

Large Scale Cell Culture Single Column Chromatography System

Confidential Client

Pharmaceutical and
Biopharmaceutical

MANDATE

Biopharm Engineered Systems LLC (BPES) was retained to design and construct a single column chromatography unit with product/buffer feeds.

Buffer feed and product paths were designed to be chemical sanitizable and capable of clean-in-place (CIP) with the installation of buffer feed and a column CIP manifold.

The unit was designed to fit on a single skid frame that ensured maintenance accessibility to all system components.

DESCRIPTION | FEATURES | BENEFITS

The Single Column Chromatography unit with product/buffer feeds included the following parameters:

- 0.5-20 LPM Multi-diaphragm Feed Pumps
- Feed Static Mixer
- Tempered Water Feed Heat Exchanger
- Bubble Trap
- Feed Filter (with 10" or 30" cartridge)
- Pre-Column Air Sensor
- Pre- & Post Column Conductivity & pH
- CIP Rinse Conductivity
- Post Column Dual UV Sensors
- 2-5 port block diaphragm valve
- Customer supplied DeltaV programming



SERVICES PROVIDED

BPES scope of work included the following:

- Process Engineering
 - Product Loading
 - Washing & Equilibration
 - Isocratic or Gradient Elution
 - Elution fractionization
 - System CIP/SIP plan & manifolds
- Electrical Engineering
 - Electrical Enclosure Design
 - Interconnecting wiring design
- Equipment, Valve & Instrumentation selection
- Mechanical Skid designs
 - 3D Model
 - Equipment layout
 - ASME BPE compliant piping design
 - Piping sloped for gravity draining
- System Fabrication
 - Skid frame fabrication
 - Pipe manifold fabrication & documentation
 - Instrumentation installation & wiring
- Quality Documentation
 - Material Test Reports
 - Video Borescope
 - Weld Mapping
 - Factory Acceptance Testing

SECTOR OF ACTIVITY
Biotechnology

CLIENT
Confidential Client

YEAR OF COMPLETION
2023

TOTAL PROJECT COST
US \$ Confidential

BPES PROJECT VALUE
US \$ Confidential

