Engineered Products System Questionnaire

▼ General description of system: _____

_____

_____

_____

_____

1. Illustrate system with a drawing, include all equipment, sensors, location of load cells, location of controller, etc.
   (Draw on back of page)
2. What type of industry is end user in? What do they process or produce? _____

   _____

▼ Type of ingredients, liquids or solids? _____

▼ If system is a retrofit application:

1. Type and condition of equipment: _____
2. Operation of existing equipment, including manual controls: _____

   _____
3. Detail any operational shortcoming with existing equipment: _____

   _____

   _____
4. Any existing schematics or drawings? _____
5. List strong points of existing system. _____

   _____

▼ Environment; (indoor/outdoor/washdown/wet/dry/temperature range [for indicator and load cells] corrosive/hazardous area:

1. If hazardous area, what Class, Division, and Group: _____

   _____

   _____
2. What type of solution is desired? IS XP Purged? If purged, is instrument air available? _____

   _____
3. Type of hazardous material: _____
4. Are any outputs required in the hazardous area? If so, explain. _____

   _____

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▼ **Draw out or attach drawing of system.**

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Material Handling:

- **Type of material. Is it affected by temperature/humidity?** _____

- **How is material moved, transported and handled; i.e., conveyors, chutes, augers, spirals, vibrators? Etc.** _____

  1. Give dimensional, speed, voltage, and size and weight specification of handling equipment; _____

- **Type of controls: Analog 0-10 VDC or 4-20 MA; VFD's-single/multiple speed digital-AC/DC, etc.?** _____

- **Type of sensors: pressure transducers, thermocouple, moisture, etc.** _____

- **Special timers or cycles: mixers, PID loops, vibrators, blenders, dependent cycles, etc.** _____

- **Size and type of valves and gates: electric, pneumatic, hydraulic, motorized, others?** _____

Scale:

- **Type: platform, vessel, others (how many?)** _____

- **Material of scale: tool steel, stainless steel, hardware, etc.** _____

- **Capacity and sensitivity:** _____

- **Indicator: NTEP, direct strain gauge, etc.** _____

- **Indicator environment: washdown, dust, etc. NEMA rating?** _____

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Control Requirements:

- Power requirements for system? (i.e. 110 volt, 220 volt, 24 volt etc.) _____
- Are they able to supply a clean source for the electrics? _____
- How many scales: RS-232, Remote I/O, and analog output, other communication methods? _____
- How many and type of analog inputs: type and resolution, etc.? _____
- How many and type of analog outputs: type and resolution, etc.? _____
- How many digital control inputs? (Proximity switches, bindicators, photoeyes, loop detectors) Operating voltage? _____
- How many digital control outputs? (Gates, valves, conveyors, augers, motors, vibrators) Operating voltage? _____
- How many and type of special inputs: servo, high speed counters, etc.? _____
- How many and type of communication outputs: RS-232, RS-485, ethernet, PLC interface, computer interface? Distance of communication runs? _____
- How many alarm outputs? Audio, pilot lamp, alpha-numeric? _____
- Hazardous environment hook-ups? Direct, barriers, remote? _____
- Number of ingredients? _____
- Number of formulas? _____
- Number of formula components? _____
- Operator interface and remote displays _____

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Operator Interface:

▼ **Type? (Touchscreen, weight value only, 4 x 20 display, alpha numeric or numeric keypad, full color LCD, prompting, graphics, hard switches, soft switches)** _____

_____

_____

_____

1. Give example of prompting and run screens.

2. Limited access: Password, supervisor keyswitch. _____
3. How many and type of manual overrides? (List all manual controls needed) _____

_____

▼ **General sequence of operations of new equipment: (Be specific)** _____

_____

_____

_____

_____

_____

_____

_____

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Data Collection:

▼ **Printing: What type of printing? Ticket, tape, label, page?** _____

1. Formatting needed? _____
2. Bar-code? Type of bar-code? (Send in samples) _____

▼ **What reports are needed?** _____

1. List data and format associated with each report generated. _____
2. Report accuracy (Number of decimal places) _____

▼ **Computer interface:** _____

1. Type of program: information-data gathering, interactive, etc. _____
2. Interaction between computer and controller. _____
3. Type of computer and communications protocol. _____
4. Type of file and format data to be sent to. _____

▼ **Scanners, bar-code readers, RF readers/transmitters, etc?** _____

▼ **Data storage: Is any data stored longterm? (after a print out, ticket, or lable is generated)** _____

1. If yes, what data fields need storage for each record? _____
2. How many records must be maintained? _____
3. How are records cleared from database? Individualy or all at once? _____

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Other System Considerations:

- Value of materials: _____
- What future expansion of system is being planned for? Please explain. _____

_____

_____

- Cost of down time: _____
- Run time: 24 hours/day, 7 days/week, etc. : _____
- Number of operators: _____
- Turnover of operators: _____
- Turnover of maintenance personnel: _____
- Maintenance department technical skill level: _____
- Recommended spare parts inventory: _____
- Amount and type of fail-safe/back-up required: _____
- Documentation required: _____
- Language requirements: _____

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Use this page for notes, diagrams, drawings, which will assist you in defining the best system for this application.