

Custom Turnkey Process Systems Pharmaceutical-Biotech



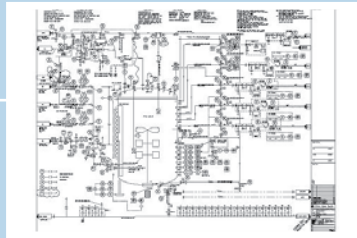
CONTROL & POWER SYSTEMS, INC.
www.c-p-s.com

CUSTOM PROCESS SYSTEMS

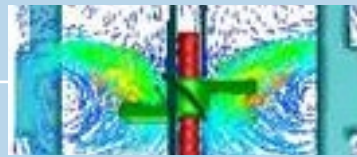
User Requirement



P&ID



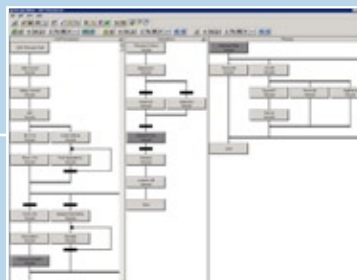
Agitation Model



3-D Model



Operator Interface



S88 Batch

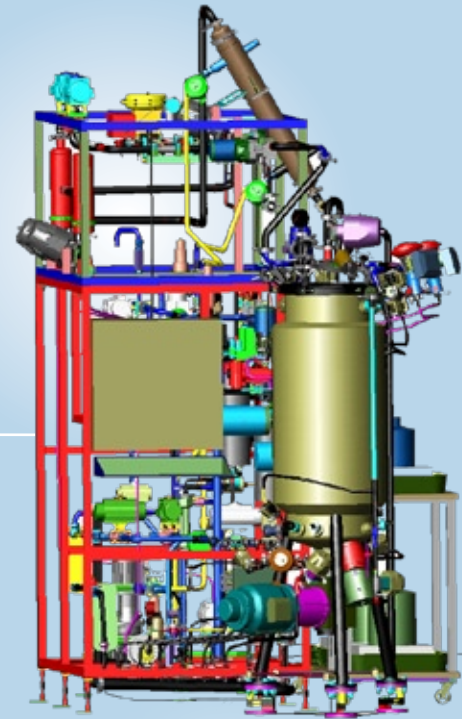
Process Reactor

Batch Report

Batch Journal Report				CD-606.02	
Batch No.	Start Time	End Time	Status	Operator	Notes
001	10/10/00 08:00	10/10/00 12:00	Completed	J. Smith	Normal operation
002	10/11/00 08:00	10/11/00 12:00	In Progress	M. Jones	Minor issues

Batch Equipment Usage			
Equipment	Start	Stop	Usage
Reactor	10/10/00 08:00	10/10/00 12:00	4.0000
Agitator	10/10/00 08:00	10/10/00 12:00	4.0000

Batch Requirement of Certification			
Item	Requirement	Status	Notes
1	Batch Record	Complete	
2	Equipment Calibration	Complete	



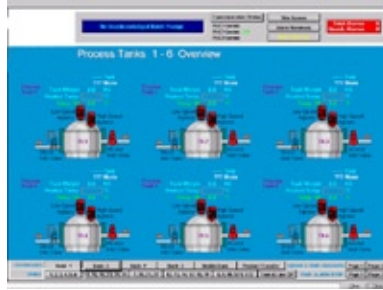
THREE DECADES OF EXPERIENCE

For over three decades, Control & Power Systems' (CPS) in-house staff has engineered, designed, programmed, fabricated, installed, formally tested and validated thousands of process automation skids and control systems. Every CPS system is built and programmed to the highest quality standards. CPS' commitment to on-time delivery and the pursuit of customer satisfaction is uncompromising.

Automation Software Solutions

CPS software development and testing follow the industry proven “V model” for the GMP and non-GMP software systems that are developed and deployed. CPS is highly experienced in:

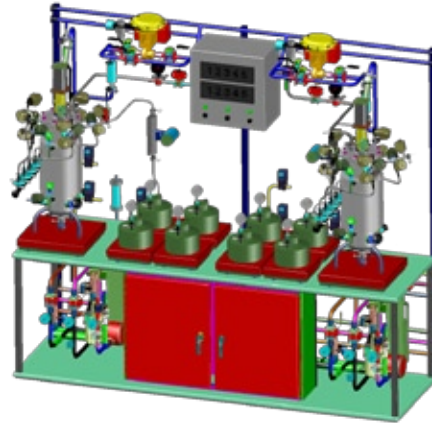
- PLC and SCADA Based Systems
- S88 Batch Control
- Batch Reporting
- Data Historian
- 21 CFR Part 11 Compliance
- RFID – Wireless



Engineering & Design Expertise

CPS provides all of the engineering and design capabilities needed for manufacturing, clinical supply and laboratory skid and automation systems.

- | | |
|-------------------------|------------------------|
| • Process | • Control System |
| • P&ID | • ASME BPE |
| • Agitation | • UL508A / 698A / 698B |
| • 3-D Mechanical Design | • Instrumentation |
| • Electrical and Power | • Structural |



TESTIMONIAL

“Despite demanding time and budgetary constraints, Control and Power Systems met, and often exceeded, our requirements as a customer. Most recently, CPS delivered three custom, S88 automated fermentation process skids on-time and at budget. These systems will allow us to more effectively support our biologics pipeline...”

“...I have worked with CPS over the past decade at two different pharmaceutical companies. They have always demonstrated superior technical expertise, strong project management skills, outstanding responsiveness and an unparalleled sense of urgency to all projects and assignments.”

-- John, Group Leader, Process Technology



Start-up Support

- Calibration
- Commissioning
- Loop Tuning

Installation

- Electrical
- Piping
- Network
- Rigging
- Mechanical



Pharmaceutical - Biotech Process Piping Skid Fabrication

CPS manufactures process skids to the highest standards in a flex pharmaceutical manufacturing area. From lab scale, to portable, to mezzanine based process piping modules; all CPS systems comply with the ASME BPE standards. The CPS testing center is equipped with all of the utilities required to test the skids.



Audited Quality Systems

The comprehensive CPS Quality Management System has been successfully audited and approved by several major pharmaceutical and biotech companies. The project quality plan covers all aspects from Process Design Review to Software Development to Material Management to Welding to Factory Acceptance Testing.

CPS Quality Management System was audited and achieved the highest level of certification from the Control Systems Integration Association (CSIA).

Validation

CPS provides a complete package.

- Risk Based Validation Strategies
- Functional and Detailed Design
- Documents
- IQ/OQ Protocols
- 21 CFR Part 11 Assessments

GMP Documentation

CPS delivers a complete GMP package.

- Material Certifications
- Weld Logs
- Borescope Video
- Passivation
- Design Documents
- Testing Documents

Project Management

CPS understands all phases of managing and implementing complex projects. Project manager's focus on high value, on-time solutions that meet each client's specific requirements.



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