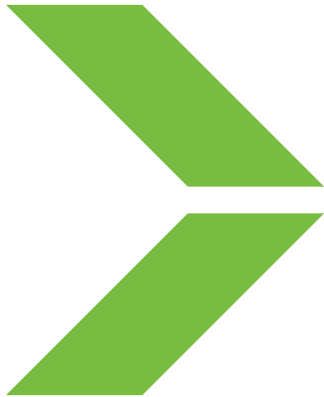




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Process vs. Discrete: *Why It Matters in Your ERP Selection*

When researching the right Enterprise Resource Planning (ERP) software for your business, it is essential to realize there is a difference between process and discrete ERP software. The first step is to identify the type of manufacturing operation, either process or discrete, and specific manufacturing requirements. It is important to understand that there are more differences than similarities between process and discrete manufacturing functions; and the software designed for each is just as diverse. The process industry has such unique requirements for software that discrete ERP software falls short and is inadequate. Choosing an ERP software solution that recognizes these diversities becomes exceedingly valuable, and obtaining the right tools can make your business run even more efficiently. The bottom line is, using the correct ERP software will enhance productivity and improve your bottom line.

Process vs. Discrete Manufacturing

The most discernible difference between discrete and process manufacturing is the way the product is created. In discrete manufacturing, identical products are duplicated by way of an assembly line. The raw materials used to create these products are the same from the first job to the next. Process manufacturing becomes more intricate due to its nature in converting/transforming raw materials. With process manufacturing the end product is unable to be unassembled to its original raw materials. Further reading examines the specific aspects that make process ERP manufacturing unique.

What makes Process ERP Software Unique?

SPECIFIC GRAVITY

Specific gravity is a calculation used to convert volume measurements into weight measurements, such as transposing a measurement of pounds into gallons. For example, a liquid may be purchased and inventoried in pounds, but measured in liters when used, or a liquid may need a weight calculation for the Bill of Lading. Most discrete ERP software does not possess the tools required for such conversion calculation.

PERCENTAGE FORMULATION

With process manufacturing it can be beneficial for the lab to create formulas by entering the percentage of each ingredient. For example, 10% water, 20% starch and 70% acacia powder. A quality process ERP software solution makes this formulation breakdown possible.

INGREDIENT FORMULATION

A superior process ERP software solution should easily assist your chemist in setting up product formulas. Similarly, when user defined calculations are entered, the software should automatically recalculate. For example, calculations could be made for calories or volatile organic compounds in the finished product, and the software should also allow the chemist to do "what if" calculations.

PERCENT INGREDIENTS BY WEIGHT

Government regulations require a list of ingredients by weight percent. For example, both container labels and Safety Data Sheets (SDS) require percent calculations for many ingredients. Again, specific gravity is used for these calculations. With a process ERP software system, these requirements can easily be met.

DECIMAL PLACES USED IN FORMULATION

Most discrete ERP software is limited in the number of decimal places used for an ingredient. Discrete manufacturers produce items that are measured in “eaches” (e.g. when constructing a bicycle, one handlebar, two to four sprockets, two rims, one seat, etc. are needed). Comparably, when using a process ERP manufacturing system, a formula is set up for one unit (pound, gallon, etc.) and the formula can be scaled up to any batch size. This often requires up to eight decimal places (e.g. one gallon of liquid formula may require .00000231 pounds of an expensive dye).

SCALABLE BATCH TICKETS

Discrete ERP software is restricted by the number of worker orders that can be printed for each run. As discrete ERP software generally prints single work orders, process ERP software allows for the flexibility of printing multiple batch tickets. Case in point, if a ticket requires three manufacturing batches, three batch tickets will print.

BATCH PROCESSING VS. ROUTE STEP PROCESSING

Process manufacturers add most, if not all, of their raw materials at one time. Discrete manufactures individually assemble materials at each work center and for each route step. For example, a discrete manufacturer may make the base of a chair at Work Center A and add the arms to the chair at Work Center B. As a result, it becomes difficult to track all components used in each work center. When the Bill of Material is comprised, each component is linked to a specified work center. After each component is utilized its usage is recorded. This complexity, which is very beneficial for a discrete manufacturer is of little value to a process manufacturer.

IN-PROCESS QUALITY CONTROL TESTING AND ADJUSTMENTS

A good ERP process manufacturing system is designed to record quality control (QC) tests while a batch is being made, and to record the raw material adjustments needed to bring a batch into required specifications. User-friendly options in a software batch ticket program are specifically designed to meet this demand.

REWORK WITH LOT CONTROL

A process ERP system’s batch ticket posting capability allows you to rework a batch made previously, with a batch currently being made, and to record the lot numbers for both the old batch and the combined batch.

CUSTOM VS. STOCK FORMULAS

A quality ERP process manufacturing system allows the manufacturer to fill a sales order that contains both a stock formula sold to multiple customers, as well as a custom item made solely for one order.

QC TESTING AND LOT TRACKING PER BATCH

In process manufacturing, QC tests and lot numbers need to be tracked per batch. The data entry display capability of a process ERP software solution makes record keeping easy and efficient.

CERTIFICATE OF ANALYSIS PER BATCH

Process ERP software provides an optional automatic certificate of analysis at time of shipping.

BATCH RECALL

A quality ERP process manufacturing system has a meticulous, instant report, which allows you to know where a bad batch of raw materials or finished formula has ended up.

SDS

Per the Globally Harmonized System of Classification and labelling of Chemicals (GHS), SDS are necessary for any process manufacturer that makes hazardous material. A number of products that may be indistinctly hazardous also require an SDS. A quality process ERP software solution should be able to accommodate these standards.

BATCH QUARANTINE

Process manufacturers need to test batches of materials and quarantine materials by batch. This includes raw materials, intermediates and finished formula. Process ERP software makes testing and quarantine easy through batch tickets, inventory control and quality control functionalities.

CGMP (CURRENT GOOD MANUFACTURING PRACTICE)

Process ERP software assists manufacturers in making quality products that conform to Food and Drug Administration (FDA) regulations.

Conclusion

Use this information to assist in determining if your software is truly meeting expectations. Process ERP software streamlines and automates processes used multiple times a day and helps you improve your accuracy, reliability and flexibility. Many process manufacturers have already made the move to a process ERP software solution, gaining more enhanced productivity and improving their bottom line.



1.800.457.3548

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