How to Use

This planning sheet is useful in pre-planning a process system before approaching design fabrication firms for detailed engineering work or cost estimates. Fill in as many project details below as you can to help streamline the planning and quotation process. An experienced design and build engineer can help you build out and specify unknown project elements and is essential to commercial project success.

General Project Information

Timeline: _______________________________  Materials of Construction (MOC): _______________________________
Budget: _______________________________
Desired ROI over ___ years: _______________________________
Electrical Area Classifications: _______________________________
   (ex. Class I, Class II, Div I, Div II, Zone 1, Zone 2)
Piping specifications: _______________________________
Will any of the following be required (circle all that apply)
   Fireproofing  |  Heat tracing  |  Lighting
Seismic zone: _______________________________
Wind loads: _______________________________

Industry standards and codes: _______________________________
   (ex. GMP, Sanitary, 3A, Food grade, etc.)
Dimensions of available space: _______________________________
Maximum height: _______________________________
NDA required? Yes or No
Accessibility requirements: _______________________________
   (ex. None, ladders, platforms, manways, etc.)
Future expansion: _______________________________
   (ex. Additional process steps. Output increases, etc.)

Process Operating Parameters

Process objective: _______________________________
Major unit operations: _______________________________
Any specific equipment requirements: _______________________________
   (ex. Certain brands, special classifications or uncommon features)
Desired operating temperature ranges for:
   Heating: _______________________________
   Separation: _______________________________
   Cooling: _______________________________
Target operating pressure range: _______________________________
Provide a description of operating temperatures and pressures throughout the process: _______________________________

Raw Material Composition: _______________________________
   Weight % of every component (mix/max): _______________________________
   Required production rate: _______________________________
   Ambient temperatures ______________

Please attach any of the following if you have them: Process Flow Diagrams (PFD)’s, Piping and Instrumentation Diagrams (P&ID)’s, general arrangement drawings, Mass and Energy balances. At minimum, please ensure there is a drawing or written description of all raw materials with CAS numbers when possible, required equipment, residence times, or any other identified requirements.
Instrumentation

Preferred control systems: ____________________________
(ex. DCS, PLC, PAC, etc.)
Manufacturer preferences or requirements?

Desired level of automation: ____________________________
(ex. Fully, partially, mostly manual, etc)
Specific instruments to consider:

Instrument communication type: ____________________________
(ex. Analog, Fieldbus, Profibus, AS-I, DeviceNet,
Ethernet, etc.)

Control valves: ____________________________

Transmitters: ____________________________

Pressure gauges: ____________________________

Relief valves: ____________________________

Thermometers: ____________________________

Flow meters: ____________________________

Other: ____________________________

Additional System Scope

Are any additional raw materials or final product storage tanks required? ____________________________

Any additional system scope? Added processing steps? ____________________________

Additional utilities? ____________________________

Utilities

Which of the following utilities are available onsite? How much capacity is available and at what temperature and pressure?

High pressure steam: ____________________________

Low pressure steam: ____________________________

Hot oil: ____________________________

Cooling water: ____________________________

Chilled water: ____________________________

Coolants/Chilled Glycol/brine refrigerants: ____________________________

Air supply (for instrumentation): ____________________________

Nitrogen pressure: ____________________________

Electrical power (volts, phase, frequency, current): ____________________________

How to turn this information into a cost estimate or basic design package

The easiest way to get a cost estimate is to contact a process system design and build firm and discuss these project parameters with them. EPIC Systems, Inc. specializes in process system design, fabrication and automation. Visit www.epicmodularprocess.com or call 314-845-0077 to talk to an engineer.