What you need to know before you select a conveyor system

Asking the right questions of your supplier can assure that you have the right system for the job

Just like the products they carry, conveyor equipment comes in all shapes and sizes. Before you buy a system, you need be certain it is designed for the work you intend. Too much system wastes money. Too little system damages products or creates bottle-necks. The key is to find a system that is the best of both worlds.

"What we do first with a customer is get an overall understanding of their business," says Joe Tholl of Conveyor Solutions in Schaumburg, Ill.

Tholl says he needs to know the primary objectives for installing a conveyor system as well as factors about the building in which it will be used and the products that will be carried. Once you and the supplier answer these questions, then a system can be designed.

What are the objectives of the system?
This is the starting point of conveyor selection. Do you wish to increase productivity, reduce personnel, improve operations, or a combination of factors?

Tholl also asks about the building and its parameters for handling a conveyor. Is the building new or must the system fit into an existing structure?

Is there ample power available, or will this impact the choice of motors and wiring configurations? Is there adequate clearance for overhead systems, and is there a need to route the systems through existing walls?

Also, is compressed air available within the building or will a compressor need to be added to operate the system?

Lastly, what is the building's environment - hot, humid, cold, or dry?

Load data
To properly design a system, a supplier must know what the conveyor will transport. This includes the length, width, and height dimensions of the load as well as its weight. Minimums, maximums, and averages of these load dimensions should also be considered.

Tholl additionally asks his clients to describe the top and bottom of the load. The bottom is essential, as this is the portion of the load that will contact the conveyor. Is the bottom flat, sealed, or unsealed? Is it a smooth or rough surface at the point of contact with the conveyor?

Likewise, what does the top of the load look like? If it is a carton, is it sealed or are the flaps left open? If a tote, is it open at the top and how full will it typically be when transported?

Also, does any of the load extend beyond the range of the container? If so, will this be a factor as it travels along the conveyor? Sides of the load are also important. Are they straight-walled or tapered? Is there enough clearance on all sides from any possible obstructions in the conveyor's path?

How will the product be oriented on the conveyor? Historically, notes Tholl, the product is oriented with the carton length aligned with the direction of travel. In some instances, though, orientation may be different based on processes that may be performed as the carton travels.
Testing the load

Next, Tholl asks his clients if the load will have a tendency to shift. For example, a bowling ball in a carton could easily shift and tip the carton as it travels up an incline. Tholl typically obtains samples of products that will be conveyed for testing on equipment either in his warehouse or at previously installed sites. Often, he will videotape the tests to aid in system designs.

"Once a customer sees that it works, his comfort level goes way up," says Tholl.

NEXT MONTH: Which conveyors work best with typical applications?