)

NIIMBL testbed Standard Step

All Surge Vessel tag prefixed with "SV01 -".

Process break (or divert valve)



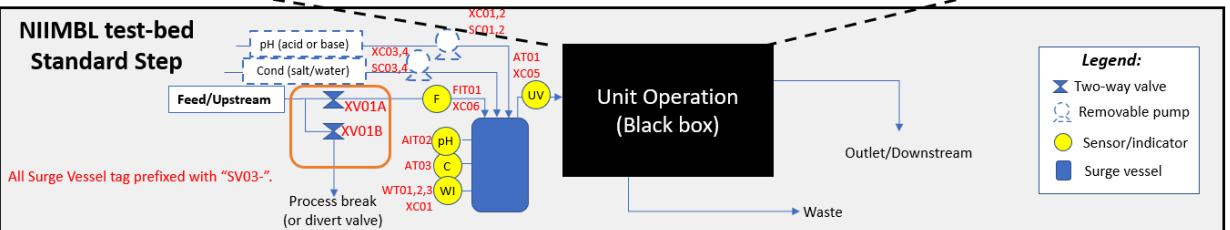








(4) Post-VI Depth Filtration











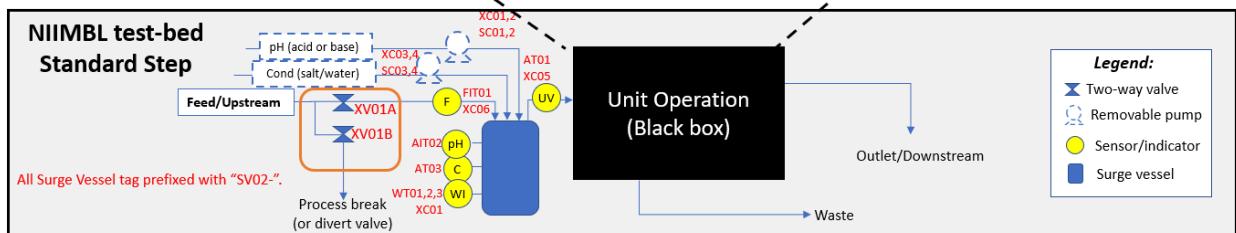






(3)

Viral inactivation black box:

















(8) Ultrafiltration

