

# High Temperature Short Time (HTST) System

Confidential Client

## MANDATE

Biopharm Engineered Systems LLC (BPES) was retained to Design, Engineer & Fabricate a "High Temperature, Short Time (HTST)" process skid for a Confidential Client in Carlsbad, CA in order to replace older, outdated, non-fully automated equipment. Confidential Client specializes in serving customers in molecular and cell biology, clinical applications and in applied markets such as human identification, biosecurity and quality and safety testing.

## PROJECT SCOPE

BPES's main project scope included designing a Fully Automated HTST Skid with data collection, new instrumentation and Delta V communications to double the capacity of an existing skid. Project challenges included fitting all instrumentation and process piping into a spatially constrained envelope that was to be fully enclosed for washdown, while remaining accessible for maintenance. Physical constraints dictated that the new high capacity system had to fit within the footprint of the existing system. Schedule constraints included successfully accommodating the electrical and automation design with alternate hardware components due to longer than anticipated leadtimes.

## Process Equipment (Including but not Limited to)

EXERGY Heat Exchangers  
Unibloc COMPAC Pump  
Ethernet based Instrumentation  
Delta V Controls

## Software / Communications

Delta V



## Equipment / Services Provided (Including but not Limited to):

- Heat Exchanger Sizing
- Pump Sizing
- Pipe Sizing
- Process Temperature Assessment
- Process Flowpath Development
- P&ID Development
- Component Selection
- Component Submittal Logs
- 3D Model Reviews
- Valve Manifold Detailed Drawings
- Custom Manifold Design
- Custom Removable Cladding Design
- Polishing Procedures
- Electrical Schematic Design
- Automation Coordination
- Sequence of Operation Review
- TOP Review with QA & Validation
- Simulation Phase Testing
- Selective FAT Testing
- Steam Testing
- Passivation
- Dedicated Air Ride Shipping

Pharmaceutical and  
Biopharmaceutical

## SECTOR OF ACTIVITY

Biopharmaceutical

## CLIENT

Confidential Client

## YEAR OF COMPLETION

2023

## SKID DIMENSIONS

5.8" W x 3.25" D x 7.4" H

## BPES PROJECT VALUE

Confidential Value