

Modular Conveyor System Pays Off Big for Manufacturing Systems Integrators

Systems integrators find “truly modular” conveyor systems provide dramatic improvements in flexibility and productivity – while minimizing engineering costs. A truly modular conveyor system can go a long way toward enhancing lean manufacturing.

In many respects, systems integration on the production floor has become far more sophisticated than that of front office communications and MIS. Successful manufacturing plants today are integrating lean manufacturing concepts and automation technologies to keep plants productive and competitive, often employing applications that require specialized engineering and process know-how. At the same time, contract manufacturers are becoming highly dependent on having flexible systems that enable them to adapt quickly and easily from one job to the next.

“Lean and flexible manufacturing has become a matter of survival for many companies,” says Al Mitchell of Mitchell & Associates, a Milwaukee, WI-based manufacturers rep firm. “It’s finally becoming obvious to many manufacturers that the major productivity gains of recent years are not coming merely from opening plants offshore where they can get cheap labor. Dramatic productivity gains from automation and systems integration are becoming increasingly more important.”

According to Mitchell, a 30-year veteran in the sales of manufacturing equipment, you don’t have to look far to appreciate that point. New and re-engineered plants in the U.S., Mexico, and Asia – all over the world – are replacing the outmoded model that cheap labor makes for a successful manufacturing business.

“The cutback on in-house expertise, such as large engineering staffs, is another example of how systems integrators are also reducing the need for full-time pro-



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fessional services and technical support,” says Mitchell. “Some plants have contracts with integrators who are responsible for maintaining uptime – or face recourse. Others have arrangements that enable the replacement of leased equipment as manufacturing requirements change based on orders and technology advancements. The main goal is to achieve profitability through productivity, but the key element is often *flexibility*.”

Mitchell, who is always looking for new and better products to meet the needs of manufacturers and integrators, calls on the diverse industries located throughout his sales territory of Illinois, Wisconsin, Minnesota and Michigan’s Upper Peninsula. Representing 12 distinct lines of equipment, his firm calls on mining and metals, food processing, paper products, plastics and a plethora of other area operations.

In mid-2002 Mitchell took on a new line that he felt would give him entry into virtually all of those industries, a modular conveyor system manufactured by Dynamic Conveyor Corporation, Muskegon, MI. Mitchell was certain that the firm’s DynaCon modular

conveyor system would provide integrators, OEMs, enhancers and other resellers with a unique tool set that would add important flexibility and efficiencies to many different plant operations.

“I’ve never seen a conveyor system with this many features,” says Mitchell. “It fits beautifully into many production and packaging schemes, and is a ‘quick-change artist’ that maximizes usage and ROI like nothing else on the market.”

Composed of high-impact plastic modules, DynaCon is a new breed of medium-duty conveyor system – the *truly modular* system. Eighteen-inch modules are assembled in what might best be described as a “Lego” scheme of interlocking sectional units. These include belts, sides, legs, motors and accessories that make up modules.

“The name of the game in systems integration is making the system fit the need,” Mitchell says. “When it comes to material handling with motion control, I can fit the need perfectly with a flexible, modular system. Plus, because the requirements will change in most plant operations – continually, in some cases – I can reconfigure the system quickly and at minimal cost to optimize the conveyor system as often as necessary.”

Having already sold the DynaCon solution to diverse customers in just a few months, Mitchell says there are vital applications within virtually every industry. “Applications are limited to light- and medium-duty uses,” Mitchell says, “which generally means transporting products of less than eight lbs. and limiting drop zone impact to less than 15 pounds.”

Food products are among Mitchell’s favorite applications because they often involve indexing, which requires that items must be conveyed in specific quantities according to exact timing. “With a variable speed conveyor motor and indexing capabilities, the DynaCon conveyor is ideal for applications such as inserting auxiliary packets into Redi-mix fast-food packages. In a typical setup, the major ingredients are poured from a filling machine into master packages. In a secondary operation, the conveyor indexes a fixed distance up to 100 times per minute in lock-step synch with the filler line and deposits an auxiliary packet into the master Redi-mix package. That indexing capability can improve the efficiency of many applications.”



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Mitchell says he also markets the modular conveyor into the dairy foods markets, providing the food does not directly contact the conveyor. “For example, processed cheese that is wrapped and then packaged in cartons is a good candidate for the modular conveyor system,” he says. The conveyors are capable of wet operations because of the all-plastic/stainless construction.

In the metals industry, one of Mitchell’s customers produces wire forms. “They need to convey the wire forms out from under the wire forming equipment and also away from the wire guard,” says Mitchell. (OSHA requires a guard barrier must be located at least a minimum of 4 feet away from the machine, to prevent operator injury.) “Parts ranging from heavy-gauge, quarter-inch wire rods to lightweight key chain rings must be conveyed out from under that equipment and into a tote bin or some other means of conveyance away from the machine. Depending on the plant space configuration, this setup may need to be reconfigured quite often, and a modular system is ideal for that.”

Mitchell says the modular conveyor system design is also very appropriate for handling a wide range of cast materials, subassemblies and products that travel to and from robotic production stations. He adds that two factors that may preclude the use of this plastic conveyor system include an environment that is dusty, abrasive or harsh, as well as applications, such as metal stamping, where metal shavings, spurs or grit could damage conveyor equipment.

According to Mitchell, a wide range of modules available with the DynaCon system enables virtually limitless configurations, including radius turns, over-

head and any incline or decline. The ability to fine-tune configurations can also provide important ergonomic benefits, such as in packaging operations where workers must make repetitive movements that can be alleviated by positioning the conveyor for maximum worker comfort.

“The flexibility of this ‘truly modular’ conveyor system is greatly enhanced by specialized modules that are easily added to standard ones,” says Mitchell. Examples include a Cooling Tunnel Module to cool products via air pumped into a covered section of conveyor; a stainless steel Water Bath Module with a built-in cooling element; a Drop Zone Reinforcement Module is available to absorb the shock of impact; and Exit Chutes that are used to control product flow by channeling parts in a particular direction.

“Having a wide array of sophisticated accessories is also important to system and process integration,” Mitchell advises. “Machine control combined with servo automation can be used to expand the Q.C. capabilities and reduce the extraneous manual operations required. With the DynaCon system there are a number of accessories that plug right into the system that can be used to optimize a lot of different material handling operations.”

For more information about DynaCon conveyor solutions, contact Dynamic Conveyor Corporation, 5980 Grand Haven Road, Muskegon, MI 49441; phone toll free (866) 249-2641; fax (231) 798-9583; or visit the web site www.dynamicconveyor.com